ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

February 24, 2011

Exelon Generation Company, LLC Dresden Nuclear Generation Station	)	
Petitioner,	)	
v.	)	IEPA – 11-07 (Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

Re: Provisional Variance From Special Condition No. 4D Contained in NPDES Permit IL0002224

Dear Mr. Marik:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance requests, dated February 22, 2011, and February 23, 2011 (Attachments A and B, respectively) submitted by Exelon Generation Company, LLC. (Exelon Generation) for its Dresden Nuclear Generation Station (Dresden Station). Exelon Generation has requested a variance for Dresden Station to operate in partial direct open cycle while it restores one of its lift pumps to service. The repair of this pump is needed to properly control water level in the hot canal. Operating in partial direct open cycle is necessary to prevent flooding of the site and, potentially, the local area.

Based on its review, the Agency GRANTS Exelon Generation a provisional variance for its Dresden Generation Station, 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 water reactors have a maximum generating capacity of 1850 megawatts electric. Circulating water used to cool and condense the steam from the generating process is discharged to a 1275 acre cooling pond.

The station normally operates in a closed cycle mode from October 1st through June 14th of each year (about 8-1/2 months). In this 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 transfers the 1,000,000 gpm of 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 over a spillway into the cold canal. The cold canal 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. The flow regulating gates normally divert about five percent, or 50,000 gpm, of the cooling water flow (approximately 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.

Dresden's NPDES permit authorizes the Station to operate in indirect open cycle mode from June 15th to September 30th of each year (about 3 1/2 months). In the indirect open cycle 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 the station's heat exchangers and discharges to the hot canal that routes the water approximately two miles to the lift station. The lift station transfers the cooling water approximately 20 feet from the hot canal to the aboveground cooling pond. The cooling water is routed around the cooling pond and over the spillway into the cold canal. The cold canal 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 lift station is equipped with six lift pumps, each with a 167,000-gpm capacity. The lift pumps lift the cooling water into the cooling pond and 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.

On February 22, with both units in operation, planned and scheduled refurbishment of one lift pump was underway. The operation of five lift pumps ensures appropriate lift station capacity to transfer water from the hot canal to the cooling pond. During the maintenance, a running lift pump tripped off unexpectedly. The capacity of the remaining four operating lift station pumps was not sufficient to control the hot canal level. This action required the discharge canal gate to the Illinois River to be opened so that the station is operating in partial direct open cycle.

Exelon Generation initially believed one of the lift station pumps would be back in service within 12 hours (Attachment A), but when maintenance was completed on that pump, the pump unexpectedly failed during its operational test (Attachment B). Exelon Generation now requests a provisional variance for a maximum of five days (February 22 to February 26).

Dresden Station is obtaining multiple temporary lift pumps, which will be installed by February 24, and will supplement the operating lift pumps. Dresden Station is also taking steps to allow some equalization flow directly from the hot canal to the cold canal while on closed cycle. Following installation of the temporary lift pumps and the use of the equalization flow, or restoration of one of the lift pumps, Dresden Station is expected to be able to control water level in the hot canal and return to closed cycle operation.

Relief Requested

Exelon Generation requests a provisional variance from Special Condition No. 4D, of Dresden's NPDES Permit No. IL0002224 (Attachment C). Special Condition 4D provides in pertinent part:

> The Dresden Station shall be operated in closed cycle during the period October 1 to June 15.

Agency Determinations

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

1. Any environmental impact from the requested relief shall be closely monitored, and the Agency shall be immediately notified of any adverse impacts.

2. No reasonable alternatives appear available;

3. No public water supplies should be affected;

4. No federal regulations will preclude the granting of this request; and

5. Exelon Generation will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Illinois EPA hereby GRANTS Dresden Station a provisional variance from Special Condition 4D on NPDES Permit IL0002224, subject to the following conditions:

1. The provisional variance shall begin on February 22, 2011, and end February 26, 2011.

2. Dresden Station must continuously monitor discharge and receiving water temperatures and visually inspect all discharge areas at least four times per day to assess any mortalities to fish and other aquatic life. This monitoring shall occur

during the period of the provisional variance and shall continue for a minimum of two days after the provisional variance expires.

3. Dresden Station shall document environmental conditions during the term of the provisional variance and submit the documentation to the Illinois EPA and the Department of Natural Resources within seven days after the provisional variance expires.

4. Dresden Station shall immediately notify the Illinois EPA and the Department of Natural Resources of any unusual conditions, including mortalities of fish or other aquatic life, immediately take action to remedy the problem, investigate and document the cause and seriousness of the unusual conditions while providing updates to the Illinois EPA and the Department of Natural Resources as changes occur until normal conditions return; notify the Illinois EPA and the Department of Natural Resources when normal conditions return and submit the documentation the Illinois EPA and the Department of Natural Resources with 7 days after normal conditions return.

5. Dresden Station shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions that could result from the provisional variance, including loss and damage to aquatic life.

6. Dresden Station shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when the discharge specified in this provisional variance begins and again when it ends. Written confirmation 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, CAS #19
   Springfield, Illinois 62794-9276

7. 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 all parameters and comply with all other conditions specified in its NPDES Permit No. IL000224.

