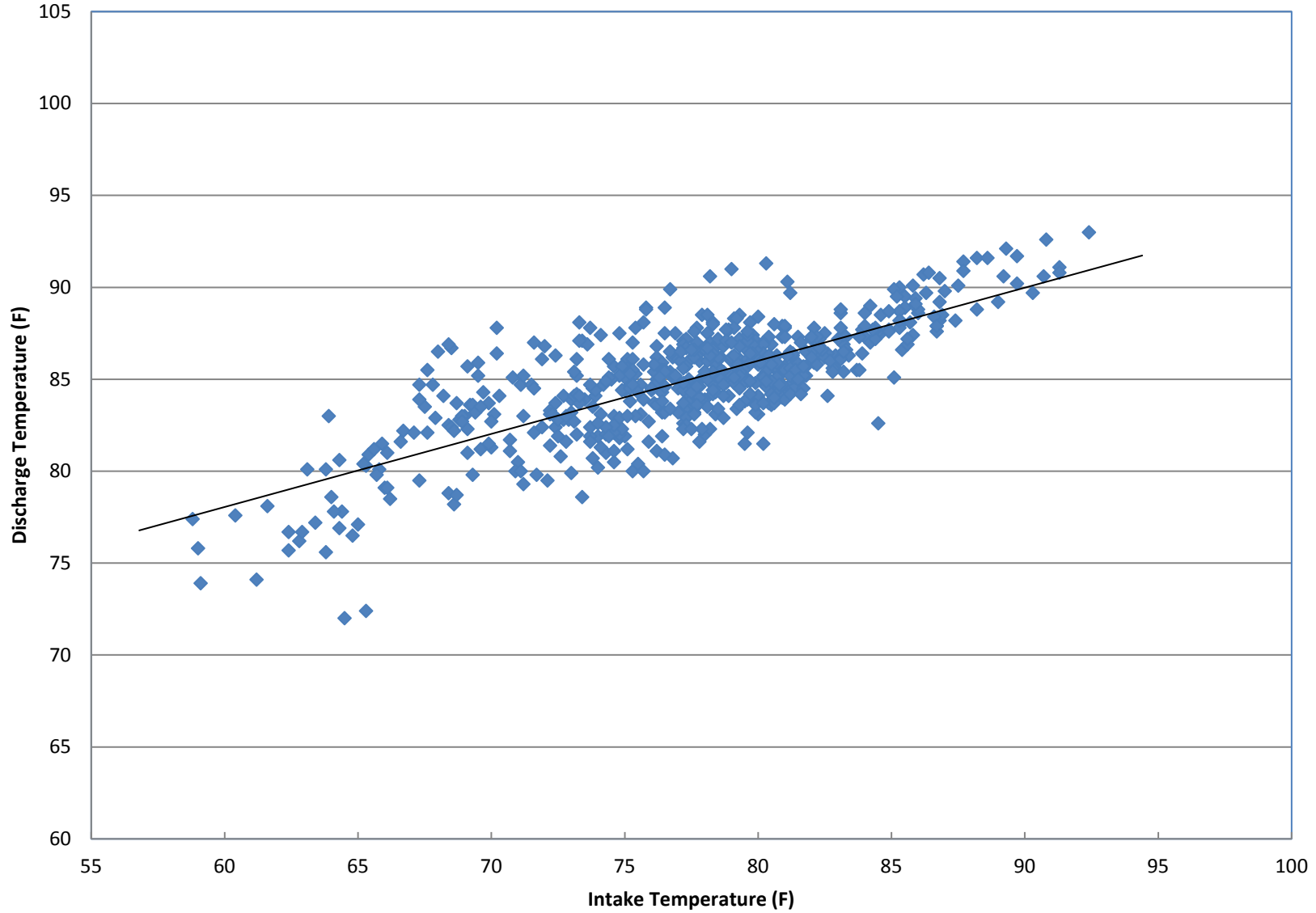


*Exelon Generation LLC's Responses
to the Board's Questions*

ATTACHMENT 1

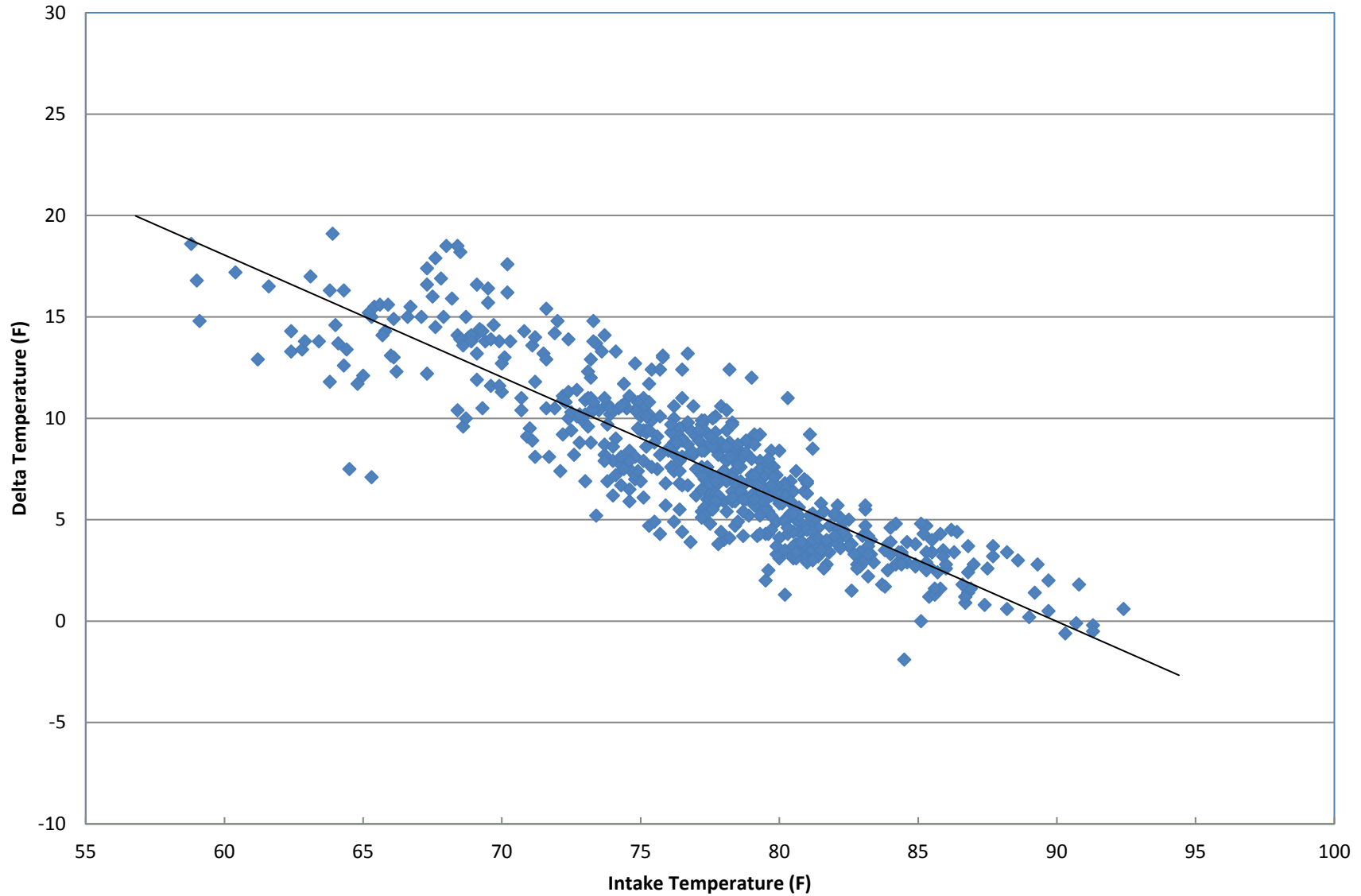
Attachment 1 Daily Average Discharge and Intake Temperature, 15 June - September, 2006-2009, 2012-2014



*Exelon Generation LLC's Responses
to the Board's Questions*

ATTACHMENT 2

Attachment 2 Daily Average Delta Temperature as a Function of Intake Temperature, 15 June - September, 2006-2009, 2012-2014



*Exelon Generation LLC's Responses
to the Board's Questions*

ATTACHMENT 3

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

August 8, 2011

Exelon Generation Company, LLC)	
Dresden Nuclear Generation Station)	
)	
Petitioner,)	
)	
v.)	IEPA - 12-0 5 ⁴
)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

Re: Provisional Variance From Special Condition 4C of NPDES Permit IL0002224

Dear Mr. Marik:

The Illinois Environmental Protection Agency (Illinois EPA) has completed its technical review of the attached provisional variance request, dated August 8, 2011, submitted by Exelon Generation Company, LLC for its Dresden Nuclear Generation Station ("Exelon Dresden"). (Exhibit A) Exelon Dresden has requested a provisional variance because intake temperatures at approximately 90 degrees Fahrenheit or above present an undue hardship for Exelon Dresden to meet the effluent thermal limits of 90 degrees Fahrenheit contained in NPDES Permit IL0002224. (Exhibit B)

Based on its review, the Illinois EPA GRANTS Exelon Dresden a provisional variance from the thermal limits in Special Condition 4 of NPDES Permit IL0002224, subject to the specific conditions set forth below.

Background

Exelon 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.

NPDES Permit IL0002224 authorizes Exelon Dresden 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 Exelon Dresden's cribhouse intake structure from the Kankakee River via the intake canal. This cooling water passes through Exelon Dresden'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.

Exelon Dresden is currently manually controlling the spillway gates to slow the movement in the cooling pond in an attempt to further decrease the discharge temperature by increasing the hold time of the water in the cooling pond. Exelon Dresden is also operating all but one available cooling tower to provide maximum cooling capabilities.

Exelon Dresden routinely provides preventive maintenance on the cooling tower fill material to remove built up silt from the cooling process. This maintenance prevents catastrophic failure and maintains the efficiency of the towers. To perform this maintenance the tower cells must be rotated out of service for cleaning. Because Exelon Dresden has relied on cooling towers heavily this past month due to the elevated intake temperatures, Exelon Dresden has had to defer this maintenance until cooler intake temperatures occurred. However, the fill material has reached its maximum weight capacity and Exelon Dresden must perform this maintenance in the next week to prevent equipment failure. Removing the cooling tower cells from service for needed maintenance will further impact the cooling capacity of Exelon Dresden.

In addition to operating the cooling towers at full capacity and minimizing flow from the cooling pond, Exelon Dresden has considered derating the units in an attempt to maintain the temperature under 90°F in response to elevated intake temperatures. However, derating the units at this time will not prevent exceeding the 259.2 excursion hour allotment granted in Special Condition 4C, of NPDES Permit IL0002224 due primarily to the high ambient temperature of the Kankakee River (90 – 93.5 degrees F). Exelon Dresden derated both units in July to accommodate the elevated intake temperatures in compliance with NPDES thermal limits. During this period Exelon Dresden had all available cooling towers operational and utilized the cooling pond, and Exelon Dresden was still forced to use the majority of the excursion hour allowance.

