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STATE OF ILLINOIS
Pollution Control Board

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE) R08-09
CHICAGO AREA WATERWAY SYSTEM) (Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:)
PROPOSED AMENDMENTS TO 35 Ill.)
Adm. Code Parts 301, 302, 303, and 304)

NOTICE OF FILING

To:
John Therriault, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph St., Suite 11-500
Chicago, IL 60601

Marie Tipsord, Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph St, Suite 11-500
Chicago, Il 60601

Deborah J. Williams, Assistant Counsel
Stefanie N. Diers, Assistant Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Persons included on the attached
SERVICE LIST

PLEASE TAKE NOTICE that the Environmental Law and Policy Center of the Midwest ("ELPC") and the Illinois Chapter of the Sierra Club today have electronically filed PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO MARCELO H. GARCIA, PhD; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO ADRIENNE NEMURA; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO STEPHEN F. MCGOWAN; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO SUSAN O'CONNELL; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO SCUDDER D. MACKEY; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO RICHARD LANYON; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB

TO CHARLES S. MELCHING; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO JULIA WOZNIAK; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO DAVID R. ZENZ REGARDING DISSOLVED OXYGEN ENHANCEMENT STUDIES; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO SAMUEL G. DENNISON REGARDING BUBBLY CREEK; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO THOMAS E. KUNETZ, P.E.; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO ROBERT S. ELVERT; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO PAUL L. FREEDMAN; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO JOHN MASTRACCHIO REGARDING ECONOMIC ASSESSMENT FOR DISINFECTION FACILITIES; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO JOHN MASTRACCHIO REGARDING ECONOMIC ASSESSMENT FOR DISSOLVED OXYGEN ENHANCEMENT FACILITES; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO DAVID R. ZENZ REGARDING EFFLUENT DISINFECTION STUDIES; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO CARL ADAMS AND ROBIN GARIBAY; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO ALAN L. JIRIK; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO JAMES E. HUFF, P.E., copies of which are herewith served upon you.

Respectfully Submitted,



Albert Ettinger
Senior Staff Attorney
Environmental Law & Policy Center
35 E. Wacker Dr. Suite 1300
Chicago, Il 60601
(312) 795-3707

DATED: August 25, 2008

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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
MARCELO H. GARCIA, PhD**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Marcelo H. Garcia:

1. On page 2 of your testimony you refer to "density currents." What are density currents?
2. How do density currents affect aquatic life in the CAWS?
3. When are the studies of Bubbly Creek mentioned on page 14 of your testimony to be completed?
4. Has the MWRDGC, UIUC or anyone else to your knowledge studied fish passage through the CAWS?
5. What portions of the CAWS are now used for fish passage and where are the fish going?

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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
ADRIENNE NEMURA**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Adrienne Nemura:

1. Do you know if CSO discharges contain the same level of human pathogens as discharges from municipal wastewater treatment plants that do not disinfect?
2. On page 7 of your testimony you mention a number of options that states can pursue for adopting standards that are identified by USEPA including segmenting the water body, adopting "subclasses" and "high flow cutoffs." Do you suggest that the CAWS be segmented differently for consideration in the UAA and, if so, how?
3. What sort of subclasses might you have in mind?
4. What is a "high flow cutoff" and how does it work?
5. Do you believe that wet weather standards should be adopted that would allow DO levels that would preclude indigenous aquatic life from living in areas of the CAWS during wet weather events?
6. Could you explain what you mean by 'Range for Portions of 2001 and 2002 that were Modeled' in Table 1 in Attachment 4 of your testimony?
7. Does MWRD have actual DO measurements taken during summer 2001 at the sites which you have modeled that could be shown on the plots in Figures 2-9?
8. In Attachment 3 to your testimony you discuss a number of examples of "wet weather standards" that have been considered for other water bodies. What is being considered in Indiana for the City of Indianapolis and elsewhere?
9. What has been done in Boston and other cities in Massachusetts? Has Massachusetts classified the Charles River in a manner that make it unnecessary to control CSOs or disinfect to meet the standards set for the Charles?
10. Please explain what is being done in Maine.
11. Has ORSANCO adopted wet weather standards?
12. Do sewage treatment plants discharging to the Ohio River disinfect?
13. Are you aware of the efforts being made to control CSOs and SSOs by the City of Cincinnati or other cities that discharge into the Ohio River?
14. What is the standard that was adopted for the Santa Ana River in California?

15. Is recreation generally allowed in the Santa Ana River or is the river allowed to always violate pathogen standards?
16. What is the standard that was adopted for Ballona Creek, California ?

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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
STEPHEN F. MCGOWAN**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Stephen F. McGowan:

1. Have you worked on disinfection issues regarding Milwaukee, WI, Detroit, MI, Norwalk, CT., Columbia, MD or any other plants?
2. To your knowledge, has the MWRDGC ever done an environmental assessment like the ones you did regarding DO enhancement and disinfection for any of its other operations or proposed operations?
3. Was such an assessment done with regard to any phase or portion of TARP?
4. Have you or to your knowledge anyone else ever attempted to calculate any favorable environmental effects on land, air, energy use or other portion of the environment that might result from disinfection at the Calumet, North Side or Stickney plants?
5. Have you or to your knowledge anyone else ever attempted to calculate any favorable environmental effects on land, air, energy use or other portion of the environment that might result from enhanced dissolved oxygen levels in any portion of the CAWS?
6. Have you studied the effects of the work necessary to the meet existing dissolved oxygen requirements applicable to the CAWS?
7. What is the basis for your assumption that MWRDGC will use energy originating from coal-fired plants (see report page 5-1) to produce energy for disinfection and DO enhancement?
8. On page 2-1 of your report you assume that disinfection would be provided from March through November. Why did you decide to use this assumption?

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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
SUSAN O'CONNELL**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Susan O'Connell regarding CSO discharges:

1. Are there CSO discharges that discharge to Lake Michigan?
2. Does MWRDGC maintain data sufficient to identify the particular CSOs that have discharged by date of discharge for some or all of the CSO or dates for the years 2005-07? If so, please present the available data on the CSO discharges for 2005-07 at the hearing

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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
SCUDDER D. MACKEY**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Scudder D. Mackey:

1. In various parts of your testimony you mention temperature effects as something that you do not believe that IEPA adequately studied. What portions of the CAWS need further study with regard to temperature effects?
2. What are the significant thermal dischargers to the CAWS?
3. Are there ways to categorize subsections of the CAWS that make more sense to you than the categories proposed by IEPA?

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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
RICHARD LANYON**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Richard Lanyon:

1. On page 4 of your testimony you state that in the Calumet-Sag Canal "high flows can impair aquatic life uses when habitat is destroyed and aquatic organisms are swept downstream." How does this occur?
2. What habitat is destroyed by such high flows?
3. What aquatic organisms are swept downstream?
4. Where are they swept?
5. What riparian life lives on the CAWS to your knowledge?
6. Are there beavers, otters or other riparian mammals in the CAWS?
7. What birds live near the CAWS?
8. Has MWRDGC ever studied the effects of its operations on riparian mammals or birds?
9. Can the different reaches and segments of the CAWS be said to be homogenous in terms of its recreational uses or potential for aquatic life?
10. Your testimony discusses barge and other navigation traffic on the CAWS. Has the MWRDGC or anyone else studied this barge traffic in terms of what segments of the CAWS are traveled?
11. Is there barge traffic above Goose Island on the North Branch or in the North Shore Channel?
12. Has anyone to your knowledge studied what the level of barge traffic would be if some or all of the Midwest Generation units at Fisk, Crawford or Will County are shut down?
13. Has MWRDGC or anyone else studied the recreational boating traffic in the CAWS?
14. Has MWRDGC or anyone else to your knowledge studied the value of the recreational boating now on the CAWS or any segments of the CAWS?
15. MWRDGC has criticized some of the proposed classifications of the CAWS that have been proposed by IEPA, but is there another classification system that MWRDGC would propose that better characterizes the CAWS in terms of potential for recreational uses or aquatic life uses?

