

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE) R08-9 (Subdocket D)
CHICAGO AREA WATERWAY SYSTEM) (Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:)
PROPOSED AMENDMENTS TO 35 ILL.)
ADM. CODE PARTS 301, 302, 303 and 304)

NOTICE OF FILING

TO: Mr. John T. Therriault	Ms. Marie E. Tipsord
Assistant Clerk of the Board	Hearing Officer
Illinois Pollution Control Board	Illinois Pollution Control Board
100 West Randolph Street	100 West Randolph Street
Suite 11-500	Suite 11-500
Chicago, Illinois 60601	Chicago, Illinois 60601
(VIA ELECTRONIC MAIL)	(VIA FIRST CLASS MAIL)

(SEE PERSONS ON ATTACHED SERVICE LIST)

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board **EXXONMOBIL'S ADDITIONAL TEMPERATURE COMMENTS**, a copy of which is herewith served upon you.

Respectfully submitted,

EXXONMOBIL OIL CORPORATION,

Dated: June 1, 2015

By: /s/ Matthew C. Read
One of Its Attorneys

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CERTIFICATE OF SERVICE

I, Matthew C. Read, the undersigned, hereby certify that I have served the attached **EXXONMOBIL'S ADDITIONAL TEMPERATURE COMMENTS** upon:

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via electronic mail on June 1, 2015; and upon:

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by depositing said documents in the United States Mail, postage prepaid, in Springfield,
Illinois on June 1, 2015.

/s/ Matthew C. Read
Matthew C. Read

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WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE) R08-9 (Subdocket D)
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EXXONMOBIL'S ADDITIONAL TEMPERATURE COMMENTS

NOW COMES EXXONMOBIL OIL CORPORATION (“ExxonMobil”), by and through its attorneys, HODGE DWYER & DRIVER, pursuant to the Illinois Pollution Control Board’s (“Board”) May 21, 2015 order, and submits the following Additional Temperature Comments.

I. INTRODUCTION

On March 19, 2015, the Board issued its Second Notice of the Proposed Rule, which includes water quality standards for the Chicago Area Waterways System (“CAWS”) and Lower Des Plaines River (“LDPR”).¹ Leading up to Second Notice, ExxonMobil participated extensively in the R08-9(D) rulemaking by filing written testimony, providing testimony at hearing, and filing Pre-First Notice Comments, Response to Pre-First Notice Comments, First Notice Comments, and Response to First Notice Comments. ExxonMobil’s participation focuses on the appropriate water quality standards for Upper Dresden Island Pool (“UDIP”) Aquatic Life Use (“ALU”) Waters,

¹ Second Notice, Proposed Rule, *In the Matter of Water Quality Standards and Effluent Limitations for the Chicago Area Waterway System and the Lower Des Plaines River: Proposed Amendments to 35 Ill. Adm. Code Parts 301, 302, 303 and 304*, R08-9(D) (Ill.Pol.Control.Bd. Mar. 19, 2015) (hereafter referenced and cited as “Second Notice”) (rulemaking hereinafter cited as “R08-9”).

the stretch of the LDPR into which ExxonMobil's Joliet Refinery ("Refinery") discharges.²

As background, the Refinery discharges heated effluent into UDIP ALU Waters. The Refinery once-through cooling system and process effluent discharge a maximum of 104 million British Thermal Units per hour ("MBTU/hr").³ Larger upstream thermal discharges have a much more profound impact on temperatures in UDIP ALU Waters. To illustrate, two NRG Energy, Inc. ("NRG")⁴ power stations add approximately 7,000 MBTU/hr of heat load to the river when the supplemental cooling towers at the Joliet 29 Station are not being used.⁵

In summary, ExxonMobil supports the numeric thermal standards and delay in applicability of thermal standards proposed by the Board at Second Notice. However, since large upstream dischargers greatly impact temperatures in UDIP ALU Waters and, therefore, the Refinery's ability to comply with new thermal standards, ExxonMobil points out the need for fair implementation of new thermal standards. The Board's Second Notice proposal does not solve concerns related to the implementation of new thermal standards. ExxonMobil cannot properly design a compliance plan or controls during the delay in applicability when the future temperature characteristics of UDIP ALU Waters are unknown. Therefore, ExxonMobil respectfully requests that the Board

² ExxonMobil also participated in other subdockets of the R08-9 Rulemaking, including Subdocket C, which addressed the appropriate use designations for waterways in the CAWS and LDPR.

³ Pre-Filed Testimony of Lial F. Tischler on Behalf of ExxonMobil Oil Corporation, R08-9(D) at 29 (Ill.Pol.Control.Bd. Nov. 22, 2013).