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,

John Kim
Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Vera Herst

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

February 24, 2011

Exelon Generation Company, LLC Dresden Nuclear Generation Station Petitioner, v. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	IEPA – 11-03 (Provisional Variance-Water)

Re: Provisional Variance From Special Condition No. 4D Contained in NPDES Permit IL0002224

Dear Mr. Marik:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance requests, dated February 22, 2011, and February 23, 2011 (Attachments A and B, respectively) submitted by Exelon Generation Company, LLC. (Exelon Generation) for its Dresden Nuclear Generation Station (Dresden Station). Exelon Generation has requested a variance for Dresden Station to operate in partial direct open cycle while it restores one of its lift pumps to service. The repair of this pump is needed to properly control water level in the hot canal. Operating in partial direct open cycle is necessary to prevent flooding of the site and, potentially, the local area.

Based on its review, the Agency GRANTS Exelon Generation a provisional variance for its Dresden Generation Station, 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 water reactors have a maximum generating capacity of 1850 megawatts electric. Circulating water used to cool and condense the steam from the generating process is discharged to a 1275 acre cooling pond.

The station normally operates in a closed cycle mode from October 1st through June 14th of each year (about 8-1/2 months). In this 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 transfers the 1,000,000 gpm of 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 over a spillway into the cold canal. The cold canal 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. The flow regulating gates normally divert about five percent, or 50,000 gpm, of the cooling water flow (approximately 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.

Dresden's NPDES permit authorizes the Station to operate in indirect open cycle mode from June 15th to September 30th of each year (about 3 1/2 months). In the indirect open cycle 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 the station's heat exchangers and discharges to the hot canal that routes the water approximately two miles to the lift station. The lift station transfers the cooling water approximately 20 feet from the hot canal to the aboveground cooling pond. The cooling water is routed around the cooling pond and over the spillway into the cold canal. The cold canal 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 lift station is equipped with six lift pumps, each with a 167,000-gpm capacity. The lift pumps lift the cooling water into the cooling pond and 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.

On February 22, with both units in operation, planned and scheduled refurbishment of one lift pump was underway. The operation of five lift pumps ensures appropriate lift station capacity to transfer water from the hot canal to the cooling pond. During the maintenance, a running lift pump tripped off unexpectedly. The capacity of the remaining four operating lift station pumps was not sufficient to control the hot canal level. This action required the discharge canal gate to the Illinois River to be opened so that the station is operating in partial direct open cycle.

Exelon Generation initially believed one of the lift station pumps would be back in service within 12 hours (Attachment A), but when maintenance was completed on that pump, the pump unexpectedly failed during its operational test (Attachment B). Exelon Generation now requests a provisional variance for a maximum of five days (February 22 to February 26).

Dresden Station is obtaining multiple temporary lift pumps, which will be installed by February 24, and will supplement the operating lift pumps. Dresden Station is also taking steps to allow some equalization flow directly from the hot canal to the cold canal while on closed cycle. Following installation of the temporary lift pumps and the use of the equalization flow, or restoration of one of the lift pumps, Dresden Station is expected to be able to control water level in the hot canal and return to closed cycle operation.

Relief Requested

Exelon Generation requests a provisional variance from Special Condition No. 4D, of Dresden's NPDES Permit No. IL0002224 (Attachment C). Special Condition 4D provides in pertinent part:

> The Dresden Station shall be operated in closed cycle during the period October 1 to June 15.

Agency Determinations

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

1. Any environmental impact from the requested relief shall be closely monitored, and the Agency shall be immediately notified of any adverse impacts.

2. No reasonable alternatives appear available;

3. No public water supplies should be affected;

4. No federal regulations will preclude the granting of this request; and

5. Exelon Generation will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Illinois EPA hereby GRANTS Dresden Station a provisional variance from Special Condition 4D on NPDES Permit IL0002224, subject to the following conditions:

1. The provisional variance shall begin on February 22, 2011, and end February 26, 2011.

2. Dresden Station must continuously monitor discharge and receiving water temperatures and visually inspect all discharge areas at least four times per day to assess any mortalities to fish and other aquatic life. This monitoring shall occur

during the period of the provisional variance and shall continue for a minimum of two days after the provisional variance expires.

3. Dresden Station shall document environmental conditions during the term of the provisional variance and submit the documentation to the Illinois EPA and the Department of Natural Resources within seven days after the provisional variance expires.

4. Dresden Station shall immediately notify the Illinois EPA and the Department of Natural Resources of any unusual conditions, including mortalities of fish or other aquatic life, immediately take action to remedy the problem, investigate and document the cause and seriousness of the unusual conditions while providing updates to the Illinois EPA and the Department of Natural Resources as changes occur until normal conditions return; notify the Illinois EPA and the Department of Natural Resources when normal conditions return and submit the documentation the Illinois EPA and the Department of Natural Resources with 7 days after normal conditions return.

5. Dresden Station shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions that could result from the provisional variance, including loss and damage to aquatic life.