16. Has the MWRDGC studied other heavily modified waterway systems such as the Rouge River near Detroit, the Milwaukee River, or the Charles River in Boston?
17. Your testimony points to major water quality improvements in the CAWS over the past 30 years. Please describe these improvements.

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**PRE-FILED QUESTIONS OF
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CHARLES S. MELCHING**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Charles S. Melching:

1. On what river did you do work in Belgium?
2. How generally did you measure the duration of the effect of a CSO event?
3. What counted as ending the effect of a CSO event?
4. Are CSOs causing violations of the Illinois ammonia standard?
5. Are CSOs causing violations of the DO standards currently applicable to the CAWS.
6. Could water quality in the North Shore Channel or Bubbly Creek be improved by increasing the flow in these water bodies?
7. Have CSO events negatively impacted the aquatic community in any parts of the CAWS?
8. On page 24 of your report, you state that "long storm effects can negatively affect the aquatic community and these long term effects cannot be reduced until the reservoirs of the Tunnel and Reservoir Plan are fully on line." Is it your testimony that there have been no benefits to the aquatic community from the partial completion of TARP?
9. Is it your testimony that nothing can be done to reduce CSO events or the long-term effects of CSO events other than to complete TARP?
10. How will completion of TARP benefit aquatic life?
11. Are there parts of the CAWS that could meet the proposed IEPA DO standards almost all of the time?
12. Would you classify the whole CAWS with one aquatic life use or are there segments that should be distinguished as to different uses?
13. Did the 1980s Fish & Wildlife Service study of Habitat Suitability you discuss on pages 13-14 of your testimony deal with the entire CAWS?
14. Is it your testimony that there are no early life stages for bass or channel catfish anywhere in the CAWS?
15. Can substrate be improved through any technique?
16. Is there any way to differentiate the effects of CSOs from those of poor substrate in any portion of the CAWS?

17. On pages 36-37 of your report, you suggest that meeting the IEPA DO standards would be a poor use of public money in view of other needs. Have you determined how much more it would cost to meet the proposed IEPA standards than it would cost consistently to meet the present standards?

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**PRE-FILED QUESTIONS OF
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JULIA WOZNIAK**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Julia Wozniak:

1. At page 2 of your testimony you mention that the MWG stations “use large volumes of surface water.” What is the intake of each of the Fisk, Crawford, Will County and Joliet Stations relative to the low flow of the water body from which the water is taken?
2. Is the intake to the Joliet plant sometimes larger than the Des Plaines River flow?
3. Are Joliet Units 6, 7 and 8 sometimes demarcated with a different numbering system?
4. What are Joliet Units 9 and 29?
5. Does Midwest Generation keep records of the amount of power production at each of its units?
6. Since Midwest Generation began operating the stations, what is the capacity factor of the unit at Fisk? The units at Crawford? Will County? Joliet?
7. Does Midwest Generation have plans to close the Fisk, Crawford, Will County or Joliet plants or any of the units at those plants?
8. Should we assume in this proceeding that any capital costs for putting supplemental cooling equipment on those plants can be fully amortized over the life of the plants?
9. Does MWG claim as to any station or unit that pollution control equipment is not justifiable because the plant will soon close?
10. Has MWG received a notice of violation of the Clean Air Act that relates to modifications or operation of any units of the Fisk, Crawford, Will County or Joliet Stations?
11. Are you aware of any power plants anywhere that have been retrofitted to add cooling capacity other than the cooling towers built for Joliet Units 7 and 8?
12. You mention on page 5 that the allowed mixing zone is currently 26 acres. Are you aware of any study that has determined whether the heat discharge from the Joliet station contains more than 25% of the cross-sectional area or volume of flow of the Des Plaines River?

13. Are you aware of any study that has determined that the mixing zone at the Joliet station maintains a zone of passage for aquatic life at which the temperature standard of 93 degrees Fahrenheit is met 95% of the time?
14. It is suggested in your testimony at page 7 that the current rules applicable to the temperatures at the I-55 Bridge under AS 96-10 are more stringent than the general use standards. What was the purpose of Commonwealth Edison then in seeking the variance in 1996?
15. In suggesting that the I-55 rules are "more stringent" are you taking into account the general use limitation prohibiting raising temperatures by more than 5 degrees Fahrenheit?
16. Has MWG or Commonwealth Edison determined what the temperature of the Des Plaines River at the I-55 bridge would be if the Joliet plant were not operated?
17. Has MWG or Commonwealth Edison or anyone else to your knowledge determined whether temperatures at the I-55 bridge are more than 5 degrees Fahrenheit higher than temperatures in the Kankakee, the Upper Des Plaines, the Du Page River or other waters in the area?
18. Has MWG or Commonwealth Edison or anyone else to your knowledge studied how temperature affects the toxicity of the pollutants that are present in the Upper Dresden Pool?
19. Does Midwest Generation intend to make any investments in any of the plants on the CAWS or the Upper Dresden Pool to reduce impingement of aquatic life?
20. Does Midwest Generation have any data on the effect on aquatic life of impingement at the Joliet station?
21. Does the Joliet plant serve to discourage fish or other aquatic life from moving from the Upper Illinois River to the Great Lakes system?
22. Does heat discharged by the Joliet plant attract fish to come up from below the I-55 Bridge during the winter?
23. Has Midwest Generation or Commonwealth Edison measured the effect of heat generated by the Fisk, Crawford, Will County and Joliet plants on dissolved oxygen levels at the I-55 bridge?
24. Has any study been done on the effect of the Fisk, Crawford, Will County or Joliet plants on DO levels at the I-55 Bridge since that of Dr. John F. Kennedy for the Joliet heat demonstration proceeding (PCB 87-93)?
25. Does Midwest Generation keep data on intake temperatures at the Joliet plant?
26. Are the documents attached as Exhibit A examples of documents containing intake temperatures at the Joliet plant?
27. Does Midwest Generation keep data on the temperatures at the I-55 Bridge?
28. Does Midwest Generation keep data on DO levels at the I-55 Bridge?
29. Do you know if there are unnatural heat inputs to the Upper Illinois River below the I-55 bridge?
30. Has Commonwealth Edison or Exelon violated its NPDES permit with excessive heat discharges from the Dresden Nuclear plant?
31. Has Midwest Generation investigated the amount of fish habitat in tributaries of the Upper Dresden Pool or other waters connected to the Upper Dresden Pool including the Du Page River, Hickory Creek, Jackson Creek, and the Kankakee River?

32. Are you aware of fish kills caused by heat discharges from the Dresden, Fisk, Crawford, Will County or Joliet plants? If so, please describe all such fish kills.
33. Are you aware of fish kills caused by impingement at the plants? If so, please describe such fish kills.

EXHIBIT A
TO PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND
POLICY CENTER FOR JULIA
WOZNIAK

Commonwealth Edison Company
One First National Plaza
P.O. Box 767
Chicago, IL 60690-0767

DR
- Maywood
- Records

RECEIVED DAN
AUG 30 1999

ComEd

August 26, 1999

Roger Callaway
Mr. Kenneth Rogers
Manager, Compliance Assurance Section
Division of Water Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Re: Dresden Station - NPDES Permit No. IL0002224
Noncompliance Event Report and Upset/Bypass Demonstration
July 21-31, 1999

Dear Mr. Rogers:

By letter dated August 26, 1999, Commonwealth Edison Company ("ComEd") sent you the July 1999 Discharge Monitoring Report (DMR) for the Dresden Station. The DMR identifies exceedences of effluent limits governing thermal discharges that occurred between July 21 and July 31, 1999. The DMR also notes the fact that for a period of time on July 23 and July 24 the plant was operated in the Direct Open Cycle Mode, rather than the Indirect Open Cycle Mode as required by Special Condition 2C. Some of these matters were the subject of 24-hour oral notifications to IEPA. IEPA agreed to waive the requirement that ComEd submit a follow-up report within 5 days of the initial notifications, and requested instead that ComEd submit one report regarding the circumstances that gave rise to the exceedences, and actions taken by the Company in response to these events. This letter is submitted in response to IEPA's request.