The impact, of derating one or both cooling tower units, on effluent temperatures is not immediate and may not be effective if the intake temperatures are elevated. It is also important to point out that the Exelon Dresden effluent temperature may be impacted three days from the time of derating one or both the units due to the time it takes the cooling water to travel the course of the cooling pond. In other words, cooler ambient river water temperatures or derating of the Exelon Dresden plant may have a positive effect on effluent temperatures only after three days has passed.

To derate a unit the operators will need to secure a circulating pump. Circulating pumps are utilized to remove the heat generated by the nuclear reactor via a heat exchanger known as the condenser. Water is taken from the Kankakee River by three Circulating Water Pumps and pumped through the condenser to remove heat from the reactor. Cleanliness of the main condenser is an important factor in the operation of the nuclear plant because it directly impacts the cooling of the plant systems. Flow reversals are

performed on a regular basis to maintain the cleanliness of the condenser and ensure optimum performance. Effectiveness of flow reversals is directly related to the number of circulating water pumps in operation and a circulation pump will impact the cooling of plant systems. As the condenser efficiency decreases as a result to inadequate flow reversals the ability to remove heat from the reactor is also affected. This creates an additional hardship and could impact safe operation of the units.

Exelon Dresden experienced approximately 96 hours of intake river temperatures ranging from 90 to 93.5 degrees Fahrenheit in the month of July, which is the time period where the majority of excursion hours were used, and Exelon Dresden continues to experience intake temperatures at approximately 90 degrees Fahrenheit and above. On Saturday, August 6, 2011, Exelon Dresden had used all but one hour of the excursion allowance provided in NPDES Permit IL0002224.

Relief Requested

Exelon Dresden requests a provisional variance from Special Condition 4C in NPDES Permit IL0002224, which provides:

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).

A provisional variance is being requested from the restriction in Special Condition 4C of the NPDES Permit which states that Exelon Dresden's effluent shall not exceed 90°F more than 10% (259.2 hours) of the time in the period between June 15 and September 30. Specifically, Exelon Dresden requests that a provisional variance be issued granting an additional 100 excursion hours during which Exelon Dresden may exceed the 90°F limit in Special Condition 4C of NPDES Permit No. IL0002224. Exelon Dresden requests that the term of the provisional variance begin on Saturday August 6, 2011. Exelon Dresden requests that the provisional variance term end on the date that the additional 100 excursion hours are used, but in no case later than 45 days following the start of the provisional variance term.

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 Dresden will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Illinois EPA hereby GRANTS Exelon Dresden a provisional variance from Special Condition 4C of NPDES Permit IL0002224, subject to the following conditions:

- A. The term of this provisional variance shall begin on August 6, 2011, and end no later than August 16, 2011 and provides an additional 100 excursion hours to the excursion hours provided in Special Condition 4C of NPDES Permit IL0002224. The additional 100 excursion hours may only be used during the term of this provisional variance. This provisional variance is granted based on the facts and circumstances described in the request dated August 8, 2011, especially including several consecutive days of abnormally high ambient water temperatures in the Kankakee River and the necessary maintenance of cooling towers. If the facts and circumstances described in the request dated August 8, 2011 abate the term of this provisional variance will end.
- B. At no time shall the water temperature at the edge of the mixing zone exceed a temperature of 96 degrees Fahrenheit during the term of this provisional variance. Exelon Dresden 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 four days after the provisional variance expires. Exelon Dresden shall provide the best operation of its available equipment to produce the best effluent possible at all times during the term of this provisional variance.
- C. Exelon Dresden shall document environmental conditions during the term of the provisional variance and submit the documentation to the Illinois EPA and the Illinois Department of Natural Resources ("Illinois DNR") within seven (7) days after this provisional variance expires.
- D. Exelon Dresden shall immediately notify the Illinois EPA and Illinois DNR 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 Illinois DNR as changes occur until normal conditions return; notify the Illinois EPA and Illinois DNR when normal conditions return and

submit the documentation to the Illinois EPA and Illinois DNR within seven (7) days after normal conditions return.

- E. Exelon Dresden 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.
- F. Exelon Dresden shall notify Roger Callaway, Illinois EPA, by telephone at 217-782-9720 when the discharge specified in this provisional variance ends. Written confirmation shall be sent within five days after the discharge specified in this provisional variance ends 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

- G. Exelon Dresden 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 _____.

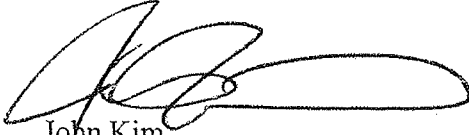
 Petitioner Title

 Authorized Agent Date

Exelon Dresden shall continue to monitor all parameters and comply with all other conditions specified in its NPDES Permit No. IL0002224.

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,

A handwritten signature in black ink, appearing to read 'John Kim', with a long horizontal flourish extending to the right.

John Kim
Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Chad Kruse



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

August 8, 2011

Dresden Letter # 11-0034

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 – Request for Provisional Variance
NPDES Permit No. IL0002224

Dear Mr. Callaway:

Exelon Generation Company, L.L.C. ("Exelon") hereby requests that the Illinois Environmental Protection Agency ("IEPA" or "Agency") grant a provisional variance for Dresden Nuclear Power Station ("Dresden", "Station" or "Facility"), pursuant to Section 35(b) of the Environmental Protection Act ("Act") 415 ILCS 5/35. Exelon submits this Emergency Application for a provisional variance consistent with IEPA procedures at 35 Ill. Adm. Code 180.204. Dresden Station is located at the confluence of the Des Plaines and Kankakee Rivers near Morris, Illinois. The Station discharges wastewater pursuant to NPDES Permit No. IL0002224, which IEPA issued on October 6, 2000.

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 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 crib house 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 crib house 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 crib house 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).

Dresden installed 42 hot canal cooling tower cells and 12 cold canal cooling tower cells in order to help maintain effluent water temperatures within NPDES limits. These mechanical draft cooling tower cells are located on the hot canal, as well as on the canal that transfers water from the cooling pond back to the station or to the blowdown, depending on the mode of operation. At design capacity, the hot cooling towers withdraw approximately 74% (735,000 GPM) and return this back to the hot canal to transfer this water to the cooling pond. On the backend the cold canal cooling towers cool about 20% of the return from the cooling pond and return it to the cold canal.

I. RELIEF REQUESTED

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

- o **Special Condition 4C allows Dresden to discharge cooling water blowdown using an indirect open cycle cooling mode from June 15 through September 30. Special Condition specifies that, during this period, the plant discharge shall not exceed 90 degrees more than 10 percent of the time in the period (which equals 259.2 hours) and shall never exceed 93 degrees Fahrenheit.**

A provisional variance is being requested from the restriction in Special Condition 4C of the NPDES Permit which states that the Station shall not exceed 90°F more than 10% (259.2 hours) of the time in the period between June 15 through September 30 (259.2 hours). Specifically, Exelon requests that a provisional variance be issued to Dresden Station granting an additional 100 excursion hours during which Dresden Station may exceed the 90°F limit stated in Special Condition 4C of NPDES Permit No. IL0002224. Exelon requests that the term of the provisional variance shall begin on the date that the 259.2 excursion hours authorized by the NPDES Permit are exhausted. Dresden Station will notify the Agency when excursion hour allotment granted per Special Condition 4C of the NPDES Permit is exhausted, thereby triggering commencement of the provisional variance term. The provisional variance term will end on the date that the additional 100 excursion hours are used, but in no case later than 45 days following the start of the provisional variance term.

II. NECESSITY FOR REQUEST

As a result of the elevated air temperatures and the Kankakee River temperatures (90°F – 93.5°F), Dresden will be forced to reduce power generation unless the Agency issues the requested provisional variance. As of today, Dresden has utilized its allotted 259.2 excursion hours, due to high ambient temperatures in the Kankakee River (90°F – 93.5°F) experienced in July. Dresden Station experienced approximately 96 hours of intake river temperatures ranging from 90°F to 93.5°F in the month of July, which is the time period where the majority of the excursion hours were used, and Dresden is now experiencing intake temperatures at approximately 90°F which is the Dresden Station NPDES thermal limit stated in Special Condition 4C of NPDES Permit No. IL0002224. Intake temperatures at

approximately 90°F or above present undue hardship for Dresden Station since the intake water is entering the station at the Dresden Station thermal limit before it enters the stations cooling process.

Based on an evaluation of historical weather trends, it is reasonably foreseeable that Dresden Station will experience periods of extreme ambient temperatures between now and September 15. Historical temperature highs have been recorded at 90°F or greater for all of the month of August and the first half of September. We fully expect that Dresden Station will experience intake canal temperatures approximately 90°F or higher after the original NPDES Permit allotment of 259.2 excursion hours are used.

Dresden Station is currently manually controlling the spillway gates to slow the movement in the cooling pond to attempt further decrease the discharge temperature by increasing the hold time of the water in the cooling pond. Dresden Station also is operating all available cooling towers, except for one cell on tower three, and the towers are providing maximum cooling capabilities for Dresden Station.

Dresden Station routinely provides preventive maintenance on the cooling tower fill material to remove built up silt from the cooling process. This maintenance prevents catastrophic failure and maintains the efficiency of the towers. To perform this maintenance the tower cells must be rotated out of service for cleaning. Because Dresden Station has relied on cooling towers heavily this past month due to the elevated intake temperatures, the station has had to defer this maintenance until the station experiences cooler intake temperatures. The fill material has reached its maximum weight capacity and the station must perform this maintenance in the next week to prevent equipment failure. Removing the cooling tower cells from service for needed maintenance will further impact the cooling capacity of Dresden Station.

In addition to operating the cooling towers at full capacity and minimizing flow from the cooling pond, Dresden Station has considered derating the units to attempt to maintain the temperature under 90°F to respond to the elevated intake temperatures. However, derating the units at this time will not prevent exceeding the 259.2 excursion hour allotment granted per Special Condition No. 4C, of Dresden's NPDES Permit No. IL0002224 due primarily to the high ambient Kankakee River temperatures (90 – 93.5 degrees F). Dresden Station derated both units in July to accommodate the elevated intake temperatures in order to maintain compliance with NPDES thermal limits. During this period, Dresden had all available cooling towers operational and utilized the cooling pond and the station was still forced to use the majority of the 96 excursion hours during this time. The impact on effluent temperatures of derating one or both of the units are not immediate and may not be effective if the intake temperatures are entering the plant at elevated temperatures. It is also important to point out that the Dresden Station effluent temperature may be impacted three days from the time of derating one or both the units due to the time it takes the cooling water to travel the course of the cooling pond.