6. Dresden Station shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when the discharge specified in this provisional variance begins and again when it ends. Written confirmation 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, CAS #19
   Springfield, Illinois 62794-9276

7. 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 all parameters and comply with all other conditions specified in its NPDES Permit No. IL000224.

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,

John Kim
Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Vera Herst

Attachment A

Exelon Generation Company, LLC
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, IL 60450-9765
www.exeloncorp.com

Exelon Nuclear

SMMLTR 11-0003

Mr. Roger Callaway (CAS-19)
Wastewater Compliance Unit Manager
Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section #19
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9274

Subject: Dresden Nuclear Generation Station
NPDES Permit No. IL0002224

Dear Mr. Callaway,

Exelon Generation Company, LLC. ("Exelon") hereby requests a provisional variance for its Dresden Generating Station ("Dresden" or "station") as provided for by Title IX, Section 35, Subsection (b) of the Illinois Environmental Protection Act ("Act").

The requested provisional variance is needed in order to allow Dresden Station to operate in partial direct open cycle mode for a maximum of 48 hours (1100 February 22, to 1100 February 24) during which Dresden Station will repair a lift station pump. The repair of this pump is needed to properly control water level in the hot canal. An emergent failure of a lift station pump occurred on February 22, necessitating opening of the discharge canal gate to the Illinois River.

BACKGROUND

Dresden 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 water reactors have a maximum generating capacity of 1850 megawatts electric. Circulating water used to cool and condense the steam from the generating process is discharged to a 1275 acre cooling pond.

The station normally operates in a closed cycle mode from October 1st through June 14th of each year (about 8-1/2 months). In this 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 transfer the 1,000,000 gpm of 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 over a spillway into the cold canal. The cold canal 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. The flow regulating gates normally divert about five percent, or 50,000 gpm, of the cooling water flow (approximately 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.

Dresden's NPDES permit authorizes the Station to operate in indirect open cycle mode from June 15th to September 30th of each year (about 3-1/2 months). In the indirect open cycle 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 the station's heat exchangers and

discharges to the hot canal that routes the water approximately two miles to the lift station. The lift station transfers the cooling water approximately 20 feet from the hot canal to the aboveground cooling pond. The cooling water is routed around the cooling pond and over the spillway into the cold canal. The cold canal 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 ("IPCB") approved this operational scheme and the related alternate thermal standards on July 9, 1981, (IPCB #79-134).

The lift station is equipped with six lift pumps, each with a 167,000-gpm capacity. The lift pumps lift the cooling water into the cooling pond and 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.

On February 22, with both units in operation, planned and scheduled refurbishment of one lift pump was underway. The operation of five lift pumps ensures appropriate lift station capacity to transfer water from the hot canal to the cooling pond. During the maintenance, a running lift pump tripped off unexpectedly. The capacity of the remaining four operating lift station pumps was not sufficient to control hot canal level, necessitating this provisional variance.

Pursuant to Special Condition 10, the IEMA-operated siphon lines were secured in the afternoon of February 22 and will remain secured during the variance.

I. RELIEF REQUESTED

A provisional variance is being requested from Special Condition No. 4D, of Dresden's NPDES Permit No. IL0002224.

- Special Condition 4D requires that Dresden operate in the Closed Cycle mode during the period October 1st to June 15th.

Based on current Illinois River flow data we reasonably anticipate that the temperature rise in the Illinois River will remain within the 5 degree F temperature limit of Special Condition 4A during this Provisional Variance period. We have reviewed the temperature data, and the temperature rise in this condition is only 3 degrees. Based on the limited duration of this variance, we expect the temperature rise above ambient river temperature to remain below 5 degrees F.

II. NECESSITY FOR REQUEST

As explained above, as a result of the unexpected lift station pump failure, Dresden was forced to operate in partial direct open cycle, to prevent flooding of the site, and potentially the local area. During the provisional variance period, Dresden will restore one lift pump to service. Following completion of this work, with five lift pumps operating, the lift station will be able to control water level and the partial bypass of the cooling pond will cease.

Careful analysis has determined that all tasks associated with the pump repair could be completed and fully tested within a 48 hour period.

III. ASSESSMENT OF ADVERSE ENVIRONMENTAL IMPACTS

The thermal impact of the proposed partial direct open cycle operation with respect to the near-field aquatic community is expected to be minimal.

Since the thermal discharge from Dresden into the Illinois River occurs just below the confluence of the Kankakee and Des Plaines Rivers, the water from the Des Plaines River blends with the water from the Kankakee River and influences the ambient or background temperature of the Illinois River at this location. The water temperature in the Des Plaines River is warmer than the Kankakee River due to upstream dischargers.

A loss of equilibrium associated with exposure to a sudden decrease in water temperature is known as "cold shock". Mortality to fish can result under extreme conditions. Based on evaluation of the relevant background thermal conditions at Dresden Station for this time period, the Station's mode of operation; and the temperatures anticipated following the return to service of the lift pumps, cold shock is not expected to occur in the Dresden discharge or the Illinois River near the Dresden discharge as a result of the provisional variance.