Background:

The Dresden NPDES Permit allows the station to operate its cooling pond in the Indirect Open Cycle mode from June 15th through September 30th. When the Cooling Pond is operating in the Indirect Open Cycle mode, water discharged from the plant circulates through the cooling pond for about three days before it is discharged to the Illinois River. Therefore, in order to maintain compliance with the thermal limits imposed by its permit (90 F, except that the station can discharge at up to 93 F for 10% of the hours between June 15 and September 30), Dresden

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relies upon a computer generated program that predicts what the cooling pond outlet temperature will be three days into the future. The inputs to the computer program include actual on line instrumentation data and three-day forecasts of ambient air temperature and humidity parameters. If the program predicts that effluent temperatures will exceed limits set by the permit with the station running at full power, the program specifies the extent to which the station must decrease operations (i.e., be derated) to assure that compliance is maintained.

The input data for the program comes from on-line instrumentation and three days of weather forecast data provided by Murray & Truttel, Certified Consulting Meteorologists. The program calculates the extent of cooling that will occur as water circulates in the cooling pond based on predicted ambient air and wet bulb temperatures. Murray & Truttel electronically transmits these forecasts to Dresden's main control room once per day and sends updated weather data immediately if the forecast changes significantly. Murray and Truttel's forecasting has proven to be reliable and accurate, and the computer program has been used to successfully maintain the cooling pond effluent temperatures within applicable limits for the last two summers.

To augment Dresden's ability to cool water before it is discharged from the cooling pond, cooling towers were installed in the spring of 1999. The towers are capable of treating about 22% of the flow coming through the cooling pond. After the cooling towers were installed, tests were performed to verify that they performed as designed. The cooling capacity of the towers was then incorporated into the computer program used to maintain compliance with thermal limits.

Because the cooling towers are located adjacent to the canal that discharges water from the cooling pond to the Illinois River, a spike of hot water in the cooling pond can be managed by adjusting the spillway gates so that the percentage of water treated by the cooling towers increases, thereby lowering the effluent temperature. Modeling shows that if the spillway gates are throttled to reduce the effluent temperature by 1/3 of a degree F (approximately 50 MWe), for a period of 9 hours, the cooling pond will return to its normal level 11 hours after the gates are reopened. The ability to manipulate the spillway gates to reduce the extent to which Dresden has to be derated was part of the cooling pond management procedure used by Dresden personnel.

As we explain in detail below, the exceedence events discussed in this letter resulted from unexpected and significant discrepancies in forecasted ambient air and wet bulb temperatures (with the exception of a bypass incident that commenced on July 23rd). In each case, the exceedences occurred despite the fact that Dresden implemented the measures (in the form of significant deratings and spillway manipulations) that the compliance program and procedures called for to avoid exceedences. However, because the ambient air and wet bulb temperatures actually experienced were far more severe than were forecasted (and input into the

computer program), the extent of cooling that occurred as water passed through the cooling lake and cooling towers was lower than what the models predicted. Moreover, beginning with the very first exceedence event, ComEd took increasing responsive steps in an effort to avoid further exceedences. In addition, ComEd's monitoring program in the affected area revealed no significant environmental impacts associated with the exceedences.

Chronology of Events

7/21/99

On Wednesday, July 21, 1999, Dresden's effluent temperature exceeded 93 F. for 1.8 hours, with a maximum temperature of 93.6 F. At approximately 1:00 p.m. on that date, when the cooling pond effluent temperature first exceeded 92.5 F., station operators were sent to manipulate the spillway gates in order to prevent the effluent temperature from exceeding 93 F. This action reduced the magnitude and duration of the temperature excursion.

This exceedence resulted from incorrectly forecasted three-day ambient air and wet bulb temperatures that were input into Dresden's computer program on Sunday, July 18th. As it turned out, the Murray & Truttel forecasted ambient air temperature data were 11.3-degree days lower than the actual temperatures experienced over the three-day period and the forecasted wet bulb temperature for Wednesday was 3 degrees lower than the actual wet bulb temperature.¹ As a result, the cooling pond and cooling towers were not as efficient as predicted.

In response to this event, ComEd investigated the reliability of the Murray & Truttel forecasts. ComEd evaluated the data from seven different weather-reporting services, and found that all of the weather forecasting services significantly under-predicted the ambient air temperatures during the previous 3-day period. Therefore, it did not appear necessary or reasonable to discontinue relying on Murray & Truttel forecasts.

7/22/99

On Thursday, July 22nd, Dresden's effluent temperature exceeded 93 F. for 8.3 hours, with a maximum temperature of 95.6 F. At 7:30 a.m. on that date, when the cooling pond effluent temperature first exceeded 92.0 F., station operators manipulated the spillway gates in order to prevent the effluent temperature from exceeding 93 F. This action prevented the effluent

¹ The term "degree-day" is based on calculating the difference between the forecasted and actual ambient air temperature data and comparing the sum of the forecasted high and low temperature values for three days with the sum of the actual temperature values experienced for the same three days.

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from exceeding 93 F for some time. However, when the cooling pond reached its high level, the spillway gates had to be opened in order to prevent overflow, causing the effluent temperature to exceed 93 F. Again, these circumstances were due to the fact that the ambient air and wet bulb temperature forecasts on July 19th substantially underestimated the actual ambient air and wet bulb temperatures experienced.

On July 22nd, the second day that the effluent limit was exceeded, Dresden decided to implement further corrective action by adding 6 degree-days to the weather data input into the computer program to provide a greater margin in the event of future weather forecast errors.

7/23/99 - 7/24/99

Despite the corrective actions described above, on July 23rd, the cooling pond effluent temperature exceeded 93 F for 13.5 hours, reaching a maximum of 94.8 F. This exceedence again was due to the fact that temperature forecasts on July 20th substantially underestimated the ambient air and wet bulb temperatures.

In addition, on Friday, July 23rd at approximately 10:00 p.m., a lightning strike caused a loss of power to Dresden's lift station. Plant personnel took immediate actions, by adjusting the flow regulating station gates and changing the cooling pond operating mode from Indirect Open Cycle to Direct Open Cycle, thereby bypassing the cooling pond and cooling towers. This action was necessary to prevent flooding of the canal and the surrounding neighborhood.

Power was restored to the Lift Station at approximately 6:00 a.m. on Saturday, July 24th. During the period of Direct Open Cycle operation, the effluent water temperature was above 93 F for 7.7 hours and reached 100.2 F. On Saturday, July 24th, after the plant was able to resume using the cooling pond and towers, the spillway gates were successfully used to keep effluent temperatures below 93 F. This left the cooling pond at its high level. ComEd provided oral notification to IEPA at approximately 9:30 a.m. on July 24th of this incident and provided IEPA a written follow-up report in the attached letter of July 28, 1999. (Attachment A)

7/25/99

On Sunday, July 25th, at 12:00 noon, the Cooling Pond effluent temperature was approaching 92.5 F. Dresden manipulated the spillway gates in an effort to prevent any exceedences. However, at 4:10 p.m. the cooling pond effluent temperature exceeded the limit for the remainder of the day (8 hours), reaching a maximum of 94.8 F.

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August 26, 1999
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The 3-day ambient air temperature forecasts issued by Murray & Truttel on Friday, July 23rd and Saturday, July 24th were within the 6 degree-day margin added to the compliance program on Thursday, July 22nd. However, the forecast significantly underestimated the wet bulb temperatures experienced. As a result, the cooling towers were not as effective as anticipated.

On July 25, Dresden implemented additional corrective actions by changing its operating procedure to discontinue taking credit for anticipated cooling benefits derived from using the spillway gates. This action provided extra margin for preventing effluent temperature excursions.

7/26/99

On Monday, July 26th, the extremely high humidity (which was substantially higher than forecasted) caused cooling pond effluent temperatures to exceed 93 degrees F for 3.8 hours, reaching a maximum temperature of 95.3 F. In response, Dresden implemented additional corrective actions by adding 3 more degree-days (9 degree-days total) to the input weather data of the computer model.

7/27/99

On Tuesday, July 27th, extremely high humidity conditions continued causing the cooling pond effluent temperatures to exceed 93 F for 11.2 hours, reaching a maximum of 94.7 F. On this date, Murray & Truttel increased their predicted wet bulb temperature from 74 F to 79 F. As a result, the plant's operations were decreased to account for this change.