To derate a unit the operators will need to secure a circulating pump. Circulating pumps are utilized to remove the heat generated by the nuclear reactor via a heat exchanger known as the condenser. Water is taken from the Kankakee River by three Circulating Water Pumps and pumped through the condenser to remove heat from the reactor. Cleanliness of the main condenser is an important factor in the operation of the nuclear plant because it directly impacts the cooling of the plant systems. Flow reversals are performed on a regular basis to maintain the cleanliness of the condenser and ensure optimum performance. Effectiveness of flow reversals is directly related to the number of circulating water pumps in operation and a circulation pump will impact the cooling of plant systems. As the condenser efficiency decreases as a result to inadequate flow reversals the ability to remove heat from the reactor is also affected. This creates an additional hardship and could impact safe operation of the units.

III. ASSESSMENT OF ADVERSE ENVIRONMENTAL IMPACTS

Because Dresden Station is operating in Indirect Open Cycle mode, there will be no increased withdrawal from the Kankakee River or discharge flow to the Illinois River as a result of granting this request.

The thermal impact of the proposed variance with respect to the near-field aquatic community is expected to be minimal. Temperatures in the Illinois River upstream of Dresden Station have ranged from 86.5°F to 93.7°F this summer season. Because 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 the influence of upstream dischargers. Therefore, resident species in the receiving water of the Illinois River would not be subject to any heat shock as a result of granting this request. Additionally, the persistence of these higher river temperatures in the Illinois River has allowed fish to acclimate or have already caused thermally sensitive species to seek thermal refuge. In sum, while there may be some localized avoidance by fish in the immediate vicinity of the Dresden Station discharge, it is not expected that any significant impacts (such as fish mortalities) will result from granting the requested provisional variance. Historical data of fish species in the area of the surrounding waterways show that the varieties of fish in the river system are not adversely affected by moderate temperature changes, such as would result from granting Exelon's provisional variance request.

IV. ALTERNATIVES TO REQUESTED RELIEF

As previously mentioned, Dresden has already implemented significant measures to minimize thermal discharges from its operations including use of cooling pond spillway gates to increase residence time in the cooling pond and cooling towers that are in operation on both the hot canal to the cooling pond and the cold canal which returns water back to the Illinois River. At this point, the only other alternative to a variance is to reduce power and possibly shut down both operating units. Derating the units at this time will not prevent exceeding the 259.2 excursion hour allotment granted per Special Condition No. 4C, of Dresden's NPDES Permit No. IL0002224 due to the time that it takes the cooling water to travel the course of the cooling pond.

V. MITIGATIVE ACTIONS TO BE TAKEN DURING THE 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 provisional variance period ends. Additionally, during times of excursion hour usage visual observations for signs of dead or dying fish will be conducted on a daily basis in the vicinity of the intake and the discharge. If any unusual or unexpected environmental impacts are identified, Dresden will notify the IEPA immediately.

VI. SUMMARY

A provisional variance is being requested from the restriction in Special Condition 4C of the NPDES Permit which states that the Station shall not exceed 90°F more than 10% (259.2 hours) of the time in the period between June 15 through September 30 (259.2 hours). Specifically, Exelon requests that a provisional variance be issued to Dresden Station granting an additional 100 excursion hours during which time Dresden Station may exceed the 90°F limit stated in Special Condition 4C of NPDES Permit No. IL0002224. Exelon requests that the term of the provisional variance shall begin on the date that the 259.2 excursion hours authorized by the NPDES Permit are exhausted.

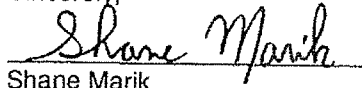
It is Exelon's position that not granting this provisional variance to Dresden Station would impose an arbitrary and unreasonable hardship.

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 February of 2011 for the period of five days to allow repairs of equipment failures that occurred at the Dresden Lift Station.

Should you require any further information in order to expedite the processing of this request or have any questions, please contact Pinder Mankoo at (815) 416-3210 or Morgan Davis at (815) 416-3287.

Sincerely,



Shane Marik
Dresden Station Plant Manager

CC: J. Petro
R. Ruffin
S. Neal
File



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/782-0610

October 6, 2000

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

B

MAJOR

Re: Commonwealth Edison Company
Dresden Power Station
NPDES Permit No. IL0002224
Final Permit

Gentlemen:

Attached is the final NPDES Permit for your discharge. The Permit as issued covers discharge limitations, monitoring, and reporting requirements. The failure of you to meet any portion of the Permit could result in civil and/or criminal penalties. The Illinois Environmental Protection Agency is ready and willing to assist you in interpreting any of the conditions of the Permit as they relate specifically to your discharge.

The Permit as issued is effective as of the date indicated on the first page of the Permit. You have the right to appeal any condition of the Permit to the Illinois Pollution Control Board within a 35 day period following the issuance date.

To assist you in meeting the self-monitoring and reporting requirements of your reissued NPDES permit, a supply of preprinted Discharge Monitoring Report (DMR) forms for your facility is being prepared. These forms will be sent to you prior to the initiation of DMR reporting under the reissued permit. Additional information and instructions will accompany the preprinted DMRs upon their arrival.

Should you have questions concerning the Permit, please contact Darin LeCrone at the telephone number indicated above.

Very truly yours,

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

SCREENED

TGM:SFN:DEL:99122901.grm

Attachment: Final Permit

cc: Records
Compliance Assurance Section
Maywood Region
Facility

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:

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

Receiving Waters:

- Illinois River
- Illinois River
- Illinois River
- Illinois River
- Illinois River
- Illinois River
- Illinois River
- Illinois River
- Kankakee River
- Kankakee River
- Kankakee River
- 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

SCREENED

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
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.
**See Special Condition 18.

Outfall: A01 - Intake Screen Backwash

There shall be no discharge of collected debris

SCREENED

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

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

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.

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Effluent Limitations and Monitoring

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

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

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Unit 1 Oil/Water Separator Effluent <ol style="list-style-type: none"> 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 <ol style="list-style-type: none"> 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 | <p>Intermittent</p> <p>Intermittent</p> <p>Intermittent</p> |
|---|---|

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)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
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.

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Effluent Limitations and Monitoring

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

Flow (MGD)		Daily When Discharging	Estimate
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.

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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.)

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
°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.

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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 TRO (Total Residual Oxidant) measured as an instantaneous maximum.

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SPECIAL CONDITION 14. The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit reissuance, and no pollution prevention plan will be required for such storm water. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated storm water discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 15. The responsibility for outfall 004 - Cooling Pond Discharge will be transferred to the Will County Emergency Management Agency upon issuance of a separate NPDES permit for operation of the Dresden Station siphon Ice Melt system. Upon issuance of a permit to Will County EMA, Commonwealth Edison shall submit a request to terminate the monitoring and reporting requirements associated with outfall 004, in writing to the Agency.

SPECIAL CONDITION 16. There shall be no discharge of complexed metal bearing wastestreams and associated rinses from chemical metal cleaning unless this permit has been modified to include the new discharge.

SPECIAL CONDITION 17. (Outfall 003) The daily maximum fecal coliform count shall not exceed 400 per 100 mL. Fecal Coliform limits for Outfall 003 are effective May through October. Sampling of Fecal Coliform concentrations are only required during this time period.

The Total Residual Chlorine limit of 0.75 mg/L is applicable at all times. If the permittee is chlorinating for any purpose during the months of November through April, sampling is required on a daily grab basis. Sampling frequency for the months of May through October shall be as indicated on page 6 of this permit.

SPECIAL CONDITION 18.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

- A. A storm water pollution prevention plan shall be developed by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.
- B. The plan shall be completed within 180 days of the effective date of this permit. Plans shall provide for compliance with the terms of the plan within 365 days of the effective date of this permit. The owner or operator of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request. [Note: if the plan has already been developed and implemented it shall be maintained in accordance with all requirements of this special condition.]
- C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.
- D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph G of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within the shortest reasonable period of time, and shall be provided to the Agency for review upon request.
- E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:
 1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate.

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2. A site map showing:
 - i. The storm water conveyance and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.
 - v. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);
 - vi. Surface water locations and/or municipal storm drain locations
 - vii. Areas of existing and potential soil erosion;
 - viii. Vehicle service areas;
 - ix. Material loading, unloading, and access areas.
 3. A narrative description of the following:
 - i. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;
 - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;
 - iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges:
 - iv. Industrial storm water discharge treatment facilities;
 - v. Methods of onsite storage and disposal of significant materials;
 4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.
 5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.
 6. A summary of existing sampling data describing pollutants in storm water discharges.
- F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:
1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.
 2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.
 3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.
 4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, spill clean up equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.

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5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:
 - i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff;
 - ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges;
 - iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges;
 - iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
 - v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination;
 - vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.
6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion and describe measures to limit erosion.
7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.
8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.
- G. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.
- H. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated thereunder, and Best Management Programs under 40 CFR 125.100.
- I. The plan is considered a report that shall be available to the public under Section 308(b) of the CWA. The permittee may claim portions of the plan as confidential business information, including any portion describing facility security measures.
- J. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.

Construction Authorization

- K. Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention developed pursuant to this permit.

This Authorization is issued subject to the following condition(s).

1. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights thereunder.

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2. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.
3. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.
4. Construction activities which result from treatment equipment installation, including cleaning, grading and excavation activities which result in the disturbance of five acres or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

- L. The facility shall submit an annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part G of the Storm Water Pollution Prevention Plan of this permit. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) Which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s).
- M. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.
- N. Annual inspection reports shall be mailed to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Annual Inspection Report
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
- O. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.

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Authorization. If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.

(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in NPDES permit application.

(12) Reporting requirements.

- (a) **Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility.
- (b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (d) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
 - (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
 - (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (e) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours:
 - (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
 - (2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit to be reported within 24 hours.

The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
- (f) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12)(c), (d), or (e), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12)(e).
- (g) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.

(13) Transfer of permits. A permit may be automatically transferred to a new permittee if:

- (a) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
- (b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees; and
- (c) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.

(14) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
 - (4) The level established by the Agency in this permit.

(15) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to Agency of the following:

- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
- (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (c) For purposes of this paragraph, adequate notice shall include information of the quality and quantity of effluent introduced into the POTW, and (ii) anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(16) If the permit is issued to a publicly owned or publicly regulated treatment works, permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:

- (a) User charges pursuant to Section 204(b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
- (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
- (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.

(17) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform that effluent standard or limitation.

(18) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.

(19) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or USEPA, or required to be maintained under this permit.

(20) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. A person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both.

(21) The Clean Water Act provides that any person who falsifies, tampers with, knowingly renders inaccurate any monitoring device or method required to be maintained under permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation; or by both.