Fishes that have become physiologically acclimated (adjusted their metabolism) to warm water in discharges and thermal plumes can die if exposed abruptly (over minutes or hours) and continuously to cold water. Four factors are important in evaluating the prospect of cold shock: the length of time that the fish resided at the elevated temperature; the difference between discharge and ambient temperatures; the rate of temperature decrease; and the absolute magnitude of the lower temperature. There will be no loss of equilibrium unless the fish have resided at the higher temperature long enough to become acclimated (a physiological adjustment). The difference between this higher (acclimation) level and the new, lower temperature must be sufficient to disrupt this adjustment resulting in a loss in equilibrium. Both the rate and the magnitude of change required to do this vary with the final temperature of the new (colder) situation. The magnitude of change is important. At final temperatures exceeding 45°F, cold shock typically does not occur, regardless of the magnitude of the change.

The most cold-shock sensitive indigenous species in the Midwest appears to be gizzard shad. Lethality for most Midwest temperate-zone, warm-water fishes does not occur unless the exposure temperatures are close to the freezing point. The resumption of closed cycle operation would not result in a rapid temperature drop. It is expected that the water temperature conditions following the provisional variance period will not stress the fish community surrounding Dresden in any way.

Evaluation of the background thermal regime, previous experience at Dresden Station, the Station's short term mode of operation in the partial direct open cycle mode of operation, and the February timeframe of the provisional variance indicates that cold shock would not be expected to occur in the Dresden discharge or the Illinois River near the Dresden discharge.

Dresden is committed to remaining in compliance with the applicable General Use temperature standards (as required by permit Special Condition 4B), throughout the provisional variance period. All of the factors listed above should effectively minimize the impact of this period of partial direct open cycle operation upon the surrounding aquatic environment.

IV. ALTERNATIVES TO REQUESTED RELIEF

Given the emergent nature of this variance request, the availability of the alternate pumping capacity needed, and the short timeframe requested for this variance (48 hours) other viable alternatives do not exist. Shutting down and starting up both operating units would exceed both the lift station pump repair timeframe and the variance time period being requested.

V. MITIGATIVE ACTIONS TO BE TAKEN DURING THE VARIANCE PERIOD

Dresden is committed to complying with the General Use thermal discharge standards outlined in permit Special Condition 4B during the requested provisional variance period.

To document environmental conditions during this period, intake, discharge and Dresden Lock and Dam temperatures will be continuously trended. A summary of this data will be submitted to the Agency after the variance period ends. Additionally, periodic visual observations will be conducted a minimum of twice daily. If any unusual or unexpected environmental impacts are identified, Dresden will notify the IEPA immediately.

VI. SUMMARY

A provisional variance for relief from Special Condition 4D is requested for 48 hours beginning at 1100 February 22, until 1100 February 24, 2011. It is Exelon's position that not granting this provisional variance to Dresden Station would impose an arbitrary and unreasonable hardship.

There is no other provisional variance relief in effect at this time for Dresden Station.

The last provisional variance for Dresden Station was granted in the fall of 2006 for the period of 5 days to allow the installation of redundancy in the power supply to the Lift Station.

Should you require any further information in order to expedite the processing of this request or have any questions, please contact Joan Knight of my staff at 815-416-3200.

Sincerely,

Shane Marik
Dresden Station Plant Manager

CC: J. Petro
B. Rybak
S. Neal
File

Attachment B

Exelon Nuclear

Exelon Generation Company, LLC
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, IL 60450

www.exeloncorp.com

February 23, 2011
SMMLTR 11-0007

Mr. Roger Callaway (CAS-19)
Wastewater Compliance Unit Manager
Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section #19
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9274

Subject: Dresden Nuclear Generation Station
NPDES Permit No. IL0002224

Dear Mr. Callaway,

Exelon Generation Company, LLC. ("Exelon") hereby requests a provisional variance for its Dresden Generating Station ("Dresden" or "station") as provided for by Title IX, Section 35, Subsection (b) of the Illinois Environmental Protection Act ("Act").

The requested provisional variance is needed in order to allow Dresden Station to operate in partial direct open cycle mode for a maximum of five days (February 22 to February 26) during which Dresden Station will repair a lift station pump or establish alternate means to control hot canal level while on closed cycle. An emergent failure of the "E" lift station pump occurred on February 22, necessitating opening of the discharge canal gate to the Illinois River.

BACKGROUND

Dresden 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 water reactors have a maximum generating capacity of 1850 megawatts electric. Circulating water used to cool and condense the steam from the generating process is discharged to a 1275 acre cooling pond.

The station normally operates in a closed cycle mode from October 1st through June 14th of each year (about 8-1/2 months). In this 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 transfers the 1,000,000 gpm of 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 over a spillway into the cold canal. The cold canal 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. The flow regulating gates normally divert about five percent, or 50,000 gpm, of the cooling water flow (approximately 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.

Dresden's NPDES permit authorizes the Station to operate in indirect open cycle mode from June 15th to September 30th of each year (about 3-1/2 months). In the indirect open cycle 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 the station's heat exchangers and discharges to the hot canal that routes the water approximately two miles to the lift station. The lift station transfers the cooling water approximately 20 feet from the hot canal to the above ground cooling pond. The cooling water is routed around the cooling pond and over the spillway into the cold canal. The cold canal 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 ("IPCB") approved this operational scheme and the related alternate thermal standards on July 9, 1981, (IPCB #79-134).