⁴ NRG acquired certain subsidiaries of Edison Mission Energy, including Midwest Generation, LLC ("Midwest Generation") on April 1, 2014. Midwest Generation's Post Hearing Comments, R08-9(D) at 1 (Ill.Pol.Control.Bd. Apr. 30, 2014). Accordingly, NRG "stepped into the shoes" of Midwest Generation in this proceeding. *Id.*

⁵ *Id.* (citing Provisional Variance – Water, IEPA 13-3 (July 3, 2012)).

add a provision to its proposal for bringing large dischargers into compliance with the thermal standards before downstream dischargers.

II. EXXONMOBIL SUPPORTS DELAYING THE APPLICABILITY DATE OF THE NEW THERMAL STANDARDS BUT ALSO URGES THE BOARD TO PROVIDE RELIEF TO DISCHARGERS IMPACTED BY LARGE UPSTREAM DISCHARGERS

Consistent with past ExxonMobil comments and testimony, ExxonMobil supports the Board's proposed use of General Use thermal standards for UDIP ALU Waters and the delayed applicability date. But additional protection is needed from large thermal dischargers.

The Board proposed the following thermal standards for UDIP ALU Waters at Second Notice:

- b) The temperature standards in subsections (c) through (i), will become applicable beginning 3 years after the effective date of this Section. For a period of 3 years from the effective date of this Section, the waters designated at 35 Ill. Adm. Code 303 as Chicago Area Waterway System Aquatic Life Use A, Chicago Area Waterway System and Brandon Pool Aquatic Life Use B, and Upper Dresden Island Pool Aquatic Life Use will not exceed temperature (STORET number (°F) 00011 and (°C) 00010) of 34°C (93°F) more than 5% of the time, or 37.8°C (100°F) at any time.
- c) There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.
- d) The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.
- e) The maximum temperature rise above natural temperatures shall not exceed 2.8°C (5°F).
- f) Water temperature shall not exceed the maximum limits in the applicable table in subsections (g), (h), and (i), during more than one percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature exceed the maximum limits in the applicable table that follows by more than 1.7°C (3.0°F).

* * *

i) Water temperature for the Upper Dresden Island Pool Aquatic Life Use waters, as defined in 35 Ill. Adm. Code 303.230, shall not exceed the limits in the following table in accordance with subsection (f):

Months	Daily Maximum (°F)
January	60
February	60
March	60
April	90
May	90
June	90
July	90
August	90
September	90
October	90
November	90
December	60

Second Notice, Proposed 35 Ill. Admin. Code § 302.408(b), (c), (d), (f), and (i), R08-9(D) (Ill.Pol.Control.Bd., Mar. 19, 2015).

In short, the existing thermal standards will apply for three years following the effective date of Section 302.408, but more stringent thermal standards will apply after that. Postponing the applicability date of the more stringent thermal standards for three years will help alleviate some uncertainties and allow more time to develop a compliance plan and permit and construct thermal controls.

But a simple delay in applicability, as proposed, will not remedy the uncertainty for those downstream of large thermal dischargers. Even if large upstream thermal dischargers achieve compliance with the more stringent thermal standards within three years or obtain relief from the thermal standards through a variance, downstream dischargers will not have time to craft and implement an appropriate compliance plan.

That is because compliance approaches are dependent on the temperature of the UDIP waters and are limited when receiving waters exceed the thermal water quality standards.

For instance, mixing zones are not allowed “when the water quality standard for the constituent in question is already violated in the receiving water.” 35 Ill. Admin. Code § 302.102(b)(9). If no mixing zone is allowed, and dischargers cannot mix with receiving waters to achieve compliance, then dischargers must meet the water quality standards at the end-of-pipe. For ExxonMobil, that means installing significant and costly thermal controls. Whether the thermal water quality standard is violated in the receiving water is dependent, in large part, on the thermal load added by upstream dischargers. Regardless of whether a mixing zone is available, downstream dischargers cannot properly design thermal controls until the temperature of UDIP ALU Waters is characterized. Here, an accurate long term thermal characterization of UDIP ALU Waters for the future cannot be performed until large upstream thermal dischargers achieve compliance with the more stringent thermal standards. Thus, large upstream thermal dischargers should comply first.

Recent modeling indicates that the Refinery’s thermal discharge is minimal and accounts for a maximum temperature rise above the Refinery’s intake temperature at the I-55 Bridge of 0.4°F in the winter and 0.2°F in the summer.⁶ As a result, as long as UDIP ALU Waters minimally meet thermal water quality standards, a mixing zone will be available for the Refinery to achieve compliance.

