



IEPA 07-003
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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ROD R. BLAGOJEVICH, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

(217) 782-5544
TDD: (217) 782-9143

July 20, 2006

Dorothy Gunn, Clerk
Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, IL 60601

RE: **NOTICE OF PROVISIONAL VARIANCE APPROVAL**
IEPA - 07-01
(Provisional Variance-Water)

Dear Ms. Gunn:

Pursuant to Subsection 37(b) of the Environmental Protection Act (415 ILCS 5/37(b)), attached is a copy of the Illinois EPA's recent approval of a request for provisional variance. As you know, the Board must maintain for public inspection copies of all provisional variances filed with it by the Illinois EPA. Please feel free to call me at the number referenced above should you have any questions.

Sincerely,

Connie L. Tonsor
Associate Counsel
Division of Legal Counsel

Attachment

RECEIVED
CLERK'S OFFICE
JUL 25 2006
STATE OF ILLINOIS
Pollution Control Board

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 19, 2006

Exelon Generation Company, L.L.C.)
Quad Cities Nuclear Power Station)
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Petitioner,)
))
v.)
))
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
))
Respondent.)

IEPA – 07-01
(Provisional Variance-Water)

Re: Provisional Variance From Special Condition 6B
of NPDES Permit IL0005037

Dear Mr. Gideon:

The Agency has completed its technical review of the attached provisional variance request (Exhibit A) dated July 17, 2006, and submitted by Exelon Generation Company, L.L.C. Quad Cities Nuclear Power Station (Exelon’s Quad Cities Station).

Based on the review, the Agency GRANTS the requested variance subject to specific conditions set forth below for a period of 45 days or until the additional 100 excursion hours are utilized, whichever occurs first.

Exelon’s Quad Cities Station is seeking a provisional variance from Special Condition 6B of its NPDES permit beginning the day its current 87.6 excursions hours are utilized to continue operation of its generating station.

Exelon’s Quad Cities Station is a nuclear fueled steam electric generating facility located on the Mississippi River at River Mile 506.8 near Cordova, Illinois. It operates its cooling water system in open cycle mode. Cooling water is taken from the Mississippi River, passes through the plant system and is then discharged by diffusers into the Mississippi River. Maximum design flow of this system is 2,253 cfs.

Exelon’s Quad Cities Station seeks a variance from Special Condition 6B of NPDES Permit IL0005037. This condition establishes the thermal discharge ranges for Exelon’s

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Quad Cities Station. Additionally, it allows Exelon's Quad Cities Station excursion hours from these limits. Excursion hours are periods of time in which the temperature at the edge of the mixing zone may be 3°F warmer than the temperature limit in the permit. Exelon's Quad Cities Station may utilize only 1% (87.6) of the hours in a 12-month period ending with any month as excursion hours.

The Special Condition 6B also requires that water temperature in the Mississippi River at the edge of the mixing zone shall at no time exceed by 3°F the maximum limits of 86°F in July and August and 85°F in September. Normally, Exelon's Quad Cities Station can operate within these limits because the ambient temperature in the Mississippi River at the intake points (or above the plant) remains below the non-excursion hour temperature limit.

Ordinarily, the Mississippi River has significant river flows. These significant river flows enable Exelon's Quad Cities Station to meet its permit conditions even when ambient temperatures approach non-excursion hour temperature limit. At this time, however, the Mississippi River is at extremely low flow condition. The river flow is currently at 21,000 cfs compared to a normal river flow of 68,000 cfs. This low flow condition, coupled with high ambient river temperatures, are the bases for the need for additional excursion hours.

Inlet river temperatures have been ranging around 83°F to 86°F. Based on long range weather forecasts and continued low river flow conditions, Petitioner predicts it will consume a large percentage of its permitted excursion hours before the end of this summer, even though a cold front is predicted to reduce the current extreme heat condition. Petitioner claims the only alternative available for the station, other than relief pursuant to this provisional variance request, is to shut down the station. Derating the facility will not resolve this situation due to the high ambient temperatures. In addition, power demand is extremely high because of the current weather conditions.

The Agency has reviewed the requested provisional variance and has concluded the following:

1. The environmental impact from the requested relief will be closely monitored and the Agency will be immediately notified of any significant impact along with actions taken to remedy the problem;
2. No other reasonable alternatives appear available;
3. No public water supplies will be affected;
4. No federal regulations will preclude the granting of this request; and
5. Exelon Quad Cities Station will face an arbitrary and unreasonable hardship if the request is not granted.

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The Agency hereby GRANTS the Exelon Quad Cities Station a provisional variance from Special Condition 6B of NPDES Permit IL0005037 as follows:

- (1) Exelon's Quad Cities Station is granted 100 provisional variance excursion hours;
- (2) The provisional variance will begin (1) on the date that Exelon's Quad Cities Station either exhausts the 87.6 permitted excursion hours or (2) on the date that Exelon Quad Cities Station first exceeds the current permitted excursion hour temperature limits (July 89°F, August 89°F, and September 88°F). The provisional variance will end on the date that the 100 provisional variance excursion hours are used, but in no case later than 45 days following the start of the provisional variance period.
- (3) Exelon's Quad Cities Station, during the 100 provisional variance excursion hours, may exceed the maximum temperature limit stated in Special Condition 6B in NPDES permit IL0005037 by no more than 5° (July 91°F, August 91°F, and September 90°F).