The lift station is equipped with six lift pumps, each with a 167,000-gpm capacity. The lift pumps lift the cooling water into the cooling pond and 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.

On February 22, with both units in operation, planned and scheduled refurbishment of one of the six lift pumps was underway. The operation of five lift pumps ensures appropriate lift station capacity to transfer water from the hot canal to the cooling pond. During the maintenance, the running "D" lift pump tripped off unexpectedly. The capacity of the remaining four operating lift station pumps was not sufficient to control hot canal level, necessitating this provisional variance.

Pursuant to Special Condition 10, the IEMA-operated siphon lines were secured in the afternoon of February 22 and will remain secured during the variance.

I. RELIEF REQUESTED

A provisional variance is being requested from Special Condition No. 4D, of Dresden's NPDES Permit No. IL0002224.

- Special Condition 4D requires that Dresden operate in the Closed Cycle mode during the period October 1st to June 15th.

Based on current Illinois River flow data we reasonably anticipate that the temperature rise in the Illinois River will remain within the 5 degrees F temperature limit of Special Condition 4A during this Provisional Variance period. We have reviewed the temperature data since February 22, and the temperature rise in this condition has been approximately 3 degrees F and steady. Based on the limited duration of this variance, we expect the temperature rise above ambient river temperature to remain below 5 degrees F.

II. NECESSITY FOR REQUEST

As explained above, as a result of the unexpected lift station pump failure, Dresden was forced to operate in partial direct open cycle, to prevent flooding of the site, and potentially the local area. During the provisional variance period, Dresden has proceeded down multiple parallel paths to support returning station operation to closed cycle. Maintenance on a fifth lift pump was completed last night; however, the pump unexpectedly failed during its operational test. Therefore, the station remains in the previous configuration of four lift pumps, and continues to pursue repair of one of the two inoperable lift pumps.

Based on the current operational status of the lift station, the station is obtaining multiple temporary lift pumps to supplement the operating lift pumps. Vendors have been contacted to install temporary pumps to the site by February 24. Finally, the station is taking steps to allow some equalization flow directly from the hot canal to the cold canal while on closed cycle. Following installation of the temporary pumps and use of the equalization flow or restoration of one lift pump, the lift station will be able to control water level and the return to closed cycle operation, and therefore meet permit Special Condition 4D.

Careful analysis has determined that at least one success path will exist and be in operation within a 5 day period.

III. ASSESSMENT OF ADVERSE ENVIRONMENTAL IMPACTS

The thermal impact of the proposed partial direct open cycle operation with respect to the near-field aquatic community is expected to be minimal.

Since the thermal discharge from Dresden into the Illinois River occurs just below the confluence of the Kankakee and Des Plaines Rivers, the water from the Des Plaines River blends with the water from the Kankakee River and influences the ambient or background temperature of the Illinois River at this location. The water temperature in the Des Plaines River is warmer than the Kankakee River due to upstream dischargers.

A loss of equilibrium associated with exposure to a sudden decrease in water temperature is known as "cold shock". Mortality to fish can result under extreme conditions. Based on evaluation of the relevant background thermal conditions at Dresden Station for this time period, the Station's mode of operation, and the temperatures anticipated following the return to service of the lift pumps, cold shock is not expected to occur in the Dresden discharge or the Illinois River near the Dresden discharge as a result of the provisional variance.

Fishes that have become physiologically acclimated (adjusted their metabolism) to warm water in discharges and thermal plumes can die if exposed abruptly (over minutes or hours) and continuously to cold water. Four factors are important in evaluating the prospect of cold shock: the length of time that the fish resided at the elevated temperature; the difference between discharge and ambient temperatures; the rate of temperature decrease; and the absolute magnitude of the lower temperature. There will be no loss of equilibrium unless the fish have resided at the higher temperature long enough to become acclimated (a physiological adjustment). The difference between this higher (acclimation) level and the new, lower temperature must be sufficient to disrupt this adjustment resulting in a loss in equilibrium. Both the rate and the magnitude of change required to do this vary with the final temperature of the new (colder) situation. The magnitude of change is important. At final temperatures exceeding 45°F, cold shock typically does not occur, regardless of the magnitude of the change.

The most cold-shock sensitive indigenous species in the Midwest appears to be gizzard shad. Lethality for most Midwest temperate-zone, warm-water fishes does not occur unless the exposure temperatures are close to the freezing point. The resumption of closed cycle operation would not result in a rapid temperature drop. It is expected that the water temperature conditions following the provisional variance period will not stress the fish community surrounding Dresden in any way.

Evaluation of the background thermal regime, previous experience at Dresden Station, the Station's short term mode of operation in the partial direct open cycle mode of operation, and the February timeframe of the provisional variance indicates that cold shock would not be expected to occur in the Dresden discharge or the Illinois River near the Dresden discharge.

Based on periodic observations as discussed in section V, there is no indication of fish loss to date.