(22) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit shall, including monitoring reports, reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(23) Collected screening, sludges, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.

(24) In case of conflict between these standard conditions and any other condition included in this permit, the other condition(s) shall govern.

(25) The permittee shall comply with, in addition to the requirements of the permit, applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and applicable orders of the Board.

(26) The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

(Rev. 3-13-98)



*Exelon Generation LLC's Responses
to the Board's Questions*

ATTACHMENT 4

RECEIVED
CLERK'S OFFICE

MAR 26 2012

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
STATE OF ILLINOIS
Pollution Control Board

March 22, 2011

Exelon Generation Company, LLC)	
Dresden Nuclear Generation Station)	
)	
Petitioner,)	
)	
v.)	IEPA – 12-14
)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

Re: Provisional Variance From Special Condition 3B of NPDES Permit IL0002224

Dear Mr. Marik:

The Illinois Environmental Protection Agency (Illinois EPA) has completed its technical review of the attached provisional variance request, dated March 21, 2012 (supplemented on March 22, 2012), and submitted by Exelon Generation Company, LLC for its Dresden Nuclear Generation Station (“Exelon Dresden” or “Facility”). (Exhibit A) Exelon Dresden has requested a provisional variance because intake temperatures at approximately 60° Fahrenheit (“F”) or above present an undue hardship for Exelon Dresden to meet the effluent thermal limits of 60° F contained in Special Condition 3B of NPDES Permit IL0002224. (Exhibit B)

Based on its review, the Illinois EPA GRANTS Exelon Dresden a provisional variance from the thermal limits in Special Condition 3B of NPDES Permit IL0002224, subject to the specific conditions set forth below.

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 1892 megawatts electric. Circulating water used to cool and condense the steam from the generating process is discharged to a 1275 acre cooling pond. The Facility discharges cooling pond blowdown water into the Illinois River pursuant to NPDES Permit No. IL0002224, which was issued by the Illinois EPA on November 3, 2011.

The Facility normally operates in a closed cycle configuration from October 1st through June 14th of each year (about 8-1/2 months). In this mode, the cooling water flows through the Dresden pond and over a spillway into the cold canal. The cold canal directs

the cooling water approximately two miles back to the Facility. Flow regulating gates direct the majority of the cooling water to the intake structure through a return canal. Approximately, five percent, or 50,000 gpm, of the cooling water flows to the Illinois River via Outfall 002 (blowdown). Makeup water is obtained from the Kankakee River through a 1/4-mile intake canal. The volume of makeup flow is equal to the blowdown flow and water lost to evaporation.

Special Condition No. 3B of Dresden's NPDES Permit requires that water temperature at representative locations in the main river shall not exceed 60° F (in December through March) during more than one (1) percent of the hours (excursion hours) in the 12-month period ending with any month (87.6 hours annually) and that, at no time shall the water temperature at such locations exceed the maximum limits by more than 3° F (63° F). The monthly maximum temperature limit contained in the Dresden Permit increases to 90° F beginning April 1 (thru November).

As a consequence of the record breaking warm weather and absence of cooling during the evening hours, high ambient river temperatures even at current flow rates, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream.

The available temperature data shows that the river temperature at the intake has been exceeding the monthly maximum temperature standards. For example, the upstream river temperature of the Kankakee River was measured at 66.4° F via a grab sample at approximately 3:00 PM on March 19, 2012. That temperature exceeds both the 60° F non-excursion hour monthly maximum standard for March and the 63° F excursion hour monthly limit. As a result of these record breaking conditions, Exelon Dresden began using excursion hours on Wednesday, March 15, 2012 at 5:00 PM.

When the ambient river temperatures exceed the non-excursion hour limits, the Facility has no option other than to use excursion hours, and once its allotment of excursion hours is depleted, the Facility must significantly derate or cease operating altogether to maintain compliance with the NPDES Permit. The currently permitted 87.6 excursion hours have been exhausted.

At no time has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5° F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has not exceeded 0.5° F.

As a rule, Exelon Dresden has been able to operate well within its permitted thermal limits due to the fact that the ambient temperatures of the river (measured upstream of the discharge) generally remain below the non-excursion hour limit. It is only during periods when the ambient river temperatures are very close to or exceed the non-excursion hour

limits or during periods of extreme low flows that the Facility is forced to use a significant number of its excursion hour allowance.

Due to the river temperatures being unseasonably warm, Exelon Dresden expedited seasonal cooling tower maintenance to support additional cooling of the Facility's discharges and currently has all available cooling towers (11 towers out of 42 towers) in service. Exelon Dresden is currently expediting the return to service of the additional towers to support further cooling of plant discharges.

In addition to returning available cooling towers to service, Exelon Dresden also secured Outfall 002 on March 21, 2012 in response to plant intake temperatures from the Kankakee River exceeding the monthly maximum standards in Special Condition 3B of its NPDES permit for March. The current configuration, closed cycle with no blowdown, instills additional thermal challenges on the plant equipment since there will be no fresh makeup water and the circulating water temperature will increase. Auxiliary systems (equipment heat exchangers) that support the nuclear generation process are currently experiencing higher than normal thermal load which challenges plant equipment and thermal cooling capabilities.

The lack of blowdown will alter cooling pond water chemistry and will result in negative impacts on plant equipment. Lack of blowdown and cooling pond make up will increase temperatures, increase pH, concentrate impurities, and create an environment where algae thrive in our cooling pond. Increased temperatures and the presence of algae, causes an algae bloom and increases pH and total alkalinity in the cooling pond and plant cooling systems. These conditions promote scaling of Facility equipment, particularly in the main steam condensers and safety related heat exchangers. Scaling ultimately could result in the replacement of approximately 120,000 condenser tubes and safety related heat exchangers, with corresponding extended Facility shut downs for both units to perform these repairs.

Due to these risks, there are technical specifications that Exelon Dresden must meet pursuant to its operating license issued by the Nuclear Regulatory Commission. If pH values and cooling water environment are not maintained within proper specifications, the plant is required to shut down until cooling water parameters return to specified ranges. Unless relief is granted by way of this provisional variance request, it is likely that the Facility will be forced to shut down for correspondingly significant durations. Shutting down or significantly derating a base-loaded nuclear power plant such as Exelon Dresden could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced. With both units offline and not immediately able to return to service, Exelon Dresden would not be available to support the voltage requirements that could occur under changing grid conditions.

Relief Requested

Due to the unseasonable warm weather, Exelon Dresden requests a provisional variance from Special Condition 3B in NPDES Permit IL0002224. Special Condition 3B of the NPDES Permit limits the number of excursion hours to 1% (87.6 hours) of the hours in a 12-month period ending with any month. Special Condition 3B states that the water temperatures in the Illinois River (beyond the mixing zone) may not exceed the maximum limit of 63° F in March. Therefore, the permit does not authorize the Facility to cause or contribute to temperatures in the river beyond the mixing zone to exceed 63° F in March.

Specifically, Exelon Dresden requests that a provisional variance be issued to this Facility through the end of March allowing the Facility to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (63°F for March) **or** 2°F above ambient river temperature, whichever is greater. Exelon Dresden requests that this relief begin on March 21, 2012, and end on April 1, 2012.

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 Dresden will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Illinois EPA hereby GRANTS Exelon Dresden a provisional variance from Special Condition 3B of NPDES Permit IL0002224, subject to the following conditions:

- A. The term of this provisional variance shall begin on March 21, 2012, and end no later than March 31, 2012. This provisional variance is granted based on the facts and circumstances described in the request dated March 21, 2012, especially including several consecutive days of abnormally high ambient water temperatures in the Kankakee River and the necessary maintenance of cooling

towers. If the facts and circumstances described in the request dated March 21, 2012 abate the term of this provisional variance will end.

- B. During the term of this Provisional Variance, the water temperature at the edge of the mixing zone shall not exceed the maximum temperature limit stated in Special Condition 3B of the Facility's NPDES Permit (63° F) by more than 5° F or 2° F above ambient river temperature, whichever is greater. Exelon Dresden 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 four days after the provisional variance expires. Exelon Dresden shall provide the best operation of its available equipment to produce the best effluent possible at all times during the term of this provisional variance.
- C. Exelon Dresden shall document environmental conditions during the term of the provisional variance and submit the documentation to the Illinois EPA and the Illinois Department of Natural Resources ("Illinois DNR") within thirty (30) days after this provisional variance expires.
- D. Exelon Dresden shall immediately notify the Illinois EPA and Illinois DNR 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 Illinois DNR as changes occur until normal conditions return; notify the Illinois EPA and Illinois DNR when normal conditions return and submit the documentation to the Illinois EPA and Illinois DNR within thirty (30) days after normal conditions return.
- E. Exelon Dresden 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.
- F. Exelon Dresden shall notify Roger Callaway, Illinois EPA, by telephone at 217-782-9720 when the discharge specified in this provisional variance ends. Written confirmation shall be sent within five days after the discharge specified in this provisional variance ends 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. Exelon Dresden 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 _____.

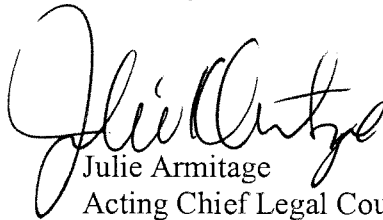
Petitioner Title

Authorized Agent Date

Exelon Dresden shall continue to monitor all parameters and comply with all other conditions specified in its NPDES Permit No. IL0002224.

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,


Julie Armitage
Acting Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Chad Kruse



Nuclear

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

www.exeloncorp.com

March 22, 2012

PMLTR 12-0021

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
Request for Provisional Variance

Dear Mr. Callaway:

Exelon Generation Company, L.L.C. ("Exelon) hereby requests that the Illinois Environmental Protection Agency ("IEPA" or "Agency") grant a provisional variance for Dresden Nuclear Power Station ("Dresden", "Station", or "Facility"), pursuant to Section 35(b) of the Environmental Protection Act ("Act") 415 ILCS 5/35. Exelon submits this Application for a provisional variance consistent with IEPA procedures at 35 Illinois Administrative Code 104.300. Dresden Station is located at the confluence of the Des Plaines and Kankakee Rivers near Morris, Illinois. The Station discharges cooling pond blow down water into the Illinois River pursuant to NPDES Permit No. IL0002224, which IEPA issued on November 3, 2011.

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 1892 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 configuration from October 1st through June 14th of each year (about 8-1/2 months). In this mode, the cooling water flows through the Dresden pond and over a Spillway into the cold canal. The cold canal directs the cooling water approximately two miles back to the Station. Flow Regulating Gates direct the majority of the cooling water to the intake structure through a return canal. Approximately, 5 percent, or 50,000 gpm, of the cooling water flows to the Illinois River via Outfall 002 (blowdown). Makeup water is obtained from the Kankakee River through a ¼-mile intake canal. The volume of makeup flow is equal to the blowdown flow and water lost to evaporation.