7/28/99

On Wednesday, July 28th, the wet bulb temperature, predicted to be 74 F, exceeded 77 F. As a result, the cooling pond effluent exceeded 93 F for 15.2 hours reaching a maximum of 93.4 F.

7/29/99 - 7/30/99

The ambient air and humidity conditions experienced on Thursday and Friday, July 30th and 31st, were among the most extreme experienced in recent years. The ambient air temperatures predicted to be 93 and 94 degrees F, respectively, actually exceeded 96 and 100 degrees F. The wet bulb temperatures predicted to be 76 F and 79 F, exceeded 82 F. (a new record high). These unusually extreme and significantly under-predicted temperature and humidity conditions caused the effluent temperatures to exceed 93 F for all 24 hours on each of

Mr. Kenneth Rogers
August 26, 1999
Page 6

these days with maximum effluent temperatures reaching 95.6 F and 95.8 F, respectively.

On Friday, July 30th, Dresden implemented additional corrective actions by adding an additional 3 degree-days (12 degree-days total) to the input weather data of the computer program.

7/31/99

As the ambient air temperatures moderated on Saturday, the cooling pond water, heated by the ambient air conditions over the last two days, continued to be discharged from the cooling pond at elevated temperatures. On Saturday, July 31st, the cooling pond effluent temperatures exceeded 93 F for 6.8 hours reaching a maximum of 93.7 F.

Plant Operations

The exceedences discussed above occurred on days during which the demand for electricity on ComEd's system and in neighboring states was extremely high. These circumstances raised serious concerns regarding whether there was sufficient power available on the ComEd system and in the region to avoid significant outages. Nevertheless, it should be emphasized that on the days the exceedences occurred, Dresden was derated significantly, to operating levels that were predicted to allow the station to comply with thermal limits. During this period, Dresden was derated by anywhere from 30% to 53% of full power.

Corrective Actions

ComEd has implemented the following corrective actions designed to avoid exceedences in the future that are similar to those addressed in this letter.

1. ComEd has permanently added an additional 12 degree-days to the weather data input of its compliance program.
2. Whenever the forecast wet bulb temperature is above 76 F., ComEd will add additional degree-days to the weather data input of the compliance program to account for potential severe humidity conditions.
3. The compliance procedures no longer will take credit for spillway manipulations to determine required deratings.
4. Two weather forecasts, from two different weather services,

Mr. Kenneth Rogers
August 26, 1999
Page 7

will be compared when determining the appropriate input data for the compliance program. The highest values from either of the two forecasts will be used as the input data for the program.

5. ComEd will evaluate the need for additional cooling capacity, such as additional cooling towers.

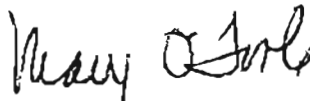
Environmental Impacts

On each day exceedences occurred, ComEd monitored the cooling pond, discharge canal and the Illinois River downstream of the discharge. No fish kills or other noticeable environmental impacts were observed. In addition, on July 22 and 23, and again on July 30, ComEd and its environmental consultants conducted extensive fish sampling activities and river temperature profiles upstream and directly downstream of the Dresden discharge. Again no observable impacts were noted.

* * * *

Please feel free to contact me should you require any additional information. We would be happy to meet with you to discuss these matters in further detail.

Very truly yours,



Mary O'Toole
Manager
Environmental Services

attachment

Commonwealth Edison Company
1411 Opus Place
Downers Grove, IL 60515-5701

DR
- Mayabod
~~Records~~
- Legal 2 Warrington

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OCT 13 1999

ComEd

October 8, 1999

VIA FACSIMILE/
CERTIFIED MAIL

Illinois Environmental Protection Agency
Bureau of Water, Compliance Assurance Section #19
Attention: Dan Ray
1021 North Grand Avenue East
P. O. Box 19276
Springfield, Illinois 62794-9276

Subject: Provisional Variance (PCB 00-18) Follow-Up Report for Dresden Nuclear Generating Station,
NPDES Permit No. IL0002224

Dear Mr. Ray:

In accordance with Condition No. 4 of the Board's Order in PCB 00-18, dated August 5, 1999, a weekly summary of continuous water temperature data records for the following locations is being submitted for the interval coinciding with the Provisional Variance period (July 30th through September 13th, 1999):

<u>Dresden Station Intake</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
July 30-31	89.18 °F.	90.50 °F.	92.69 °F.
August 1-7	81.95 °F.	85.61 °F.	89.25 °F.
August 8-14	77.97 °F.	80.81 °F.	83.20 °F.
August 15-21	76.15 °F.	79.53 °F.	81.67 °F.
August 22-28	76.30 °F.	78.64 °F.	82.73 °F.
August 29-September 4	77.76 °F.	80.93 °F.	85.92 °F.
September 5-11	76.09 °F.	80.90 °F.	84.90 °F.
September 12-13	75.54 °F.	77.54 °F.	79.71 °F.

<u>Dresden Station Discharge</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
July 30-31	92.25 °F.	93.61 °F.	95.80 °F.
August 1-7	88.88 °F.	90.67 °F.	92.60 °F.
August 8-14	83.85 °F.	87.73 °F.	89.90 °F.
August 15-21	83.75 °F.	87.21 °F.	89.45 °F.
August 22-28	86.50 °F.	88.35 °F.	90.60 °F.
August 29-September 4	85.17 °F.	88.08 °F.	90.60 °F.
September 5-11	82.67 °F.	86.54 °F.	90.30 °F.
September 12-13	83.48 °F.	84.90 °F.	85.84 °F.

Mr. Dan Ray
October 8, 1999
Page 2

<u>Dresden Lock and Dam</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
July 30-31	90.28 °F.	91.59 °F.	93.47 °F.
August 1-7	85.47 °F.	88.31 °F.	90.50 °F.
August 8-14	81.42 °F.	84.74 °F.	86.00 °F.
August 15-21	80.36 °F.	83.84 °F.	85.44 °F.
August 22-28	79.89 °F.	83.23 °F.	86.02 °F.
August 29-September 4	82.12 °F.	84.82 °F.	88.24 °F.
September 5-11	80.41 °F.	84.74 °F.	88.11 °F.
September 12-13	80.91 °F.	82.38 °F.	83.13 °F.

[The above data summary for all of the required monitoring locations was prepared by reviewing either circular or strip chart temperature records, or computer records from an in-place telemetry monitoring system (depending upon location). If required, complete copies of the actual temperature records for each location will be made available to the Agency for further review].

Inspections of the Dresden intake and discharge were also made during the Provisional Variance period, in accordance with requirements of the Board Order. These inspections did not identify any unusual or unexpected conditions for the duration of the variance period.

There were two extended excursion periods associated with the thermal discharge during the 1999 Indirect Open Cycle period at Dresden Station. These have been summarized in prior correspondence to the Agency dated July 28th and August 26th, 1999. A total of 400.2 allowable excursion hours were used this summer, including approximately 141.2 hours permitted under Provisional Variance (PCB 00-18).

If there are any questions concerning the above information and/or accompanying data, please contact me at (630) 663-5409.

Sincerely,



Julia P. Wozniak
Senior Biologist

Endvar99.doc

cc: Darin LeCrone, IEPA Industrial Permits Section
Matthew Wertman—IEPA Maywood Office

Commonwealth Edison Company
One First National Plaza
P.O. Box 767
Chicago, IL 60690-0767

DR

• Maywood (Westman)

• Roger Callaway

• Records

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JUL 29 1999

ComEd

July 28, 1999

Mr. Kenneth Rogers
Manager, Compliance Assurance Section
Division of Water Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Re: Follow up Report regarding July 23 - 24 Noncompliance Event
Dresden Station -- NPDES Permit No. IL0002224

Dear Mr Rogers:

In accordance with Standard Condition No. 12 and 40 CFR 122.141(m) and (n), Commonwealth Edison Company (ComEd) submits this Follow up report regarding the incident which occurred July 23 and 24, 1999 at the Dresden Station that caused the plant to exceed the maximum temperature limit contained in its NPDES permit. ComEd initially notified IEPA regarding this incident at about 9:30 am on July 24, by contacting IEPA Duty Officer, Jim O'Brien, and subsequently contacted Dan Ray, IEPA Compliance Assurance Section, and Mathew Wertman, IEPA Maywood Field Office, via facsimile. Dan Ray was also contacted by telephone on July 26 regarding this incident.