Dresden is committed to remaining in compliance with the applicable General Use temperature standards (as required by permit Special Condition 4B), throughout the provisional variance period. All of the factors listed above should effectively minimize the impact of this period of partial direct open cycle operation upon the surrounding aquatic environment.

IV. ALTERNATIVES TO REQUESTED RELIEF

Given the emergent nature of this variance request, the availability of the additional alternate pumping capacity needed, and the short timeframe requested for this variance (5 days) no other viable alternatives exist. Shutting down and starting up one unit is a significant, resource intensive evolution that would significantly dilute station efforts to restore the lift station in a timely fashion.

V. MITIGATIVE ACTIONS TO BE TAKEN DURING THE VARIANCE PERIOD

Dresden is committed to complying with the General Use thermal discharge standards outlined in permit Special Condition 4B during the requested provisional variance period.

To document environmental conditions during this period, intake, discharge and Dresden Lock and Dam temperatures will be continuously trended. A summary of this data will be submitted to the Agency after the variance period ends. Additionally, periodic visual observations will be conducted a minimum of twice daily. If any unusual or unexpected environmental impacts are identified, Dresden will notify the IEPA immediately.

To date, there is no indication of fish loss during this period.

Restoration of operation to closed cycle will be conducted in a controlled manner to minimize environmental impact.

VI. SUMMARY

A provisional variance for relief from Special Condition 4D is requested for 5 days beginning February 22, through February 25, 2011. It is Exelon's position that not granting this provisional variance to Dresden Station would impose an arbitrary and unreasonable hardship.

There is no other provisional variance relief in effect at this time for Dresden Station.

The last provisional variance for Dresden Station was granted in the fall of 2006 for the period of 5 days to allow the installation of redundancy in the power supply to the lift station.

Should you require any further information in order to expedite the processing of this request or have any questions, please contact Joan Knight of my staff at 815-416-3200.

Sincerely,

Shane Marik

Shane Marik
Dresden Station Plant Manager

NPDES Permit No. IL0002224

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date: October 31, 2005

Issue Date: October 6, 2000
Effective Date: November 1, 2000

Name and Address of Permittee:

Commonwealth Edison Company
Environmental Services Department
Post Office Box 767
Chicago, Illinois 60690

Facility Name and Address:

Commonwealth Edison Company
Dresden Power Station
6500 North Dresden Road
Morris, Illinois 60450

Discharge Number and Name:	Receiving Waters:
001 Unit 1 House Service Water	Illinois River
A01 Unit 1 Intake Screen Backwash	Illinois River
A02 Cooling Pond Blowdown	Illinois River
B02 Unit 2/3 Intake Screen Backwash	Illinois River
B02 Wastewater Treatment System Effluent	Illinois River
C02 Rad waste Treatment System Effluent	Illinois River
D02 Demineralizer Regenerate Waste	Illinois River
E02 NW Material Access Runoff	Illinois River
003 Sewage Treatment Plant Effluent	Kankakee River
004 Cooling Pond Discharge	Kankakee River
005 South East Area Runoff	Kankakee River
006 North East Area Runoff	Kankakee River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Thomas G. McSwiggin, P.E.
Manager, Permit Section
Division of Water Pollution Control

TGM:DEL:99122901.grm

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
Outfall(s): 001 - Unit 1 House Service Water**						
This discharge consists of:				Approximate Flow		
1. Equipment Cooling Water				4.3 MGD		
2. Unit 1 Area Stormwater Runoff				Intermittent		
a. East Area Roof Runoff						
b. Unit 1 Yard Area Runoff						
3. Unit 1 Intake Screen Backwash				Intermittent		
4. North East Area Runoff*						
Flow (MGD)					Daily	Continuous

*See Special Condition 11.
ee Special Condition 18.

Outfall: A01 - Intake Screen Backwash

There shall be no discharge of collected debris

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE

1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

Outfall(s): 002 - Cooling Pond Blowdown

This discharge consists of:

	Approximate Flow
1. Unit 2/3 Condenser Cooling Water	*
2. Demineralizer Regenerant Waste	0.034 MGD
3. Rad waste Treatment System Effluent	Intermittent
4. Wastewater Treatment System Effluent	0.021 MGD
5. Unit 2/3 House Service Water	86.4 MGD
6. Unit 2/3 House Service Water Strainer Backwash	0.001 MGD
7. Unit 2/3 Intake Screen Backwash	Intermittent
8. Unit 2 Auxiliary Boiler Area Oil/Water Separator	Intermittent
9. 138 KV Switchyard Oil/Water Separator***	Intermittent
10. 345 KV Switchyard Oil/Water Separator***	Intermittent

Flow (MGD)	See Special Condition 1		Daily	Continuous
pH	See Special Condition 2		1/Week	Grab
Temperature	See Special Condition 4		Daily	Continuous
Total Residual Chlorine/ Total Residual Oxidant**		0/2/0.05**	2/Month	Grab**

*Cooling pond blowdown flow during closed cycle: 72 MGD; during indirect open cycle operation: 1548 MGD
**See Special Condition 13.
***See Special Condition 18.