The available temperature data shows that the river temperature at the intake has been exceeding the monthly maximum temperature standards. For example, the upstream river temperature of the Kankakee River was measured at 66.4 degrees F via a grab sample at approximately 1500 on March 19, 2012. That temperature exceeds both the 60 degree F non-excursion hour monthly maximum standard for March and the 63 degree F excursion hour limit. As a result of these record breaking conditions, Dresden Station began using excursion hours on Wednesday, March 15, 2012 at 1700.

As a consequence of the record breaking warm weather and absence of cooling during the evening hours, in addition to high ambient river temperatures, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream.

At *no time* has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5 degree F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has *not exceeded 0.5 degrees F*.

I. RELIEF REQUESTED

A provisional variance is being requested from the restriction in Special Condition 3B of the NPDES Permit that limits the number of excursion hours to 1% (87.6 hours) of the hours in a 12-month period ending with any month. Specifically, Special Condition 3B states that the water temperatures in the Illinois River (beyond the mixing zone) may not exceed the maximum limit of 63°F in March. Therefore, the permit does not authorize the station to cause or contribute to temperatures in the river beyond the mixing zone to exceed 63 degrees F in March.

Dresden Station secured Outfall 002 on March 21, 2012 in response to plant intake temperatures from the Kankakee River exceeding the monthly maximum standards (63

degrees F) in Special Condition 3B of the NPDES permit for March. Exelon requests that a provisional variance be issued to Dresden Station through the end of March allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (63°F for March) or 2°F above ambient river temperature, whichever is greater. This relief shall begin on March 21, 2012, and end on April 1, 2012.

II. NECESSITY FOR REQUEST

When the ambient river temperatures exceed the non-excursion hour limits, the Station has no option other than to use excursion hours, and once its allotment of excursion hours is depleted, the Station must significantly derate or cease operating altogether to maintain compliance with the NPDES Permit. The currently permitted 87.6 excursion hours have been exhausted.

As a rule, Dresden Station has been able to operate well within its permitted thermal limits due to the fact that the ambient temperatures of the River (measured upstream of the discharge) generally remain below the non-excursion hour limit. It is only during periods when the ambient river temperatures are very close to or exceed the non-excursion hour limits or during periods of extreme low flows that the Station is forced to use a significant number of its excursion hour allowance.

Due to the river temperatures being unseasonably warm, Dresden Station expedited seasonal cooling tower maintenance to support additional cooling of Dresden Station discharges and currently has all available cooling towers (11 towers out of 42 towers) in service. Dresden Station is currently expediting the return to service of the additional towers to support further cooling of plant discharges.

In addition to returning available cooling towers to service, Dresden Station also secured Outfall 002 on March 21, 2012 in response to plant intake temperatures from the Kankakee River exceeding the monthly maximum standards in Special Condition 3B of the NPDES permit for March. The current configuration, closed cycle with no blowdown, instills additional thermal challenges on the plant equipment since there will be no fresh makeup water and the circulating water temperature will increase. Auxiliary systems (e.g., equipment heat exchangers) that support the nuclear generation process are currently experiencing higher than normal thermal load which challenges plant equipment and thermal cooling capabilities.

The lack of blowdown will alter cooling pond water chemistry and will result in negative impacts on plant equipment. Lack of blowdown and cooling pond make up will increase temperatures, increase pH, concentrate impurities, and create an environment where algae thrives in our cooling pond. Increased temperatures and the presence of algae, causes an algae bloom and increases pH and total alkalinity in the cooling pond and plant cooling systems. These conditions promote scaling of plant equipment, particularly in the main steam condensers and safety related heat exchangers. Scaling ultimately could result in the replacement of approximately 120,000 condenser tubes

and safety related heat exchangers, with corresponding extended plant shut downs for both units to perform these repairs.

Due to these risks, there are technical specifications that Dresden Station must meet pursuant to its operating license issued by the Nuclear Regulatory Commission. If pH values and cooling water environment is not maintained within proper specifications, the plant is required to shut down until cooling water parameters return to specified ranges. Unless relief is granted by way of this provisional variance request, it is likely that the Station will be forced to shut down for correspondingly significant durations. Shutting down or significantly derating a base-loaded nuclear power plant such as Dresden could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced. With both units offline and not immediately able to return to service, Dresden Station would not be available to support the voltage requirements that could occur under changing grid conditions.

III. ASSESSMENT OF ADVERSE ENVIRONMENTAL IMPACTS

The thermal impact of the proposed variance with respect to the near-field aquatic community is expected to be minimal. The aquatic community is already experiencing much higher than normal ambient temperatures, with no apparent impact to date. The additional thermal load the plant will place on the aquatic community is expected to be minimal, since there is approximately a 0.5 degrees difference between the ambient river temperatures and the edge of the mixing zone.

Because Dresden Station is not proposing to increase cooling water flows or increase the temperature of cooling water discharges, there will be no increase in impingement or entrainment as a result of the issuance of the requested Provisional Variance. Additionally, because the ambient river temperature increase has been gradual, resident fish species have either acclimated to the higher temperature or have found thermal refuge. In addition, the current flows afford a delta T of approximately 0.5°F between the upstream and downstream temperatures. Therefore, resident fish species will not be subject to any heat shock as a result of increasing the allotment of excursion hours for Dresden Station.

The Station normally discharges a blowdown flow of warmer cooling pond water to the Illinois River during the closed cycle operating mode. Thus, fish inhabiting the discharge canal will be acclimated to temperatures above ambient river temperature and should be sufficiently reactive to avoid areas that are out of their desired temperature range.

Despite Dresden's significant discharge volume, the thermal plume has been characterized as buoyant in all previous studies submitted to the IEPA. Therefore, benthic organisms are not likely to be adversely affected by the short-term relief requested. The overall impact of the Station's thermal plume on the Illinois River is expected to be minimal.

IV. ALTERNATIVES TO REQUESTED RELIEF

Exelon considered various alternatives to seeking regulatory relief related to the thermal variance currently requested. Exelon is currently operating in closed cycle per the terms of the NPDES permit, thereby limiting thermal impact to the Illinois River. Due to the river temperatures being unseasonably warm, Dresden Station expedited seasonal cooling tower maintenance to support additional cooling of Dresden Station discharges and currently has all available cooling towers (11 towers out of 42 towers) in service. Dresden Station is currently expediting the return to service of the additional towers to support further cooling of plant discharges. In addition to returning available cooling towers to service, Dresden Station also secured Outfall 002 on March 21, 2012 in response to plant intake temperatures from the Kankakee River exceeding the monthly maximum standards in Special Condition 3B of the NPDES permit for March. The current configuration, closed cycle with no blowdown, instills additional thermal challenges on the plant equipment since there will be no fresh makeup water and the circulating water temperature will increase.

Exelon has also considered shutting down or significantly derating. Derating a base-loaded nuclear power plant such as Dresden, could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced.

V. MITIGATIVE ACTIONS TO BE TAKEN DURING THE VARIANCE PERIOD

During the period when the Station uses any additional excursion hours authorized by the requested provisional variance, Dresden Station will do the following: (1) continuously monitor the intake and discharge temperatures and assess water temperatures at the edge of the mixing zone using the NPDES Permit temperature monitoring curve or field measurements; (2) on a daily basis, inspect the intake and discharge areas to assess any mortalities to aquatic life, and report the results of these monitoring activities to the Agency within 30 days of the expiration of the provisional variance (or such other time as agreed upon by the Agency); and (3) notify the Agency of any significant adverse environmental conditions observed that might be caused by operations authorized by the provisional variance, including mortalities to fish or other aquatic life, investigate the cause of such conditions, provide the Agency updates regarding the situation, including when normal conditions return, and submit a report to the Agency regarding these matters within 30 days of the expiration of the provisional variance period (or such other time as agreed upon by the Agency).

VI. ADDITIONAL ENVIRONMENTAL MONITORING

The thermal impact of the proposed variance with respect to the near-field aquatic community is expected to be minimal because the aquatic community is presently experiencing higher than normal ambient temperatures for this time of year with no apparent impact to date. The thermal load placed on the biological community will be minimal, since there is approximately a 0.5 degrees difference between the ambient river temperatures and the edge of the mixing zone. Dresden Station does not plan to do any additional environmental monitoring because the upstream ambient river temperatures are what is causing Dresden Station to exceed its 60°F discharge temperature limit in March.

VII. SUMMARY

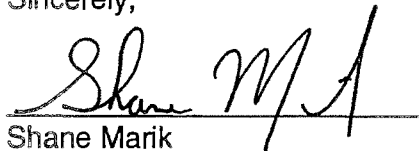
Exelon requests that a provisional variance be issued to Dresden Station through the end of March allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (63°F for March) or 2°F above ambient river temperature, whichever is greater. This relief shall begin on March 21, 2012 and will end on April 1, 2012.

It is Exelon's position that not granting this provisional variance would impose an arbitrary and unreasonable hardship due to unseasonably warmer Kankakee River Intake temperatures, challenge to base load power generation and electrical grid stability, and additional thermal impacts to plant equipment.

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

Should you require any further information in order to expedite the processing of this request or have any questions, please contact Morgan Davis of my staff at 815-416-3287.

Sincerely,



Shane Marik
Dresden Station Plant Manager

CC: D. Leggett Z. Karpa
M. Davis J. Bollini
J. Petro R. Ruffin
J. Gould File
S. Neal



Nuclear

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

March 21, 2012

PMLTR 12-0020

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
 Request for Provisional Variance

Dear Mr. Callaway:

Exelon Generation Company, L.L.C. ("Exelon") hereby requests that the Illinois Environmental Protection Agency ("IEPA" or "Agency") grant a provisional variance for Dresden Nuclear Power Station ("Dresden", "Station", or "Facility"), pursuant to Section 35(b) of the Environmental Protection Act ("Act") 415 ILCS 5/35. Exelon submits this Application for a provisional variance consistent with IEPA procedures at 35 Illinois Administrative Code 104.300. Dresden Station is located at the confluence of the Des Plaines and Kankakee Rivers near Morris, Illinois. The Station discharges wastewater pursuant to NPDES Permit No. IL0002224, which IEPA issued on November 3, 2011.

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 1892 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 configuration from October 1st through June 14th of each year (about 8-1/2 months). In this mode, the cooling water flows through the Dresden pond and over a Spillway into the cold canal. The cold canal directs the cooling water approximately two miles back to the Station. Flow Regulating Gates direct the majority of the cooling water to the intake structure through a return canal. Approximately, 5 percent, or 50,000 gpm, of the cooling water flows to the Illinois River via Outfall 002 (blowdown). Makeup water is obtained from the Kankakee River through a ¼-mile intake canal. The volume of makeup flow is equal to the blowdown flow and water lost to evaporation.

