

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

October 23, 2006

Exelon Generation Company, LLC)
Dresden Nuclear Generation Station)
)
)
Petitioner,)
)
v.)
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

RECEIVED
CLERK'S OFFICE

OCT 26 2006

STATE OF ILLINOIS
Pollution Control Board
IEPA - 07-08
(Provisional Variance-Water)

Re: Provisional Variance From Special Conditions 4A, 4D, and 4G
of NPDES Permit IL0002224¹

Dear Mr. Wozniak:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance request (Attachment A) submitted by Dresden Nuclear Generation Station (Dresden Station) on October 10, 2006. Dresden Station is requesting a provisional variance for a six-day period, beginning November 7, 2006, through November 12, 2006, in order to repair a Lift Station Automatic Bus Transfer (ABT) switch. This switch was damaged by a lighting strike on July 27, 2006. Based on its review, the Agency GRANTS a provisional variance subject to the specific conditions set forth below.

Background

Dresden Station is a nuclear-fueled steam electric generating facility located at the confluence of the Des Plaines and Kankakee Rivers near Morris, Illinois, at River Mile 272.3. The two boiling reactors have a maximum generating capacity of 1824 megawatts electric. Circulating water used to cool and condense the steam from the generating process is discharged to a 1275 acre cooling pond.

¹ NPDES Permit No. IL0002224 expired on October 31, 2005. Because the permittee timely filed for renewal, however, the permit continues in full force and effect.

Dresden Station normally operates in a closed cycle mode from October 1 through June 14 (about 8 ½ months). In the closed cycle mode, approximately 1,000,000 gallons per minute (gpm) of cooling water is drawn into the station's cribhouse intake structure, passes through the station's heat exchangers, and discharges to a hot canal that routes the water approximately two miles to the lift station. The lift station lifts the 1,000,000 gpm of the cooling water approximately 20 feet from the hot canal to the aboveground cooling pond. The cooling water routes around the cooling pond and spills over a spillway into the cold canal, which routes the cooling water approximately two miles back to the station. The flow regulating gates direct the majority of the cooling water back to the cribhouse intake structure through a return canal. These gates divert approximately 5 percent or 50,000 gpm of the cooling water flow (limited to 72 million gallons per day (MGD)) to the Illinois River via Outfall 002. The Kankakee River provides makeup flow through a ¼-mile intake canal. The volume of makeup flow is equal to the blowdown flow and water lost to evaporation.

From June 15 to September 30 of each year (about 3 ½ months), Dresden is allowed to operate in an indirect open cycle mode. In this mode, approximately 1,000,000 gpm of cooling water is drawn into the station's cribhouse intake structure from the Kankakee River via the intake canal. This cooling water passes through Dresden's heat exchangers and discharges to the hot canal that routes the water approximately two miles to the lift station. The lift station lifts the cooling water approximately 20 feet from the hot canal to the above ground cooling pond. The cooling water routes around the cooling pond and spills over the spillway into the cold canal, which routes the cooling water approximately two miles back to the station. The flow regulating gates divert all the cooling water flow (approximately 1,000,000 gpm) to the Illinois River via Outfall 002. The Illinois Pollution Control Board approved this operational scheme and the related alternate thermal standards on July 9, 1981.

The lift station is equipped with six lift pumps, each with a 167,000-gpm capacity. The pumps provide motive force that allows the cooling water to flow around the cooling pond, over the spillway, through the cold canal to the flow regulating gates.

Relief Requested

Dresden Station seeks a variance from Special Conditions 4A, 4D, and 4G of NPDES Permit IL0002224 (Attachment B). Special Condition 4A requires that the maximum temperature rise above natural temperature must not exceed 5° F at the edge of the mixing zone, in accordance with Section 302.211(d) of Subtitle C (35 Ill. Adm. Code Sec. 302.211(d)) when operating in closed cycle mode. Special Condition 4D requires that Dresden operate in the closed cycle mode during the period October 1 to June 14. Special Condition 4G allows Dresden to bypass the cooling pond only when both generating units are out of service. A variance from these conditions will allow Dresden Station to operate in open cycle mode (i.e., bypass the cooling pond).

Dresden Station requests that the provisional variance begin on Tuesday, November 7, 2006, and continue through Sunday November 12, 2006, during which time Dresden

Station can operate in open cycle mode for 144 hours. During this period, Dresden will repair the existing Lift Station ABT switch and make other related electrical repairs. This activity will restore the Lift Station electrical equipment redundancy and reliability.

To minimize the thermal discharge from the plant, the provisional variance period coincides with a scheduled refueling outage of one of the facilities two units.

Agency Determinations

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

1. No significant environmental impact will occur as a result of this provisional variance. Dresden Station will closely monitor the environmental impact from the requested relief and will immediately notify the Agency of any significant impact along with actions taken to remedy the problem;
2. No 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. Dresden Station will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Agency hereby GRANTS the Dresden Station a provisional variance from Special Conditions 4A, 4D, and 4G of NPDES Permit IL0002224, subject to the following conditions:

- A. The provisional variance shall begin on Tuesday, November 7, 2006, and continue through November 12, 2006, during which time Dresden Station can operate in open cycle mode for 144 hours;
- B. Dresden Station shall comply with the General Use thermal discharge standards outlined in its NPDES permit's Special Condition 4B during the variance period;
- C. Dresden Station shall continuously monitor intake, discharge and Dresden Lock and Dam temperatures so it can document environmental conditions during the variance period. Dresden Station shall also conduct visual inspections on a daily basis in the vicinity of the intake and the discharge, so it can document the effects of any increased

thermal output to the river. Dresden Station shall notify the Agency if it identifies any unusual or unexpected environmental impact;

- D. Dresden Station shall conduct additional biological monitoring of the resident fish community, which shall consist of fish sampling during and after the variance period. Dresden Station shall conduct two surveys at eight locations using electrofishing, and two surveys at seven locations using seining. Dresden Station shall also monitor the physical conditions by compiling temperature and oxygen profiles in all appropriate survey locations;
- E. Dresden Station shall conduct additional biological monitoring of the benthos community, which shall consist of macro invertebrate sampling just prior to and just after the variance period. These two surveys shall be performed at six locations using a Ponar grab sampler;
- F. Dresden Station shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when the need to operate in direct open mode begins, and again when the 144 hours are utilized. Written confirmation of each notice shall be sent within five days to the following address:

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. Dresden 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

Dresden Station shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0002224.

Conclusion

The Agency 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

c: Marcia Willhite
Roger Callaway
Vera Herst