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE

1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

Outfall(s): A01 - Unit 2/3 Intake Screen Backwash

There shall be no discharge of collected debris

Outfall(s): B02 - Wastewater Treatment System Effluent*

This discharge consists of: Approximate Flow: 0.021 MGD

1. Unit 1 Oil/Water Separator Effluent — Intermittent
   a. Unit 1 HPCI Building Floor Drains
   b. Unit 1 Main Power and Auxiliary Power Transformer Area Runoff
   c. Decontamination Area Runoff
2. Unit 2/3 Oil/Water Separator Effluent — Intermittent
   a. West Area Roof Runoff
   b. Station Floor Drains (Turbine building, Turbine Lube Oil Storage Area, Diesel Generator Room, Air Compressor Room)
   c. Unit 2/3 Area Yard Runoff
   d. Unit 2/3 Main Power and Auxiliary Power Transformer Area Runoff
3. Crib House Floor Drains — Intermittent

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Flow (MGD)					Daily	Continuous
Total Suspended Solids			15	30	1/Week	24-Hour Composite
Oil and Grease			10	20	2/Month	Grab

*See Special Condition 14.

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Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE

1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

Outfall(s): C02 - Rad Waste Treatment System Effluent

This discharge consists of:

	Approximate Flow
1. Equipment Drains in the Drywell, Reactor Building, Rad waste and Turbine Building	0.001 MGD
2. Unit 2/3 Decontamination System Drains	Intermittent
3. Floor Drains	0.001 MGD
4. Laboratory and Sample Drains	Intermittent
5. Unit 1 Heating Boiler Blowdown	Intermittent
6. Unit 2/3 Auxiliary Boiler Blowdown	Intermittent
7. Laundry Wastewater	Intermittent
8. Condenser Polisher Sonic Cleaning Waste	Intermittent

Flow (MGD)			Daily	Continuous
Total Suspended Solids	15	30	1/Week	Discharge Tank Composite
Oil and Grease	15	20	1/Week	Grab

Outfall(s): D02 - Demineralizer Regenerant Waste and Filter Backwash

Approximate Flow: 0.034 MGD

Flow (MGD)			Daily	Continuous
Total Suspended Solids	15	30	1/Month	8-Hour Composite

Outfall(s): E02 - NW Material Access Runoff*

*See Special Condition 18.

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
Outfall(s): 003 - Sewage Treatment Plant						
				Approximate Flow: 0.03 MGD		
Flow (MGD)	See Special Condition 1				Daily	Continuous
pH	See Special Condition 2				1/Week	Grab
BOD_5	7.76 (18.77)*	15.51 (37.53)*	30	60	1/Week	24-Hour Composite
Total Suspended Solids	7.76 (18.77)*	15.51 (37.53)*	30	60	1/Week	24-Hour Composite
Fecal Coliform**				400/100 mL	1/Week	Grab
Total Residual Chlorine**				0.75	1/Week	Grab

*Load Limits were computed based on a Design Average Flow of 0.031 MGD (Design Maximum Flow of 0.075 MGD). Load limits based on Design Maximum Flow (in parenthesis) shall apply only when flow exceeds Design Average Flow.

**See Special Condition 17.

Outfall(s): 004 - Cooling Pond Discharge*

			Daily When Discharging	Estimate
Flow (MGD)				
Temperature			*	*
Total Residual Chlorine/ Total Residual Oxidant**		0.2/0.05**	Once Per Discharge Event	Grab

*See Special Condition 10.
**See Special Condition 13.

Outfall(s): 005 South East Area Runoff*
006 North East Area Runoff**

*See Special Condition 18.
**See Special Conditions 11 and 18.

NPDES Permit No. IL0002224

Special Conditions

SPECIAL CONDITION 1. Flow shall be reported as a monthly average and a daily maximum on the DMR form.

SPECIAL CONDITION 2. The pH shall be in the range 6.0 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 4. Discharge of wastewater from this facility must not alone or in combination with other sources cause the receiving stream to violate the following thermal limitations at the edge of the mixing zone which is defined by Section 302.211, Illinois Administration Code, Title 35, Chapter 1, Subtitle C, as amended:

A. Maximum temperature rise above natural temperature must not exceed 5°F (2.8°C).

B. Water temperature at representative locations in the main river shall not exceed the maximum limits in the following table during more than one (1) percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature at such locations exceed the maximum limits in the following table by more than 3°F (1.7°C). (Main river temperatures are temperatures of those portions of the river essentially similar to and following the same thermal regime as the temperatures of the main flow of the river.)

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
°F	60	60	60	90	90	90	90	90	90	90	90	60
°C	16	16	16	32	32	32	32	32	32	32	32	16

C. The permittee may discharge cooling pond blowdown using an indirect open cycle cooling mode from June 15 through September 30 in accordance with the following limitation in lieu of 35 Ill. Adm. Code 302.211(d) and 302.211(e) as written above in Special Condition 4A and 4B respectively: During the period June 15 through September 30, the temperature of the plant discharges shall not exceed 32.2°C (90°F) more than 10% of the time in the period and never will exceed 33.9°C (93°F)

D. The Dresden Station shall be operated closed cycle during the period October 1 to June 15. The station may be operated in accordance with the Unit 2/3 Variable Blowdown Plan (governed by the original July 6, 1977 Thermal Compliance Plan calculations) from June 1 to June 15, as deemed necessary by station management.