I. RELIEF REQUESTED

A provisional variance is being requested from the restriction in Special Condition 3B of the NPDES Permit that limits the number of excursion hours to 1% (87.6 hours) of the hours in a 12-month period ending with any month. Specifically, Special Condition 3B states that the water temperatures in the Illinois River (beyond the mixing zone) may not exceed the maximum limit of 63°F in March.

Dresden Station secured Outfall 002 on March 21, 2012 in response to plant intake temperatures from the Kankakee River exceeding the monthly maximum standards in Special Condition 3B of the NPDES permit for March. Exelon requests that a provisional variance be issued to Dresden Station through the end of March allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (63°F for March) or 2°F above ambient river temperature, whichever is greater, for up to an additional 250 hours. This relief shall begin on the date that the currently permitted 87.6 excursion hours are exhausted or on the date that Dresden Station's discharge first causes or contributes to an exceedance of the applicable permitted excursion hour temperature limit of 63°F in March. Dresden Station will notify the Agency when discharges from Outfall 002 are restored. The provisional variance period will end on April 1, 2012.

II. NECESSITY FOR REQUEST

When the ambient river temperatures exceed the non-excursion hour limits, the Station has no option other than to use excursion hours, and once its allotment of excursion hours is depleted, the Station must significantly derate or cease operating altogether to maintain compliance with the NPDES Permit.

Special Condition 3B of NPDES Permit limits the temperature at the edge of the mixing zone to 60°F in March, except when the Station is using excursion hours, during which time the temperatures at the edge of the mixing zone may be no more than 3°F warmer than these limits. As a rule, the Dresden Station has been able to operate well within these limits due to the fact that the ambient temperatures of the River (measured upstream of the discharge) generally remain below the non-excursion hour limit. It is only during periods when the ambient river temperatures are very close to or exceed the non-excursion hour limits or during periods of extreme low flows that the Station is forced to use a significant number of its excursion hour allowance.

Due to the river temperatures being unseasonably warm, Dresden Station expedited seasonal cooling tower maintenance to support additional cooling of Dresden Station discharges and currently has all available cooling towers (11 towers out of 42 towers) in service. Dresden Station is currently expediting the return to service of the additional towers to support further cooling of plant discharges. In addition to returning available cooling towers to service, Dresden Station also secured Outfall 002 on March 21, 2012 in response to plant intake temperatures from the Kankakee River exceeding the monthly maximum standards in Special Condition 3B of the NPDES permit for March. The current configuration, closed cycle with no blowdown, instills additional thermal challenges on the plant equipment since there will be no fresh makeup water and the circulating water temperature will increase.

The resonance time for the Dresden Cooling Lake is three days. It is important to note that adding cooling facilities (such as supplemental cooling towers) will not allow the Station to achieve compliance with a limit that already is exceeded even before any heat is added as a result of Station operations.

The station does not currently have temperature probes installed upriver of its intake because the Permit does not require upstream monitoring in the winter months, and, due to concerns with icing, the probes are typically removed in winter to avoid breakage. However, Dresden Station has expedited the installation of their thermal monitoring probes to support monitoring river temperatures during this unseasonably high temperature period. The available temperature data shows that the river temperature at the intake has been exceeding the monthly maximum temperature standards. For example, the upstream river temperature of the Kankakee River was measured at 66.4 degrees F via a grab sample at approximately 1500 on March 19, 2012. That temperature exceeds both the 60 degree F non-excursion hour monthly maximum standard for March and the 63 degree F excursion hour limit. As a result of

these record breaking conditions, Dresden Station began using excursion hours on Wednesday, March 15, 2012 at 1700.

As a consequence of the record breaking warm weather and absence of cooling during the evening hours, high ambient river temperatures even at current flow rates, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream.

At *no time* has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5 degree F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has *not exceeded 0.5 degrees F*.

Unless relief is granted by way of this provisional variance request, it is likely that the Station will be forced to shut down for correspondingly significant durations. Shutting down or significantly derating a base-loaded nuclear power plant such as Dresden could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced. With both units offline and not immediately able to return to service, Dresden Station would not be available to support the voltage requirements that could occur under changing grid conditions.

Additionally, the Station will not be able to operate in the closed cycle configuration indefinitely. If a precipitation event were to occur, the cooling lake level will gradually increase, whereas the station is required to maintain the level within certain design parameters. The increased lake level may increase flood potential due to the event of a dike breach. Most significantly, the lack of blowdown will result in lake water chemistry impacts which have the potential to impact plant equipment.

III. ASSESSMENT OF ADVERSE ENVIRONMENTAL IMPACTS

The thermal impact of the proposed variance with respect to the near-field aquatic community is expected to be minimal. The aquatic community is already experiencing much higher than normal ambient temperatures, with no apparent impact to date. The additional thermal load the plant will place on the aquatic community is expected to be minimal, since there is approximately a 0.5 degrees difference between the ambient river temperatures and the edge of the mixing zone.

Because Dresden Station is not proposing to increase cooling water flows or increase the temperature of cooling water discharges, there will be no increase in impingement or entrainment as a result of the issuance of the requested Provisional Variance. Additionally, because the ambient river temperature increase has been gradual, resident fish species have either acclimated to the higher temperature or have found

thermal refuge. In addition, the current flows afford a delta T of approximately 0.5°F between the upstream and downstream temperatures. Therefore, resident fish species will not be subject to any heat shock as a result of increasing the allotment of excursion hours for Dresden Station.

The Station normally discharges a blowdown flow of warmer cooling pond water to the Illinois River during the closed cycle operating mode. Thus, fish inhabiting the discharge canal will be acclimated to temperatures above ambient river temperature and should be sufficiently reactive to avoid areas that are out of their desired temperature range.

Despite Dresden's significant discharge volume, the thermal plume has been characterized as buoyant in all previous studies submitted to the IEPA. Therefore, benthic organisms are not likely to be adversely affected by the short-term relief requested. The overall impact of the Station's thermal plume on the Illinois River is expected to be minimal.

IV. ALTERNATIVES TO REQUESTED RELIEF

Exelon considered various alternatives to seeking regulatory relief related to the thermal variance currently requested. Exelon is currently operating in closed cycle per the terms of the NPDES permit, thereby limiting thermal impact to the Illinois River. Due to the river temperatures being unseasonably warm, Dresden Station expedited seasonal cooling tower maintenance to support additional cooling of Dresden Station discharges and currently has all available cooling towers (11 towers out of 42 towers) in service. Dresden Station is currently expediting the return to service of the additional towers to support further cooling of plant discharges. In addition to returning available cooling towers to service, Dresden Station also secured Outfall 002 on March 21, 2012 in response to plant intake temperatures from the Kankakee River exceeding the monthly maximum standards in Special Condition 3B of the NPDES permit for March. The current configuration, closed cycle with no blowdown, instills additional thermal challenges on the plant equipment since there will be no fresh makeup water and the circulating water temperature will increase.

Exelon has also considered shutting down or significantly derating. Derating a base-loaded nuclear power plant such as Dresden, could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced.

V. MITIGATIVE ACTIONS TO BE TAKEN DURING THE VARIANCE PERIOD

During the period when the Station uses any additional excursion hours authorized by the requested provisional variance, Dresden Station will do the following: (1) continuously monitor the intake and discharge temperatures and assess water temperatures at the edge of the mixing zone using the NPDES Permit temperature monitoring curve or field measurements; (2) on a daily basis, inspect the intake and discharge areas to assess any mortalities to aquatic life, and report the results of these monitoring activities to the Agency within 30 days of the expiration of the provisional variance (or such other time as agreed upon by the Agency); and (3) notify the Agency of any significant adverse environmental conditions observed that might be caused by operations authorized by the provisional variance, including mortalities to fish or other aquatic life, investigate the cause of such conditions, provide the Agency updates regarding the situation, including when normal conditions return, and submit a report to the Agency regarding these matters within 30 days of the expiration of the provisional variance period (or such other time as agreed upon by the Agency).

VI. ADDITIONAL ENVIRONMENTAL MONITORING

The thermal impact of the proposed variance with respect to the near-field aquatic community is expected to be minimal because the aquatic community is presently experiencing higher than normal ambient temperatures for this time of year with no apparent impact to date. The thermal load placed on the biological community will be minimal, since there is approximately a 0.5 degrees difference between the ambient river temperatures and the edge of the mixing zone. Dresden Station does not plan to do any additional environmental monitoring because the upstream ambient river temperatures are what is causing Dresden Station to exceed its 60⁰F discharge temperature limit in March.

VII. SUMMARY

Exelon requests that a provisional variance be issued to Dresden Station through the end of March allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (63°F for March) or 2°F above ambient river temperature, whichever is greater, for up to an additional 250 hours. This relief shall begin on the date that the currently permitted 87.6 excursion hours are exhausted or on the date that Dresden Station's discharge first causes or contributes to an exceedance of the applicable permitted excursion hour temperature limit of 63°F in March. Dresden Station will notify the Agency when discharges from Outfall 002 are restored and either of these events have occurred, thereby triggering the provisional variance. The provisional variance period will end on April 1, 2012.

It is Exelon's position that not granting this provisional variance would impose an arbitrary and unreasonable hardship due to unseasonably warmer Kankakee River Intake temperatures, challenge to base load power generation and electrical grid stability, and additional thermal impacts to plant equipment.

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

Should you require any further information in order to expedite the processing of this request or have any questions, please contact Morgan Davis of my staff at 815-416-3287.

Sincerely,

Shane Marik
Dresden Station Plant Manager

CC: D. Leggett
M. Davis
J. Petro
J. Gould
S. Neal
Z. Karpa
J. Bollini
R. Ruffin
File



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217/782-0610

November 3, 2011

Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, Illinois 60555-5701

Re: Exelon Generation Company, LLC
Dresden Generating Station
NPDES Permit No. IL0002224
Final Permit

Gentlemen:

Attached is the final NPDES Permit for your discharge. The Permit as issued covers discharge limitations, monitoring, and reporting requirements. Failure to meet any portion of the Permit could result in civil and/or criminal penalties. The Illinois Environmental Protection Agency is ready and willing to assist you in interpreting any of the conditions of the Permit as they relate specifically to your discharge.

The Agency received your letter dated June 24, 2011 regarding the draft NPDES permit. Based on the information provided the following changes were made to the permit.