Conversely, NRG’s discharges drive the temperature at the I-55 Bridge even though they occur miles upstream. To accommodate their potential impact on

⁶ Pre-Filed Testimony of Lial F. Tischler on Behalf of ExxonMobil Oil Corporation, R08-9(D) at 29-30 (Ill.Pol.Control.Bd. Nov. 22, 2013).

downstream General Use Waters, the Board issued an adjusted standard that applies at the I-55 Bridge to the thermal discharges from upstream NRG stations.⁷ In particular, the following standards apply in lieu of the General Use standards at 35 Ill. Admin. Code § 302.211(d) and (e):

	°F		°F
Jan.	60	June 16-30	91
Feb.	60	July	91
Mar.	65	Aug.	91
Apr. 1-15	73	Sept.	90
Apr. 16-30	80	Oct.	85
May 1-15	85	Nov.	75
May 16-31	90	Dec.	65
June 1-15	90		

Id. at 5. “The standards may be exceeded by no more than 3 degrees Fahrenheit during 2% of the hours in the 12-month period ending December 31, except at no time shall Midwest’s Generation stations cause the water temperature at the I-55 Bridge to exceed 93 degrees Fahrenheit.” *Id.*

Even under these alternative limits, NRG requested additional relief in the form of provisional variances from the thermal standards due to low flows in the river, extreme hot weather, and high customer demand for electricity in 2011 and 2012. This relief was requested in the summer months of July and August. *Id.* In these instances, NRG sought and received authorization from the Illinois Environmental Protection Agency (“Illinois EPA”) to exceed 93°F maximum temperature by up to 3°F and to exceed the allotted number of excursion hours per year. *Id.*

⁷ *In the Matter of: Petition of Commonwealth Edison Company for an Adjusted Standard from 35 Ill. Adm. Code 302.211(d) and (e)*, AS 96-10 (Ill.Pol.Control.Bd. Mar. 16, 2000) (“Adjusted Standard hereinafter “AS 96-10”).

The Board's Second Notice proposal contains more stringent summer limits and fewer excursion hours. Further, the limits will be imposed in the entire UDIP, not simply downstream waters at the I-55 Bridge. Absent any operational changes or regulatory relief, it is logical to conclude that NRG discharges could lead to thermal exceedances of the proposed thermal standards in UDIP ALU Waters, including at the discharge point of the Refinery. Therefore, it is important for ExxonMobil to be able to consider NRG's compliance approach before developing a compliance plan of its own.

Illinois EPA will incorporate new thermal standards into National Pollutant Discharge Elimination System ("NPDES") permits. But Illinois EPA does not have a reliable method for prioritizing regulation of large upstream thermal dischargers in advance of smaller downstream dischargers. That is, new thermal standards may be imposed on downstream dischargers in NPDES permits before large upstream dischargers comply with the new thermal standards or obtain regulatory relief. Illinois EPA witness, Scott Twait, acknowledged in testimony that it would be unfair or unwise to implement revised thermal standards in permits for downstream facilities with a thermal discharge before addressing larger upstream dischargers.⁸ To address this concern, Illinois EPA considered a type of cascading implementation of the thermal standards that would address the major upstream thermal sources first. *Id.* at 40-41. However, Mr. Twait acknowledges that this approach has limitations. For example, different dischargers have different renewal application deadlines, when new standards must be added. *Id.* at 41. Similarly, it is not clear how an NPDES permit modification of a downstream discharger would further disrupt a cascading approach. *Id.* at 40-42, 48.

⁸ September 23, 2013 Hearing Transcript, R08-9(D) at 41 (Ill.Pol.Control.Bd. Sept. 23, 2013).

Illinois EPA never provided an implementation solution to the downstream discharger conundrum.

Accordingly, there is still a need to provide a regulatory requirement for large upstream thermal dischargers, such as NRG, to achieve compliance or regulatory relief before smaller dischargers. As proposed by ExxonMobil in past comments, this could take the form of a demonstration such as the one required by Section 302.211(f) (for dischargers with heated effluent discharging 150 megawatts (0.5 billion BTU/hr) or more) and a clarification that until such a demonstration is made and implemented or until compliance is achieved, other thermal dischargers that are impacted by such dischargers need only comply with previous requirements. It also could allow for a compliance period for smaller thermal dischargers to comply with new thermal standards after large dischargers achieve compliance. This would essentially enact a protection that was already afforded to dischargers in General Use Waters.

III. CONCLUSION

In summary, ExxonMobil supports the numeric thermal standards proposed by the Board at Second Notice but continues to urge the Board to adopt a mechanism for bringing large dischargers into compliance with new thermal limits first. Due to the interdependent nature of thermal dischargers, new thermal standards must provide protections for dischargers downstream of large thermal dischargers.

ExxonMobil appreciates the opportunity to provide these comments, and it respectfully requests that the Board consider them moving forward with the adoption of water quality standards for UDIP ALU Waters.

Respectfully submitted,

EXXONMOBIL OIL CORPORATION,

Dated: June 1, 2015

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