E. Compliance with the thermal limitations shall be determined by maintaining a continuous temperature and flow record for cooling pond blowdown to the Illinois River. If the variable blowdown plan will be used from June 1 to June 15, data acquisition and records for the parameters necessary to implement the plan shall be maintained.

F. Additional water temperature monitoring shall be continued as follows:

1. A continuous water temperature record of water temperature at the Dresden Island Lock and Dam, and the Dresden Station intake shall be maintained during the period of June 15 through September 30.

2. Water temperature recorded at these locations shall be tabulated and submitted to this Agency, Industrial Unit, Division of Water Pollution Control by December 31, each year.

3 Permittee's failure to submit the temperature monitoring data from these locations due to equipment malfunction shall not be deemed a permit violation provided the permittee employs reasonable efforts to repair the malfunction. If the malfunction lasts more than 24 hours; a manual measurement shall be made at least once per day.

G. The station may bypass the cooling pond, that is operate open cycle, only during periods when both generating units have been taken out of service.

SPECIAL CONDITION 5. There shall be no discharge of polychlorinated biphenyl compounds.

SPECIAL CONDITION 6. The "Upset" defense provisions listed under 40 CFR 122.41(N) are hereby incorporated by reference.

NPDES Permit No. IL0002224

Special Conditions

SPECIAL CONDITION 7. Commonwealth Edison Company has complied with 35 Ill. Adm. Code 302.211(f) and Section 316(a) of the Clean Water Act in demonstrating that the thermal discharge from its Dresden Nuclear Power Station has not caused and cannot be reasonably expected to cause significant ecological damage to receiving waters as approved by the Illinois Pollution Control Board in PCB Order 73-359 dated January 17, 1974 and PCB Order 79-134 dated July 9, 1981. Pursuant to 35 Ill. Adm. Code 302.211(g), no additional monitoring or modification is now being required for reissuance of this NPDES Permit.

SPECIAL CONDITION 8. Pursuant to Section 316(b) of the Clean Water Act, a determination for the Dresden Nuclear Power Station has not been made. Data submitted by Commonwealth Edison Company pursuant to Section 316(b) of the CWA for the Dresden Nuclear Power Station has been reviewed by the Illinois Environmental Protection Agency and the review determination is: That where as additional intake monitoring is not being required at this time, further monitoring is not precluded if determined necessary at the time of any modification or reissuance of NPDES Permit No. IL0002224.

SPECIAL CONDITION 9. The permittee shall record monitoring results on Discharge Monitoring Report forms using one such form for each discharge each month. The completed Discharge Monitoring Report form shall be submitted monthly to IEPA, no later than the 15th of the following month, unless otherwise specified by the Agency, to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 10. The permittee shall minimize make-up water requirements to the cooling pond system during cooling pond water diversion to the Kankakee River in order to minimize fish impingement losses. This should be accomplished by eliminating to the extent feasible normal closed cycle blowdown flows of 50,000 gpm to the Illinois River except during a discharge from the rad waste treatment system and/or other water conservation measures. Such measures and operations taken by the station to minimize make-up water requirements during diversion shall be documented and reported with monthly discharge monitoring reports.

a. Operating requirements

1. The siphon will be operated for only two runs during the winter, each run lasting no more than 14 days.

2. Thermal monitoring at established transects and narrative observations will be recorded during operations in accordance with the siphon Operations Plan dated November, 1993 and a report of findings made available to this Agency in late spring.

3. The maximum amount of heat that will be placed in the Kankakee River shall be <0.5 billion BTUs per hour.

4. A fish barrier net must be in place around the siphon inlet before the siphon is operated, and must remain intact throughout the run.

SPECIAL CONDITION 11. The North East Area Runoff discharges to the Unit 1 intake canal. When the Unit 1 service water system is in use, the discharge will be drawn into the intake and eventually discharged at outfall 001. During those times when the Unit 1 service water system is out of service, this discharge will remain in the intake canal and eventually flow into the Kankakee River.

SPECIAL CONDITION 12. This permit may be modified to include appropriate final limitations, requirements, or conditions, which are consistent with applicable laws, regulations, or judicial orders. The Agency will public notice the permit modification.

SPECIAL CONDITION 13. The cooling pond blowdown shall be monitored twice per month for Total Residual Chlorine or Total Residual Oxidant concentration by grab sample, recording the date and time of sampling, the times and duration of the daily chlorine or bromine dosing periods plus the amount of each chemical applied per day. For purposes of reporting and determining compliance, the highest single instantaneous TRC/TRO concentration measured on any day will be regarded as the daily maximum concentration, and the monthly average shall be the average of all daily discharges.

Total Residual Chlorine may not be discharged from each unit's main cooling condensers for more than two hours in any one day, and is subject to a limit of 0.2 mg/L.

The use of bromine based biocides for micro invertebrate control, and regardless of duration, is subject to the discharge limit of 0.05 mg/L O (Total Residual Oxidant) measured as an instantaneous maximum.