1. The suggested language for outfall 002 was used.
2. Unit 2 Auxiliary Boiler Area Oil/Water Separator, 138 KV Switchyard Oil/Water Separator, and 345 KV Switchyard Oil/Water Separator were added back to outfall 002 as contributory wastestreams.
3. The 0.05 mg/l Total Residual Chlorine (TRC) limit for outfalls 002, 003, and 004 will remain in the permit. Special Condition 4 for TRC will also remain in the permit. The facility can meet this limit by de-chlorination. The 0.05 mg/l limit was listed as a Best Available Technology (BAT) effluent limitation in the public notice factsheet but is also the detection limit for TRC. It is also used as an effluent limitation to show compliance with the water quality standard for TRC, which is actually lower than the 0.05 mg/l limit.
4. The suggested language for internal outfall D02 was used.
5. Internal outfall E02 was removed from the permit. The wastestream of Northwest Material Access Runoff will remain as a contributory flow to outfall 002 and the requirement for the Stormwater Pollution Prevention Plan for this wastestream was included at outfall 002.

6. The load limit for daily maximum is based on the design maximum flow. The load limit for 30-day average is based on the design average flow. There will be no changes to the load limits for BOD and TSS at outfall 003.
7. The suggested language for outfall 004 was used.
8. Outfall 005 will remain in the permit. Intermittent discharge was added to this outfall.
9. Outfall 006 will remain in the permit.
10. The suggested language for special condition 3 was used.
11. The suggested language for special condition 10 was used.

The Agency also received a letter dated June 27, 2011 from USEPA regarding the draft NPDES permit. Based on the information provided the following changes were made to the final permit.

1. Additional language was added to special condition 18 requiring that for the next permit application for renewal, the facility must prepare and submit monitoring studies to support their original 316(a) demonstration, pursuant to 40 CFR 125.72(c).
2. Illinois Pollution Control Board Order 79-134 is applicable for the period June 15 through September 30. During the time period October 1 through June 14, a mixing zone is applicable.

Special Condition 3 was modified to ensure that the water quality standards were met outside of the mixing zone from October 1 through June 14 and the alternate effluent standard as per IPCB 79-134 was applicable from June 15 through September 30.

The Agency has begun a program allowing the submittal of electronic Discharge Monitoring Reports (eDMRs) instead of paper Discharge Monitoring Reports (DMRs). If you are interested in eDMRs, more information can be found on the Agency website, <http://epa.state.il.us/water/edmr/index.html>. If your facility is not registered in the eDMR program, a supply of preprinted paper DMR Forms for your facility will be sent to you prior to the initiation of DMR reporting under the reissued permit. Additional information and instructions will accompany the preprinted DMRs upon their arrival.

The attached Permit is effective as of the date indicated on the first page of the Permit. Until the effective date of any re-issued Permit, the limitations and conditions of the previously-issued Permit remain in full effect. You have the right to appeal any condition of the Permit to the Illinois Pollution Control Board within a 35 day period following the issuance date.

Should you have questions concerning the Permit, please contact Leslie Lowry at 217/782-0610.

Sincerely,

A handwritten signature in black ink, appearing to read "Alan Keller". The signature is fluid and cursive, with the first name "Alan" and last name "Keller" clearly distinguishable.

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:LRL:11041402.bah

Attachment: Final Permit

cc: Records Unit
Compliance Assurance Section
Des Plaines Region
Billing
USEPA

Electronic Filing - Received, Clerk's Office : 10/16/2015

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: November 30, 2016

Issue Date: November 3, 2011
Effective Date: December 1, 2011

Name and Address of Permittee:

Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, Illinois 60555-5701

Facility Name and Address:

Dresden Generating Station
6500 North Dresden Road
Morris, Illinois 60450
(Grundy County)

Discharge Number and Name:

Receiving Waters:

001 Unit 1 House Service Water	Illinois River
A01 Unit 1 Intake Screen Backwash	
002 Cooling Pond Blowdown	Illinois River
A02 Unit 2/3 Intake Screen Backwash	
B02 Wastewater Treatment System Effluent	
C02 Rad Waste Treatment System Effluent	
D02 Demineralizer Regenerate Waste and Filter Backwash	
003 Sewage Treatment Plant Effluent	Kankakee River
004 Cooling Pond Siphon 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.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

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:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/L		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall 001</u> – Unit 1 House Service Water (Average Flow = 4.32 MGD)						
The discharge consists of:						
1. Unit 1 Fire Pump & Equipment Cooling Water						
2. Unit 1 Intake Screen Backwash (A01)						
3. Stormwater Runoff*						
Flow (MGD)	See Special Condition 1.				Daily**	Continuous
pH	See Special Condition 2.				1/Month**	Grab
Temperature	See Special Condition 3.				1/Month**	Grab
Total Residual Chlorine	See Special Condition 4.			0.05	1/Month**	Grab
Total Suspended Solids			15	30	1/Month**	Grab
Oil/Grease			15	20	1/Month**	Grab

* - See Special Condition 10 and 12.

** - When Discharging

Outfall A01 – Unit 1 Intake Screen Backwash*
(Intermittent Discharge)

* - There shall be no discharge of collected debris.

Outfall 002 – Cooling Pond Blowdown
(Average Flow = 472 MGD)

The discharge consists of:

1. Unit 2 & 3 Condenser Cooling Water
2. Demineralizer Regenerant Waste and Filter Backwash (D02)
3. Rad Waste Treatment System Effluent (C02)
4. Wastewater Treatment System Effluent (B02)
5. Units 2 & 3 Intake Screen Backwash (A02)
6. Northwest Material Access Runoff*
7. Units 2 & 3 House Service Water
8. Unit 2 Auxiliary Boiler Area Oil/Water Separator*
9. 138 KV Switchyard Oil/Water Separator*
10. 345 KV Switchyard Oil/Water Separator*

Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				1/Month	Grab
Temperature	See Special Condition 3.				Daily	Continuous
Total Residual Chlorine	See Special Condition 4 & 21.			0.05	1/Month	Grab

* - See Special Condition 10.

Electronic Filing - Received, Clerk's Office : 10/16/2015

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

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:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/L		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall A02</u> – Unit 2/3 Intake Screen Backwash* (Intermittent Discharge)						

* - There shall be no discharge of collected debris.

Outfall B02 – Wastewater Treatment System Effluent
(DAF = 0.068 MGD)

The discharge consists of:

1. Unit 1 and 2/3 Oil/Water Separators
2. Building Floor Drains
3. Building Roof Drains
4. Stormwater Runoff*

Flow (MGD)	See Special Condition 1.				Daily	Continuous
Total Suspended Solids			15	30	1/Month	24-Hour Composite
Oil/Grease			10	20	1/Month	Grab

* - See Special Condition 9.

Outfall C02 – Rad Waste Treatment System Effluent
(DAF = 0.073 MGD)

The discharge consists of:

1. Contaminated Equipment Drains
2. Contaminated Floor Drains
3. Chemistry Laboratory Drains
4. Decontamination System Drains
5. Condensate Polisher Sonic Cleaning Waste
6. Units 2 and 3 Auxiliary Boiler Blowdown

Flow (MGD)	See Special Condition 1.				1/Month	Continuous
Total Suspended Solids			15	30	1/Month	Grab
Oil/Grease			15	20	1/Month	Grab

Outfall D02 – Demineralizer Regenerate Waste and Filter Backwash
(Average Flow = 0.0082 MGD)

Flow (MGD)	See Special Condition 1.				1/Month	Measure
Total Suspended Solids			15	30	1/Month	8-Hour Composite

NPDES Permit No. IL0002224

Effluent Limitations and Monitoring

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:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall 003 – Sewage Treatment Plant Effluent</u> (DAF = 0.031 MGD)						
Flow (MGD)	See Special Condition 1.				1/Month	Continuous
pH	See Special Condition 2.				1/Month	Grab
BOD ₅	7.76	37.53	30	60	1/Month	24-Hour Composite
Total Suspended Solids	7.76	37.53	30	60	1/Month	24-Hour Composite
Fecal Coliform	See Special Condition 17.			400/100 ml	1/Month	Grab
Total Residual Chlorine	See Special Condition 4.			0.05	1/Day*	Grab

* - When chlorinating.

Outfall 004 – Cooling Pond Siphon Discharge*
(Average Flow = 32.316 MGD)

Flow (MGD)	See Special Condition 1.				1/Day When Discharging	Measure
pH	See Special Condition 2.				1/Discharge Event	Grab
Temperature	See Special Condition 11.				1/Day When Discharging	Grab
Total Residual Chlorine	See Special Condition 4 & 21.			0.05	1/Discharge Event	Grab

* - See Special Conditions 15 and 20.

Outfall 005 – South East Area Runoff*
(Intermittent Discharge)

* - See Special Conditions 10 and 12.

Outfall 006 – North East Area Runoff*
(Intermittent Discharge)

* - See Special Conditions 10 and 12.

NPDES Permit No. IL0002224

Special Conditions

SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and a daily maximum on the Discharge Monitoring Report.

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. (For outfalls 001 and 002) This facility meets the criteria for establishment of a formal mixing zone for thermal discharges pursuant to 35 IAC 302.102. Water quality standards for temperature listed in the table below must be met at every point outside of the mixing zone from the dates October 1 through June 14.

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
°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

- A. The maximum temperature rise above natural temperatures shall not exceed 2.8° C (5° F).
- B. Water temperature at representative locations in the main river shall not exceed the maximum limits in the table above 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 table above 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.
- 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 3A and 3B respectively. During the period June 15 through September 30, the temperature of the plant discharge 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. There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions. The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.
- E. The Dresden Station shall be operated closed cycle during the period October 1 through June 14. 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 through June 14, as deemed necessary by station management.
- F. 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.
- G. Additional water temperature monitoring shall be continued as follows:
 - 1. A continuous water temperature record of water temperature at the Dresden 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 the Agency, Industrial Unit, Division of Water Pollution Control by December 31, of 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.
- H. 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.
- I. The monthly maximum value measured at the Dresden Lock and Dam and the percentage of time the discharge exceeds the temperatures listed in the table above from October 1 through June 14 shall be reported on the DMR form.
- J. The monthly maximum value measured at the outfall and the percentage of time the discharge exceeds 32.2° C (90° F) from June 15 through September 30 shall be reported on the DMR form.

NPDES Permit No. IL0002224

Special Conditions

SPECIAL CONDITION 4. All samples for Total Residual Chlorine shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained.

SPECIAL CONDITION 5. 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 6. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/edmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 15th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

Attention: Compliance Assurance Section, Mail Code # 19

SPECIAL CONDITION 7. This permit authorizes the use of water treatment additives that were requested as part of this renewal. The use of any new additives, or change in those previously approved by the Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has been approved by the Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions – Attachment H.

SPECIAL CONDITION 8. If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

SPECIAL CONDITION 9. The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit reissuance, and no pollution prevention plan will be required for such storm water. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated storm water discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 10

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

A. A storm water pollution prevention plan shall be maintained by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. The permittee shall modify the plan if substantive changes are made or occur affecting compliance with this condition.

1. • Waters not classified as impaired pursuant to Section 303(d) of the Clean Water Act.