This provisional variance is subject to the following conditions:

- A. During the variance period Exelon Quad Cities Station shall continuously monitor intake, discharge and receiving water temperatures and to visually inspect intake and discharge areas at least three times daily to assess any mortalities to fish and other aquatic life;
- B. Exelon Quad Cities Station shall document environmental conditions during the term of the provisional variance, including the activities described in A above of this Section, and submit the documentation to the Agency and the Department of Natural Resources within 30 days after the provisional variance expires;
- C. Exelon's Quad Cities Station shall continue ongoing biological studies to characterize how fish and mussels respond to thermal conditions present in the affected portion of the Mississippi River. These studies include those mentioned on page five of Exelon's July 17, 2006 Emergency Application for Provisional Variance. These same studies were described in a July 11, 2006 e-mail message (Exhibit B) from Exelon to Mr. Rob Thompson of USEPA Region 5 relating the efforts by Exelon to study aspects of river biology suggested at recent meetings concerning long-term relief from existing water quality standards at this site. In addition, Exelon must conduct a mussel study specific to this provisional variance; to document this activity; and to submit the documentation for the mussel study to the Agency and the Department of Natural Resources within 60 days after

completing the survey described herein. Specifically, Exelon's Quad Cities Station must prepare a study plan within three days of the beginning date of this provisional variance to address the issue of increased excursion hours (increase in thermal stress) on unionid mussels in the Mississippi River in the vicinity of the discharge. The plan must include a survey of the mussel beds identified in a recent report: Draft Report: Unionid Mussel Biothermal Assessment for the Quad Cities Nuclear Station, Mississippi River Miles 503.0 to 506.9 (Exhibit C). The survey must address the apparent health of the mussels within the mussel beds given the higher than allowed river temperatures and longer duration of temperature excursions. Survey dives to ascertain effects on the mussel beds must begin as soon as possible after either the increase of excursion hours or maximum temperature relief afforded by the provisional variance are utilized. Conditions pertinent to the mussel populations to be recorded during the surveys will be much the same as conducted for the baseline study referenced above. These must include but are not limited to mussel species occurrence and density, age, zebra mussel infestation and apparent condition, i.e., any outward signs of heat stress such as morbidity, reflex time, position in the substrate, etc. Plant discharge temperatures, upstream river temperatures, incidence of excursion hours and other pertinent information must be provided to build an understanding of the conditions to which the mussels have recently been exposed. Surveys must continue until excursion hours are no longer being utilized, or in other words, until the weather conditions causing the need for more excursion hours have moderated. The final report for this study must address the changes noted in mussel populations from the previous study. Verbal reports are due to the Agency at regular intervals during the surveys. These reports must include any information on mussel die-off. If mussel die-off downstream from the discharge is found and is attributable to the thermal affects of the effluent, as compared to the condition of upstream populations, a monetary settlement will be required as calculated by the formula the Illinois Department of Natural Resources uses for mussel die-off settlements;

- D. Exelon Quad Cities Station shall immediately notify the Agency and the Department of Natural Resources of any unusual conditions, including mortalities to fish or other aquatic life; shall immediately take action to remedy the problem; shall investigate and document the cause and seriousness of the unusual conditions while providing updates to the Agency and the Department of Natural Resources as changes occur until normal conditions return; shall notify the Agency and the Department of Natural Resources when normal conditions return; and shall submit the documentation to the Agency and the Department of Natural Resources within 30 days after normal conditions return;

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- E. Exelon Quad Cities Station shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions resulting from the provisional variance, including loss and damage to aquatic life;
- F. Quad Cities Station shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when the need for the 100 additional excursion hours begin and again if the excursion hours are totally utilized. Written confirmation of each notice shall be sent within five days to the following address:

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Illinois Environmental Protection Agency
Bureau of Water - Water Pollution Control
Attention: Roger Callaway
1021 North Grand Avenue East, MC #19
Springfield, Illinois 62794-9276

- G. Exelon Quad Cities Station shall sign a certificate of acceptance of this provisional variance and forward that certificate to Roger Callaway at the address indicated above within one day of the date of this order. The certification should take the following form:

I(We) _____, hereby accept and agree to be bound by all terms and conditions of the provisional variance granted by the Agency in _____ dated _____.

Petitioner

Authorized Agent

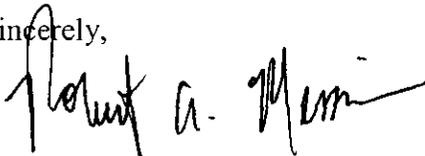
Title

Date

Exelon Quad Cities Station shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0005037.

The Illinois EPA grants this provisional variance in accordance with its authority contained in Sections 35(b), 36 (c), and 37(b) of the Illinois Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2004). The decision to grant this provisional variance is not intended to address compliance with any other applicable laws or regulations.

Sincerely,



Robert A. Messina
Chief Legal Counsel

Due to the volume of this pleading,
please contact the Clerk's Office

at

312/814-3629

to view this file.