

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In The Matter Of:	)	
	)	
EXELON GENERATION LLC	)	
Petitioner,	)	
	)	PCB No. 2014-123
v.	)	(Thermal Demonstration – Water)
	)	
ILLINOIS ENVIRONMENTAL	)	
PROTECTION AGENCY,	)	
	)	
Respondent.	)	

NOTICE OF FILING

John Therriault, Assistant Clerk,  
Illinois Pollution Control Board  
James R. Thompson Center  
100 W. Randolph, Suite 11-500  
Chicago, Illinois 60601

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PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board an APPEARANCE and RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, copies of which are herewith served upon you.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: Stephanie Flowers  
Stephanie Flowers  
Assistant Counsel  
Division of Legal Counsel

DATED: 5-19-14  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276  
(217) 782-5544

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PROTECTION AGENCY,	)	
	)	
Respondent.	)	

APPEARANCE

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

By: *Stephanie Flowers*  
Stephanie Flowers  
Assistant Counsel

DATED: *5-19-14*  
Illinois Environmental Protection Agency  
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PROTECTION AGENCY,	)	
	)	
Respondent.	)	

**RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

NOW COMES the Illinois Environmental Protection Agency (“Agency”), by and through one of its attorneys, Stephanie Flowers, and in response to the Petition to Approve Alternative Thermal Effluent Limitations (“Petition”) filed with the Illinois Pollution Control Board (“Board”) on April 2, 2014 by Exelon Generation LLC (“Exelon” or “Petitioner”), pursuant to 35 Ill. Adm. Code 106.1100 et seq. (“Part 106, Subpart K”), submits the following recommendation.

**INTRODUCTION**

On April 2, 2014, Exelon filed the Petition asking the Board to approve alternative thermal effluent limitations for its discharge to the Mississippi River from the Exelon Quad Cities Nuclear Generating Station (“Quad Cities Station”). The current thermal limitations are set forth as Special Condition 7 in the NPDES Permit No. IL 0005037 (“Permit”) issued to Quad Cities Station jointly by both the Agency and the Iowa Department of Natural Resources, effective from September 1, 2010 to August 31, 2015.

The current thermal limitations set forth in the Permit issued to the Quad Cities Station

are imposed by:

A. Subsection 302.211(d) requiring that the maximum temperature rise above natural temperature must not exceed 5 degrees Fahrenheit. [35 Ill. Adm. Code 302.211(d)];

B. Section 303.331 requiring that the water temperature at representative locations in the main river shall not exceed the maximum limits in the following table during more than one percent of the hours (87.6 excursion hours) in the 12 month period ending with any month (rolling 12-month period) and at no time exceeding the maximum limits by more than 3 degrees Fahrenheit.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
45	45	57	68	78	85	86	86	85	75	65	52	°F

[35 Ill. Adm. Code 303.331]; and,

C. Section 302.102 requiring that the mixing zone should not extend over more than 25 percent of the cross sectional area or volume of flow in the Mississippi River and in no circumstances encompass a surface area larger than 26 acres. [35 Ill. Adm. Code 302.102]

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 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". 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 set forth in the Permit are more stringent than necessary and to request alternative thermal requirements.

### **PETITIONER'S REQUESTED RELIEF**

As understood by the Agency, the Petition requests the following alternative thermal requirements:

- Allow the water temperature at representative locations in the main river to exceed the maximum limits as stated in the table at 35 Ill. Adm. Code 303.331 by no more than 3 degrees Fahrenheit for 2.5 percent of the hours in a calendar year which works out to 219 excursion hours.
- Allow the water temperature at representative locations in the main river to exceed the maximum limits as stated in the table at 35 Ill. Adm. Code 303.331 by no more than 5 degrees Fahrenheit during the months of July, August, and September for no more than 1.5 percent of the hours in a calendar year which works out to 131.4 excursion hours of the total 219 excursion hours.
- Remove the requirement for exceedances of the maximum limits as stated in the table at 35 Ill. Adm. Code 303.331 to be limited to a rolling 12-month period and instead allow the exceedances to be per calendar year.
- Allow the area and volume in which mixing occurs to extend up to 34% of the cross-sectional area or volume of flow in the Mississippi River allowing for a 66% zone of passage for aquatic life.