Late Friday evening, July 23, at about 10:00 pm, a severe storm in the Dresden area resulted in a lightening strike to the transmission line that provides the source of power for the Dresden Station cooling pond lift station. As a result, the station was forced to switch to emergency open cycle operation (bypassing the cooling pond), to prevent flooding and forced reactor shutdown. At the time of the incident, ComEd was experiencing severe demand for power on its system. There were no feasible alternatives to the bypass. Power was restored to the lift station by about 6:00 am on July 24, at which time the station resumed operations using the cooling pond. Water temperatures in the discharge canal (Outfall 002) reached 100.7 F. during the bypass event.

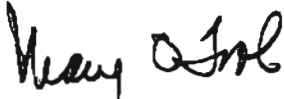
Station personnel surveyed the discharge area and did not observe any fish kills or other signs of adverse environmental impacts attributable to this relatively short elevated temperature event.

Prior to this event, the station experienced another incident during which blowdown temperatures exceeded the permitted 93 F. limit. As you may know, the Dresden Station relies upon a computer model to determine the power levels at which the station can operate and maintain compliance with thermal discharge limits. The model uses published meteorological forecasts to calculate the extent of cooling which will occur in the cooling pond during the three day retention

period. Last week, the forecasted parameters input into the model turned out to be significantly less severe than the conditions actually experienced. As a result, despite efforts by the station to rectify the situation (the station was derated by about 40% of its capacity), temperatures in the station discharge rose to 96 F. Additional information regarding this event will be provided along with the Discharge Monitoring Report.

If you have any questions regarding these matters, please feel free to contact me.

Very truly yours,



Mary O'Toole
Manager
Environmental Services

cc: D. Ray
M. Wertman

ComEd
P. O. Box 767
Chicago, Illinois 60690

DR

- Reg. 2 Whitman
- Records

urgent

f a c s i m i l e

To: Dan Ray--IEPA Compliance Assurance Section

Company:

Fax Number: +1 (217) 557-1407

Business Phone:

From: Julia Wozniak

Fax Number: +1 (630) 852-5766

Business Phone: (312) 394-4468

Home Phone: (630) 852-5766

Pages: 1

Date/Time: 7/24/99 9:50:30 AM

Subject: 24-Hour Notification of Unanticipated ByPass

Per Permit Standard Condition No. 12(e)(1), I am reporting that Dresden Station temporarily lost their cooling pond lift station at approx. 10pm on 7/23—due to a lightning strike—and were forced to go direct open cycle. During this time, the effluent temperature reached approx. 99.4 deg. F. The system was restored to normal operations by approx. 6am on 7/24. Station was already derated at the time of line failure, so thermal impact was mitigated to the extent possible. Station personnel will be checking for any adverse environmental impacts, but none are expected. I also notified the IEPA Duty Officer, Jim O'Brien, at approx. 9:20am on 7/24. I will call you on this on Monday. Written follow-up invoking the Upset Defense, will also be sent.

Julia Wozniak
ESD
ComEd

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October 21, 1998

CERTIFIED MAIL

Illinois Environmental Protection Agency
Mr. Thomas G. McSwiggin, P. E.
Manager, Permits Section
Bureau of Water
1021 North Grand Avenue East
P. O. Box 19276
Springfield, Illinois 62794-9276

Subject: Annual Temperature Data Submittal for Dresden Nuclear Generating Station,
NPDES Permit No. IL0002224

Dear Mr. McSwiggin:

In accordance with Dresden's NPDES permit Special Condition No. 2, Part F, Subsection 2, a monthly summary of continuous water temperature data records for the following locations is being submitted for the period coinciding with allowed indirect open cycle operation (15 June-30 September, 1998):

- (1) Dresden Island Lock and Dam
- (2) Dresden Station Circulating Water Intake (Kankakee River)
- (3) Joliet Station #9 Intake
- (4) Joliet Station #29 Intake
- (5) I-55 Bridge

Dresden operating data for the June through September period is also being included, for informational purposes.

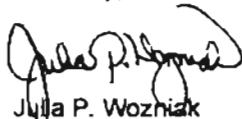
There were no noncompliances related to thermal compliance during the 1998 Indirect Open Cycle period at Dresden Station. A total of 418.8 allowable excursion hours of discharge temperatures between 90 °F and 93 °F were used this summer, including approximately 159.8 of the 259 allotted by Provisional Variance (PCB 98-17). Another Provisional Variance was obtained (PCB 98-39) in order to provide sufficient extra excursion hours to last the remainder of the summer period, but due to an abrupt change in weather conditions in early September, these additional hours were not required to be used.

October 21, 1998
Mr. Thomas G. McSwiggin, P.E.
Page 2

The accompanying data summary for all of the required monitoring locations were prepared by reviewing either circular or strip chart temperature records, or computer records from an in-place telemetry monitoring system (depending upon location). (if required, complete copies of the actual temperature records for each location will be made available to the Agency for further review).

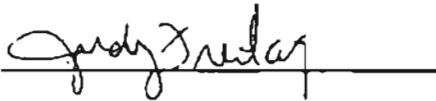
If there are any questions concerning the above information and/or accompanying data, please contact me at (312) 394-4468.

Sincerely,



Julia P. Wozniak
Senior Biologist

Approved: _____



Endof98.doc
Attachments

cc: Darin LeCrone, IEPA Industrial Permits Section
Daniel Ray, IEPA Compliance Assurance Section
Matthew Wertman—IEPA Maywood Office

bcc: J. M. Heffley
P. D. Swafford
P. J. Boyle
E. J. Rowley
D. A. Hamilton
D. R. Rink
File: W-12-PER-H2

Thermal data during Dresden's allowed indirect open cycle period:

The following table summarizes the data for the period of 1998 that Dresden is allowed to operate on indirect open cycle:

Sample Point	Minimum	Average	Maximum
Dresden Station Intake			
June 15-30	68.13 °F.	76.22 °F.	84.45 °F.
July 1-31	73.63 °F.	78.92 °F.	85.38 °F.
August 1-31	73.25 °F.	79.63 °F.	85.63 °F.
September 1-30	72.81 °F.	77.33 °F.	82.12 °F.
Dresden Station Discharge			
June 15-30	84.04 °F.	87.36 °F.	92.09 °F.
July 1-31	86.88 °F.	89.66 °F.	92.87 °F.
August 1-31	86.35 °F.	89.56 °F.	92.03 °F.
September 1-30	83.44 °F.	87.02 °F.	91.31 °F.
Dresden Lock and Dam			
June 15-30	70.38 °F.	80.50 °F.	84.45 °F.
July 1-31	77.94 °F.	84.24 °F.	85.38 °F.
August 1-31	78.15 °F.	85.04 °F.	85.63 °F.
September 1-30	78.56 °F.	83.38 °F.	82.12 °F.
Joliet #9 Intake			
June 1-30	N/A*	77 °F	88 °F
July 1-31	N/A*	83 °F	89 °F
August 1-31	N/A*	82 °F	90 °F
September 1-30	N/A*	82 °F	84 °F
Joliet #29 Intake			
June 1-30	N/A*	79 °F	90 °F
July 1-31	N/A*	81 °F	101 °F
August 1-31	N/A*	79 °F	98 °F
September 1-30	N/A*	75 °F	98 °F
I-55 Bridge			
June 1-30	N/A*	81.3 °F	92 °F
July 1-31	N/A*	87.0 °F	92 °F
August 1-31	N/A*	85.9 °F	92 °F
September 1-30	N/A*	84.1 °F	89.8 °F

(* Reports from which data was taken only list average and maximum values)