Unless otherwise specified by federal regulation, the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event.

NPDES Permit No. IL0002224

Special Conditions

2. Waters classified as impaired pursuant to Section 303(d) of the Clean Water Act.

For any site which discharges directly to an impaired water identified in the Agency's 303(d) listing, and if any parameter in the subject discharge has been identified as the cause of impairment, the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event. If required by federal regulations, the storm water pollution prevention plan shall adhere to a more restrictive design criteria.

- B. The operator or owner of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.
- Facilities which discharge to a municipal separate storm sewer system shall also make a copy available to the operator of the municipal system at any reasonable time upon request.
- C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.
- D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph H of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within 30 days of any proposed construction or operational changes at the facility, and shall be provided to the Agency for review upon request.
- E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:
1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate. Any map or portion of map may be withheld for security reasons.
 2. A site map showing:
 - i. The storm water conveyance and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.
 - v. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);
 - vi. Surface water locations and/or municipal storm drain locations
 - vii. Areas of existing and potential soil erosion;
 - viii. Vehicle service areas;
 - ix. Material loading, unloading, and access areas.
 - x. Areas under items iv and ix above may be withheld from the site for security reasons.
 3. A narrative description of the following:
 - i. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;
 - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;
 - iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;

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- iv. Industrial storm water discharge treatment facilities;
 - v. Methods of onsite storage and disposal of significant materials.
4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities. Also provide a list of any pollutant that is listed as impaired in the most recent 303(d) report.
 5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.
 6. A summary of existing sampling data describing pollutants in storm water discharges.
- F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:
1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.
 2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.
 3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.
 4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, spill cleanup equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.
 5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:
 - i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff. To the maximum extent practicable storm water discharged from any area where material handling equipment or activities, raw material, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water should not enter vegetated areas or surface waters or infiltrate into the soil unless adequate treatment is provided.
 - ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges.
 - iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges.
 - iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
 - v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination. Minimize the quantity of storm water entering areas where material handling equipment or activities, raw material, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water using green infrastructure techniques where practicable in the areas outside the exposure area, and otherwise divert storm water away from exposure area.
 - vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.

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- vii. Storm Water Reduction - Install vegetation on roofs of buildings within adjacent to the exposure area to detain and evapotranspire runoff where precipitation falling on the roof is not exposed to contaminants, to minimize storm water runoff; capture storm water in devices that minimize the amount of storm water runoff and use this water as appropriate based on quality.
 6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion. The plan shall describe measures to limit erosion.
 7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.
 8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.
- G. Non-Storm Water Discharge - The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharge. The certification shall include a description of any test for the presence of non-storm water discharges, the methods used, the dates of the testing, and any onsite drainage points that were observed during the testing. Any facility that is unable to provide this certification must describe the procedure of any test conducted for the presence of non-storm water discharges, the test results, potential sources of non-storm water discharges to the storm sewer, and why adequate tests for such storm sewers were not feasible.
- H. Quarterly Visual Observation of Discharges - The requirements and procedures for quarterly visual observations are applicable to all outfalls covered by this condition.
1. You must perform and document a quarterly visual observation of a storm water discharge associated with industrial activity from each outfall. The visual observation must be made during daylight hours. If no storm event resulted in runoff during daylight hours from the facility during a monitoring quarter, you are excused from the visual observations requirement for that quarter, provided you document in your records that no runoff occurred. You must sign and certify the document.
 2. Your visual observation must be made on samples collected as soon as practical, but not to exceed 1 hour or when the runoff or snow melt begins discharging from your facility. All samples must be collected from a storm event discharge that is greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previously measureable (greater than 0.1 inch rainfall) storm event. The observation must document: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. If visual observations indicate any unnatural color, odor, turbidity, floatable material, oil sheen or other indicators of storm water pollution, the permittee shall obtain a sample and monitor for the parameter or the list of pollutants in Part E.4.
 3. You must maintain your visual observation reports onsite with the SWPPP. The report must include the observation date and time, inspection personnel, nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.
 4. You may exercise a waiver of the visual observation requirement at a facility that is inactive or unstaffed, as long as there are no industrial materials or activities exposed to storm water. If you exercise this waiver, you must maintain a certification with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to storm water.
 5. Representative Outfalls - If your facility has two or more outfalls that you believe discharge substantially identical effluents, based on similarities of the industrial activities, significant materials, size of drainage areas, and storm water management practices occurring within the drainage areas of the outfalls, you may conduct visual observations of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s).
 6. The visual observation documentation shall be made available to the Agency and general public upon written request.
- I. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.

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- J. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated there under, and Best Management Programs under 40 CFR 125.100.
- K. The plan is considered a report that shall be available to the public at any reasonable time upon request. The permittee may claim portions of the plan as exempt from public disclosure as confidential business information or as otherwise required by law, including any portion of the plan related to facility security.
- L. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.
- M. Facilities which discharge storm water associated with industrial activity to municipal separate storm sewers may also be subject to additional requirement imposed by the operator of the municipal system

CONSTRUCTION AUTHORIZATION

Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention Plan developed pursuant to this permit.

This Authorization is issued subject to the following condition(s).

- N. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights there under.
- O. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.
- P. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.
- Q. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

- R. The facility shall submit an electronic copy of the annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part I of this condition. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s). The annual inspection report is considered a public document that shall be available at any reasonable time upon request.
- S. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.
- T. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.
- U. The permittee shall retain the annual inspection report on file at least 3 years. This period may be extended by request of the Illinois Environmental Protection Agency at any time.

Annual inspection reports shall be mailed to the following address:

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

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- V. The permittee shall notify any regulated small municipal separate storm sewer owner (MS4 Community) that they maintain coverage under an individual NPDES permit. The permittee shall submit any SWPPP or any annual inspection to the MS4 community upon request by the MS4 community.

SPECIAL CONDITION 11. (For outfall 004) This facility meets the allowed mixing criteria for thermal discharges pursuant to 35 IAC 302.102. No reasonable potential exists for the discharge to exceed thermal water quality standards. This determination is based on a temperature range of 60° F to 77° F and a flow of 50 cfs. The permittee shall monitor the flow and temperature of the discharge prior to entry into the receiving water body. Monitoring results shall be reported on the monthly Discharge Monitoring Report. This permit may be modified to include formal temperature limitations should the results of the monitoring show that there is reasonable potential to exceed a thermal water quality standard. Modification of this permit shall follow public notice and opportunity for comment.

There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions. The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.

SPECIAL CONDITION 12. 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 through outfalls 005 and 006.

SPECIAL CONDITION 13. There shall be no discharge of polychlorinated biphenyl compounds.

SPECIAL CONDITION 14. The "Upset" defense provisions listed under 40 CFR 122.41(n) are hereby incorporated by reference.

SPECIAL CONDITION 15. The responsibility for outfall 004, Cooling Pond Discharge, will be transferred to the Will County Emergency Management Agency upon issuance of a separate NPDES permit for operation of the Dresden Station siphon Ice Melt system. Upon issuance of a permit to Will County EMA, Exelon Generation Company shall submit a request to terminate the monitoring and reporting requirements associated with outfall 004, in writing to the Agency.

SPECIAL CONDITION 16. There shall be no discharge of complexed metal bearing wastestreams and associated rinses from chemical metal cleaning unless this permit has been modified to include the new discharge.

SPECIAL CONDITION 17. For outfall 003, the daily maximum Fecal Coliform count shall not exceed 400/100 ml. Fecal Coliform limits for Outfall 003 are effective May through October. Sampling of Fecal Coliform concentrations are only required during this time period.

SPECIAL CONDITION 18. Exelon Generation Company, LLC formerly known as 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

Pursuant to 40 CFR 125.72(c), the permittee shall submit an updated 316(a) demonstration based on current facility operating conditions. This updated demonstration may include new studies or other information necessary to support the seasonal alternative effluent limitations granted under the original demonstration. This information shall be submitted with the next permit renewal application.

SPECIAL CONDITION 19. Pursuant to Section 316(b) of the Clean Water Act, a past determination for the Dresden Nuclear Power Station was not made. Data was submitted at that time by Exelon Generation Company, LLC formerly known as Commonwealth Edison Company pursuant to Section 316(b) of the CWA for the Dresden Nuclear Power Station. This data was reviewed by the Illinois Environmental Protection Agency and the review determination was: 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.

In order for the Agency to evaluate the potential impacts of cooling water intake structure operations pursuant to 40 CFR 125.90(b), the permittee shall prepare and submit information to the Agency outlining current intake structure conditions at this facility, including a detailed description of the current intake structure operation and design, description of any operational or structural modifications from original design parameters, source waterbody flow information as necessary. The information submitted should be in accordance with the previously submitted information collection proposal received by Agency on May 23, 2005.

The information shall also include a summary of historical 316(b) related intake impingement and/or entrainment studies, if any, as well as current impingement mortality and/or entrainment characterization data; and shall be submitted to the Agency within six (6) months of the permit's effective date.

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Upon the receipt and review of this information, the permit may be modified to require the submittal of additional information based on a Best Professional Judgment review by the Agency. This permit may also be revised or modified in accordance with any laws, regulations, or judicial orders pursuant to Section 316(b) of the Clean Water Act.

SPECIAL CONDITION 20. 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 June of each year.
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 21. For a period of 2 years following the effective date of this Permit during times when the condenser cooling water is chlorinated intermittently, Total Residual Chlorine may not be discharged from each unit's main cooling condensers for more than 2 hours per day. The discharge limit during this period is 0.2 mg/l, measured as an instantaneous maximum.

A Total Residual Chlorine limit of 0.05 mg/l (Daily Maximum) for outfalls 002 and 004 shall become effective 2 years from the effective date of this Permit.

The Permittee shall construct a dechlorination system or some alternative means of compliance in accordance with the following schedule:

- | | |
|---------------------------|-----------------------------------|
| 1. Status Report | 6 months from the effective date |
| 2. Commence Construction | 12 months from the effective date |
| 3. Status Report | 18 months from the effective date |
| 4. Complete Construction | 22 months from the effective date |
| 5. Obtain Operation Level | 24 months from the effective date |

Compliance dates set out in this Permit may be superseded or supplemented by compliance dates in judicial orders, or Pollution Control Board orders. This Permit may be modified, with Public Notice, to include such revised compliance dates.

The Permittee shall operate the dechlorination system or an alternative means of compliance in a manner to ensure continuous compliance with the Total Residual Chlorine limit, not to the extent that will result in violations of other permitted effluent characteristic, or water quality standards.

REPORTING

The Permittee shall submit a report no later than fourteen (14) days following the completion dates indicated above for each numbered item in the compliance schedule, indicating, a) the date the item was completed, or b) that the item was not completed, the reason for non-completion, and the anticipated completion date.