### AGENCY'S RECOMMENDATION

The Agency, pursuant to Section 106.1145 of Part 106, Subpart K, recommends the Board grant the relief requested by the Petitioner with two conditions as follows:

1. The Board should require the Petitioner to further study the decrease in the number of white crappie, black crappie, and sauger reported in the Petitioner's 316(a) Demonstration. The Petitioner's 316(a) Demonstration, at Appendix C, Sec. 2.7.3., states that the fish monitoring database indicated, "decreases in the number of white crappie, black crappie, and sauger. . . These trends are apparent at locations both upstream and downstream of the diffuser pipes and most likely are the product of long term sampling at fixed locations that have undergone substantial habitat changes such as backwater siltation and the appearance of beds of rooted aquatic plants that was coincident with a noticeable increase in water clarity." Despite the above statement, the Petitioner has not provided direct evidence that the fish decrease is caused by habitat changes at the fixed location sampling sites. The Agency believes the Petitioner is required to provide clearer and more-convincing evidence that its heated effluent has not contributed or will not contribute to decline in the populations of these species. Therefore, the Agency recommends that the Board require the Petitioner to study white crappie, black crappie, and sauger, throughout the pool, to determine that the decrease in these species is attributable to the habitat changes at the fixed sampling locations and not to heat—or to any interactive effect of that heat—discharged by the Quad Cities Station.

2. The Board should require the Petitioner to further study the effect on aquatic life of using excursion hours on a calendar year basis instead of a rolling 12-month basis, i.e., the effect if more than 219 excursion hours (2.5%) are used in any 12-month period.

The Petitioner's 316(a) Demonstration Summary at page 6 states, "It follows that the potential for excursion hours to have some hysteretic effect on the populations and, thus the community in a year subsequent to one in which excursion hours have been used is negligible." Despite this statement, the Petitioner has not provided direct evidence that the change from a rolling 12-month period to a calendar year period will protect aquatic life. The Agency believes the Petitioner is required to provide clearer and more-convincing evidence that if the Petitioner uses more than 219 excursion hours in any 12-month period, the heat will not contribute to harm of the indigenous populations of shellfish, fish and wildlife in and on the waters that receive discharge from the Quad Cities Station.

The Petitioner states at Appendix B-4, "There is virtually no possibility that Exelon would use excursion hours in December or January, that is, at the end of one calendar year and the beginning of another. Thus, there is no concern that tracking excursion hours at the [Quad Cities Station] would result in allowing the plant to use two years of allotted hours over a two or three month contiguous period." However, the Petitioner provides no evidence that the December/January scenario is the basis for the rolling 12-month period required in the current Permit. The Agency disagrees that the December/January scenario is the only one that needs to be considered to assure protection of aquatic life. Therefore all scenarios in which excess excursion

hours are used within any 12-month period should be considered so that protection of aquatic life under those circumstances is assured.

Other than recommending further study on the issues noted above, the Agency agrees the Petitioner has demonstrated that the current effluent limitations are more stringent than necessary and that the requested alternative thermal requirements can assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the Mississippi River into which the heated effluent is discharged from the Quad Cities Station.

The Agency believes that the Petitioner has met the requirements for requesting alternative thermal relief under Part 106, Subpart K and that Sections 106.1115 and 106.1120 for early screening and a detailed plan of study were satisfied. As noted in Petitioner Exhibit 3, the plan of study requirement was satisfied prior to the adoption of Part 106, Subpart K. The Agency, along with Illinois Department of Natural Resources, Iowa Department of Natural Resources, U.S. Fish & Wildlife Service, USEPA Region 7, and USEPA Region 5, participated in developing the plan of study.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By: Stephanie Flowers

Stephanie Flowers

Assistant Counsel

Division of Legal Counsel

Dated: 5-19-14  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
Post Office Box 19276  
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**CERTIFICATE OF SERVICE**

I, STEPHANIE FLOWERS, an attorney, do certify that I filed electronically with the Office of the Clerk of the Illinois Pollution Control Board the attached APPEARANCE and RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and will cause the same to be served upon the following persons, by placing a true and correct copy in an envelope addressed to:

John Therriault, Assistant Clerk,  
Illinois Pollution Control Board  
James R. Thompson Center  
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Carol Webb, Hearing Officer  
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and mailing it by First Class Mail from Springfield, Illinois on May 19, 2014 with sufficient postage affixed.

  
STEPHANIE FLOWERS

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