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
1/1/2006	56.9	61.0	48.5	51.5	53.7	55.1
1/2/2006	58.8	63.8	48.9	50.7	54.6	55.0
1/3/2006	63.1	67.4	51.8	53.5	53.6	55.3
1/4/2006	61.6	65.0	50.5	52.4	54.4	56.2
1/5/2006	62.4	67.4	51.4	54.0	54.0	55.5
1/6/2006	59.6	61.6	48.3	50.3	75.9	54.8
1/7/2006	63.2	64.4	51.1	53.2	52.9	54.5
1/8/2006	58.1	63.8	50.3	52.9	53.3	56.2
1/9/2006	63.2	68.9	52.9	56.0	55.1	56.9
1/10/2006	59.6	63.3	51.6	54.0	54.0	55.5
1/11/2006	62.4	67.5	52.7	56.8	56.8	57.8
1/12/2006	63.5	67.8	54.1	56.6	55.2	56.8
1/13/2006	62.8	66.3	52.5	54.1	57.0	58.2
1/14/2006	61.9	67.1	51.7	54.2	54.3	56.7
1/15/2006	61.5	65.2	50.7	51.4	53.9	56.3
1/16/2006	59.0	64.3	49.7	51.5	53.8	55.8
1/17/2006	61.6	64.8	50.9	52.5	52.1	53.2
1/18/2006	63.8	71.6	52.6	59.2	51.2	53.3
1/19/2006	63.1	70.7	53.3	58.0	52.3	55.3
1/20/2006	60.9	64.3	54.0	57.3	57.1	59.2
1/21/2006	59.6	65.1	51.8	56.0	54.3	55.8
1/22/2006	54.4	59.0	47.9	50.6	53.6	55.3
1/23/2006	57.9	64.1	48.6	52.2	50.0	51.6
1/24/2006	56.9	61.0	48.6	49.7	49.7	52.1
1/25/2006	58.5	63.4	48.1	48.8	48.7	50.7
1/26/2006	59.0	63.4	48.9	49.8	51.1	53.4
1/27/2006	59.0	64.5	50.9	53.0	53.2	53.8
1/28/2006	59.2	61.0	52.4	54.1	54.2	55.4
1/29/2006	59.4	61.8	52.5	55.1	55.0	56.7
1/30/2006	56.7	59.4	49.6	51.3	52.3	53.4
1/31/2006	60.2	64.5	51.0	52.8	51.1	52.9

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
12/1/2005	65.1	67.4	54.1	56.5	54.7	55.7
12/2/2005	64.8	69.2	52.5	55.7	53.9	55.7
12/3/2005	64.1	72.2	54.1	58.3	55.1	55.5
12/4/2005	66.3	70.9	53.9	57.0	55.0	55.7
12/5/2005	66.8	69.9	55.1	56.9	55.4	56.3
12/6/2005	68.1	76.2	57.2	65.0	75.9	55.1
12/7/2005	67.4	73.6	53.4	58.4	52.6	53.4
12/8/2005	66.4	67.9	52.7	55.2	54.2	55.4
12/9/2005	67.6	71.7	54.3	58.0	54.3	54.8
12/10/2005	66.8	69.2	53.8	56.7	53.6	54.4
12/11/2005	71.5	75.0	57.0	63.3	53.5	54.1
12/12/2005	65.6	72.5	50.8	56.1	54.9	57.2
12/13/2005	68.6	71.5	55.2	58.5	58.4	59.4
12/14/2005	66.0	70.4	53.5	58.0	56.7	57.9
12/15/2005	66.7	69.9	54.6	57.3	58.2	59.2
12/16/2005	64.6	67.2	53.7	56.0	56.5	57.6
12/17/2005	60.6	67.0	52.2	54.4	54.9	56.1
12/18/2005	64.6	66.6	51.8	53.9	53.4	54.6
12/19/2005	66.0	73.9	53.3	58.4	50.6	52.0
12/20/2005	60.7	69.2	51.1	56.0	51.0	51.2
12/21/2005	68.0	74.5	53.9	60.3	51.7	52.5
12/22/2005	65.1	68.8	53.4	57.3	51.6	54.3
12/23/2005	65.0	69.3	54.8	58.9	55.0	55.8
12/24/2005	58.5	61.5	51.4	55.0	56.1	57.9
12/25/2005	57.6	60.1	49.8	52.9	55.7	57.9
12/26/2005	57.4	62.3	46.9	48.1	52.5	54.1
12/27/2005	58.4	63.2	46.6	49.5	51.2	52.0
12/28/2005	61.6	65.4	48.6	50.5	52.7	54.0
12/29/2005	62.9	68.3	50.6	54.4	53.2	54.3
12/30/2005	61.9	65.0	50.1	51.3	55.0	56.7
12/31/2005	60.1	64.0	51.0	52.0	54.8	56.0

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
11/1/2005	75.6	79.3	65.2	66.5	67.1	68.4
11/2/2005	75.7	82.5	66.0	68.4	68.6	69.5
11/3/2005	75.6	80.8	67.8	71.8	67.6	68.4
11/4/2005	77.2	81.7	68.9	74.7	67.2	68.2
11/5/2005	72.8	75.1	66.1	68.1	69.3	72.2
11/6/2005	72.9	74.4	65.6	68.6	75.9	72.2
11/7/2005	69.1	70.2	61.7	63.3	67.2	67.6
11/8/2005	69.1	72.0	62.5	64.6	67.4	68.2
11/9/2005	71.0	73.3	64.4	66.1	65.2	67.6
11/10/2005	73.4	80.1	64.4	69.5	64.3	65.2
11/11/2005	76.7	79.8	62.1	64.5	64.6	65.7
11/12/2005	79.6	82.1	65.7	68.1	66.5	67.4
11/13/2005	74.9	80.7	63.4	67.5	65.6	66.6
11/14/2005	73.3	78.5	64.4	68.3	65.8	66.4
11/15/2005	72.6	75.4	60.5	63.8	64.5	65.3
11/16/2005	72.0	75.9	59.3	60.6	59.4	64.5
11/17/2005	71.3	75.3	57.4	60.0	56.2	57.6
11/18/2005	72.7	76.5	58.3	60.2	59.1	59.9
11/19/2005	74.2	78.9	61.4	65.5	60.1	60.5
11/20/2005	68.0	72.7	59.0	61.3	60.8	61.5
11/21/2005	73.8	79.5	61.2	64.5	62.2	63.0
11/22/2005	75.5	80.5	61.4	65.9	60.6	61.8
11/23/2005	69.6	75.4	57.7	60.9	61.8	62.7
11/24/2005	67.8	72.5	57.6	60.6	60.2	62.3
11/25/2005	74.3	82.4	61.4	70.9	56.6	57.5
11/26/2005	71.4	82.2	58.8	72.0	56.0	57.1
11/27/2005	66.8	75.6	58.1	62.5	61.9	64.6
11/28/2005	69.1	73.4	59.1	61.8	63.2	64.3
11/29/2005	66.0	68.0	53.9	58.3	59.3	62.5
11/30/2005	62.0	67.4	51.2	53.9	55.6	56.3

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
10/1/2005	77.8	79.2	70.7	72.0	72.8	73.4
10/2/2005	81.2	86.7	72.3	74.3	74.2	75.2
10/3/2005	85.7	90.8	73.9	76.5	76.1	76.9
10/4/2005	85.8	88.9	74.1	75.7	78.9	82.3
10/5/2005	89.4	91.8	75.4	76.1	79.6	80.4
10/6/2005	86.9	89.3	73.8	74.9	75.9	79.8
10/7/2005	83.9	86.4	72.0	73.4	75.9	78.1
10/8/2005	81.8	83.9	69.9	70.5	73.4	74.5
10/9/2005	77.6	82.0	69.5	71.0	73.1	73.6
10/10/2005	82.0	86.0	70.1	71.9	72.0	72.7
10/11/2005	84.0	86.5	71.3	71.9	73.0	74.8
10/12/2005	86.2	89.4	73.2	74.3	75.2	76.1
10/13/2005	86.0	89.9	73.7	76.5	77.3	78.7
10/14/2005	86.9	93.4	74.1	77.3	77.8	78.7
10/15/2005	85.3	89.4	73.2	76.3	78.0	78.7
10/16/2005	84.1	92.1	73.6	77.9	77.3	78.8
10/17/2005	85.0	90.3	73.4	75.0	76.4	77.2
10/18/2005	85.2	89.5	73.6	76.5	76.1	77.1
10/19/2005	83.4	87.1	72.4	74.5	76.5	77.3
10/20/2005	79.1	83.3	70.7	73.0	75.1	76.4
10/21/2005	79.1	84.1	70.6	74.3	73.6	74.5
10/22/2005	78.2	80.0	70.0	70.8	71.6	72.4
10/23/2005	75.7	78.0	68.9	71.0	70.2	70.8
10/24/2005	75.7	81.2	67.9	69.1	70.2	71.0
10/25/2005	77.3	81.2	66.0	68.6	69.7	71.4
10/26/2005	76.9	81.1	64.6	69.5	68.0	69.9
10/27/2005	77.1	81.5	66.1	69.6	71.2	72.6
10/28/2005	77.6	84.1	66.9	70.9	69.7	70.9
10/29/2005	78.7	81.2	67.6	72.9	70.8	71.5
10/30/2005	73.8	77.2	65.6	68.6	69.7	70.1
10/31/2005	75.3	75.3	67.2	67.2	69.3	69.3

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
9/1/2005	95.9	99.9	85.0	85.9	86.2	87.6
9/2/2005	91.0	96.9	83.0	84.0	61.0	86.5
9/3/2005	90.0	93.4	83.5	85.5	83.9	85.3
9/4/2005	89.7	92.1	83.2	84.3	84.4	86.0
9/5/2005	86.3	90.0	80.9	81.9	84.8	86.5
9/6/2005	85.8	91.8	81.2	83.5	75.9	84.8
9/7/2005	89.0	91.3	81.7	82.9	84.2	86.4
9/8/2005	92.9	98.7	81.7	82.8	85.4	87.2
9/9/2005	92.4	97.4	81.6	84.1	85.8	87.3
9/10/2005	93.0	98.4	82.8	85.3	85.6	87.3
9/11/2005	93.3	97.9	84.0	85.3	85.6	87.2
9/12/2005	94.4	97.8	84.1	84.7	85.6	86.6
9/13/2005	94.2	97.1	84.5	85.6	85.3	86.3
9/14/2005	94.3	97.0	84.3	85.4	85.4	86.6
9/15/2005	92.6	96.2	82.9	84.2	84.9	86.2
9/16/2005	92.1	96.8	80.9	82.2	82.6	83.4
9/17/2005	88.0	91.3	80.0	81.2	83.1	83.9
9/18/2005	86.8	89.3	78.8	79.8	82.5	83.2
9/19/2005	87.8	92.6	77.0	77.8	80.9	81.8
9/20/2005	89.2	94.9	78.7	81.2	81.8	84.2
9/21/2005	90.2	94.3	79.1	80.3	83.2	84.9
9/22/2005	91.6	95.2	79.8	81.0	83.9	85.5
9/23/2005	88.7	92.3	78.1	79.1	82.2	82.9
9/24/2005	84.9	87.8	79.0	80.6	81.3	82.6
9/25/2005	86.7	92.4	78.3	78.6	81.3	82.4
9/26/2005	88.9	93.1	77.8	79.8	80.8	82.1
9/27/2005	87.5	94.5	77.7	80.7	81.0	83.8
9/28/2005	86.5	90.4	75.8	76.5	79.2	81.2
9/29/2005	81.9	85.0	74.5	75.5	75.5	76.3
9/30/2005	79.1	80.6	71.7	73.2	74.2	76.2

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
8/1/2005	97.0	101.5	86.2	88.5	89.3	90.7
8/2/2005	97.6	102.0	87.1	89.1	61.0	90.5
8/3/2005	101.0	103.3	89.9	91.0	89.1	89.9
8/4/2005	98.5	101.0	87.7	89.3	88.7	89.8
8/5/2005	98.8	102.5	88.6	89.9	89.0	90.0
8/6/2005	97.4	101.6	89.0	90.2	75.9	90.6
8/7/2005	97.7	102.7	88.6	90.0	89.1	90.7
8/8/2005	99.6	103.4	89.2	90.5	89.8	91.1
8/9/2005	98.4	102.6	89.6	91.2	90.3	92.1
8/10/2005	97.4	100.1	90.3	93.4	91.4	92.9
8/11/2005	98.7	101.3	89.3	90.6	89.4	92.1
8/12/2005	97.4	99.9	86.3	88.3	88.2	89.3
8/13/2005	97.0	99.9	86.1	87.3	87.9	89.2
8/14/2005	93.5	97.8	84.3	87.3	86.6	88.0
8/15/2005	93.7	98.1	83.0	84.8	85.5	86.9
8/16/2005	95.3	99.8	84.9	86.2	87.0	88.9
8/17/2005	96.3	99.6	85.7	87.1	89.0	90.7
8/18/2005	96.5	99.9	85.8	86.9	88.6	89.8
8/19/2005	97.5	99.9	86.5	87.6	88.8	90.0
8/20/2005	96.2	99.1	85.7	89.2	88.2	89.8
8/21/2005	94.2	100.2	84.0	86.2	86.5	88.4
8/22/2005	92.3	95.9	82.4	83.5	85.5	87.5
8/23/2005	90.0	93.4	80.4	81.4	83.9	85.1
8/24/2005	91.0	95.5	81.2	82.7	84.0	85.2
8/25/2005	88.2	91.3	81.0	81.9	84.7	86.3
8/26/2005	89.2	90.9	82.3	83.1	85.5	86.3
8/27/2005	90.4	92.6	83.4	84.9	86.4	87.9
8/28/2005	91.8	94.9	84.9	86.2	88.0	89.3
8/29/2005	91.7	92.8	85.3	86.9	88.7	90.8
8/30/2005	91.2	92.9	84.5	85.4	87.7	89.1
8/31/2005	91.6	95.5	84.8	85.5	85.5	86.6

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 855 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
7/1/2005	88.5	92.5	87.1	88.1	87.9	89.6
7/2/2005	91.3	94.0	85.2	87.3	61.0	87.3
7/3/2005	92.2	95.6	85.1	87.7	87.3	89.1
7/4/2005	92.9	94.8	85.9	87.1	87.5	88.7
7/5/2005	95.5	100.2	86.2	88.9	88.0	89.0
7/6/2005	96.0	101.7	86.4	88.7	75.9	90.3
7/7/2005	95.1	99.8	85.3	88.6	87.6	88.9
7/8/2005	94.8	99.8	85.0	87.0	87.1	88.6
7/9/2005	95.6	101.2	86.6	91.5	88.3	90.0
7/10/2005	97.3	103.2	87.5	90.1	89.2	90.9
7/11/2005	97.2	100.7	87.0	88.8	89.4	90.6
7/12/2005	97.1	100.2	86.5	88.5	88.3	89.9
7/13/2005	98.2	103.1	87.6	90.8	87.7	88.8
7/14/2005	97.5	101.3	86.9	89.0	88.8	90.7
7/15/2005	99.4	102.4	88.2	89.5	90.1	91.0
7/16/2005	97.9	102.1	88.0	89.8	90.8	92.4
7/17/2005	96.2	100.0	88.5	90.8	91.7	92.4
7/18/2005	91.1	98.2	88.2	89.8	89.7	91.4
7/19/2005	89.0	92.2	88.9	90.8	88.0	89.0
7/20/2005	91.0	94.3	88.7	90.2	86.4	87.5
7/21/2005	95.8	99.8	88.6	90.1	87.0	88.5
7/22/2005	93.4	100.1	89.1	90.9	89.4	91.3
7/23/2005	97.4	100.1	89.1	90.3	89.3	90.3
7/24/2005	97.9	101.9	90.3	92.1	89.3	91.3
7/25/2005	91.9	100.2	89.2	89.9	89.1	90.3
7/26/2005	92.5	97.2	90.1	91.6	87.5	89.4
7/27/2005	94.7	96.6	85.5	89.8	87.0	88.1
7/28/2005	94.1	98.9	84.1	86.9	84.7	86.4
7/29/2005	93.9	98.6	84.1	85.7	85.4	87.0
7/30/2005	93.2	99.4	85.5	87.6	87.2	89.3
7/31/2005	96.5	99.8	86.8	87.4	88.4	89.8

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
5/1/2005	67.5	67.9	65.5	68.7	61.1	62.3
5/2/2005	66.7	67.1	60.7	66.8	61.0	61.3
5/3/2005	64.8	68.2	57.2	59.2	59.7	61.5
5/4/2005	67.5	71.6	59.1	62.4	62.2	63.8
5/5/2005	69.9	73.5	60.7	63.1	64.3	65.9
5/6/2005	71.1	74.5	62.2	63.9	75.9	68.5
5/7/2005	70.9	75.1	63.2	65.4	68.2	70.0
5/8/2005	70.8	75.8	64.4	66.9	69.5	70.2
5/9/2005	74.5	78.6	65.8	67.6	69.9	70.5
5/10/2005	72.3	75.2	67.6	69.9	71.7	75.6
5/11/2005	73.1	74.9	68.4	69.7	71.8	73.5
5/12/2005	70.3	71.2	65.9	67.2	67.8	69.2
5/13/2005	72.4	76.8	65.7	67.0	67.3	69.9
5/14/2005	73.7	77.6	66.1	67.8	68.2	70.2
5/15/2005	72.7	75.4	66.1	67.1	67.6	69.6
5/16/2005	72.3	76.9	64.7	66.0	66.9	68.9
5/17/2005	72.2	77.7	64.6	66.9	69.1	70.4
5/18/2005	70.5	72.7	65.7	67.5	69.6	70.9
5/19/2005	71.2	72.7	66.3	67.1	69.5	71.0
5/20/2005	71.6	73.2	66.5	67.5	68.1	68.8
5/21/2005	73.4	78.1	66.8	67.4	68.7	69.6
5/22/2005	76.0	79.1	67.0	68.0	69.9	72.6
5/23/2005	77.5	80.5	67.9	69.8	70.3	71.9
5/24/2005	77.2	80.2	68.4	70.2	72.3	74.2
5/25/2005	76.5	79.7	68.8	70.8	72.5	73.8
5/26/2005	78.1	82.3	69.8	72.6	73.5	75.7
5/27/2005	78.4	81.6	70.0	71.8	73.2	74.2
5/28/2005	73.1	77.1	71.2	73.6	73.6	74.4
5/29/2005	71.7	73.9	70.0	72.1	73.5	74.4
5/30/2005	77.3	83.2	70.0	72.2	74.5	76.5
5/31/2005	77.1	83.7	71.9	74.6	75.3	76.6

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
7/1/2004	91.6	94.9	78.7	79.7	83.3	86.3
7/2/2004	90.8	95.4	79.4	80.8	85.4	87.5
7/3/2004	93.3	96.3	80.9	81.9	85.2	86.8
7/4/2004	91.0	94.4	79.2	80.4	81.9	84.3
7/5/2004	91.9	95.8	79.7	81.7	83.1	86.4
7/6/2004	89.5	92.8	78.1	79.2	82.5	84.1
7/7/2004	85.8	89.6	77.5	78.9	80.3	82.8
7/8/2004	86.5	92.2	77.0	78.6	79.4	81.1
7/9/2004	87.0	90.3	77.8	78.8	81.0	82.7
7/10/2004	85.8	89.2	77.0	78.6	80.7	81.9
7/11/2004	88.8	92.6	78.2	78.9	81.8	83.3
7/12/2004	88.7	91.7	78.8	80.1	83.2	85.7
7/13/2004	92.0	97.7	80.5	82.2	84.4	86.6
7/14/2004	92.3	95.9	79.6	80.6	84.4	86.3
7/15/2004	93.5	96.8	81.9	83.2	85.3	87.1
7/16/2004	94.8	97.5	82.3	82.9	86.5	87.8
7/17/2004	93.0	98.9	81.9	82.7	86.0	87.2
7/18/2004	88.9	91.7	81.8	83.3	85.4	87.3
7/19/2004	89.9	91.9	81.9	83.5	85.5	87.2
7/20/2004	95.6	99.9	83.3	85.0	87.0	88.9
7/21/2004	95.6	97.6	83.5	84.3	88.1	89.2
7/22/2004	94.4	97.1	83.1	84.6	87.0	88.3
7/23/2004	93.6	96.3	81.6	83.4	84.9	86.8
7/24/2004	88.2	89.6	81.3	82.4	83.9	85.0
7/25/2004	88.0	90.8	80.1	81.2	82.9	83.9
7/26/2004	90.8	95.4	79.6	80.2	83.2	84.2
7/27/2004	88.9	92.5	79.4	80.7	83.9	85.4
7/28/2004	90.8	96.0	79.3	81.0	84.4	86.9
7/29/2004	90.1	94.8	78.8	80.3	84.4	86.1
7/30/2004	89.9	94.4	79.1	79.7	83.6	84.3
7/31/2004	90.4	95.3	80.7	82.7	84.0	85.8

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6/1/2004	75.6	80.3	66.3	67.4	67.1	68.5
6/2/2004	75.9	80.2	65.7	66.8	67.8	68.4
6/3/2004	79.0	81.7	66.9	67.9	68.6	70.4
6/4/2004	77.6	81.1	67.2	69.0	69.9	71.6
6/5/2004	80.6	83.6	69.3	70.6	71.9	74.0
6/6/2004	81.8	86.1	71.2	72.1	73.9	75.8
6/7/2004	84.6	88.9	72.7	74.6	76.0	78.0
6/8/2004	88.0	91.7	75.7	77.2	79.4	82.0
6/9/2004	88.3	90.8	77.3	78.1	81.9	83.2
6/10/2004	84.2	86.3	75.3	76.9	80.2	82.3
6/11/2004	85.4	87.4	75.9	76.4	78.2	79.3
6/12/2004	84.8	88.8	73.5	75.8	74.1	79.1
6/13/2004	85.0	88.4	72.9	73.6	74.6	75.6
6/14/2004	83.7	86.0	73.4	74.5	74.9	76.2
6/15/2004	84.9	88.5	74.7	75.7	75.9	76.8
6/16/2004	86.9	90.8	75.1	75.8	76.6	77.6
6/17/2004	89.0	91.3	75.5	76.3	79.1	81.1
6/18/2004	86.4	90.3	75.7	76.3	79.8	80.9
6/19/2004	82.5	83.8	74.7	75.7	77.8	79.3
6/20/2004	81.7	84.2	74.5	75.5	76.7	77.8
6/21/2004	83.5	87.8	73.7	74.6	76.4	77.3
6/22/2004	83.6	88.6	74.0	74.8	76.0	77.6
6/23/2004	84.1	88.8	74.7	75.0	77.1	78.8
6/24/2004	81.7	84.5	73.7	74.3	76.6	77.7
6/25/2004	80.8	84.9	73.7	75.0	76.7	79.1
6/26/2004	84.7	87.1	74.3	75.3	78.5	81.1
6/27/2004	83.8	86.8	74.3	75.1	78.6	80.6
6/28/2004	84.2	91.2	74.4	75.6	78.7	80.1
6/29/2004	85.6	91.1	75.7	77.5	79.7	81.3
6/30/2004	89.4	94.5	77.1	79.1	81.3	84.7

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
5/1/2004	67.8	72.4	63.2	65.0	67.7	69.3
5/2/2004	65.9	67.1	62.5	64.0	64.2	65.6
5/3/2004	70.4	74.0	63.8	66.2	63.5	67.0
5/4/2004	70.5	73.6	63.2	65.2	65.0	67.3
5/5/2004	69.3	72.0	66.4	69.7	66.9	69.8
5/6/2004	70.1	73.6	68.6	71.1	70.1	72.9
5/7/2004	69.3	70.7	68.2	70.2	71.7	72.8
5/8/2004	69.8	73.0	69.0	72.2	70.3	73.8
5/9/2004	71.8	75.4	71.0	74.4	73.8	77.3
5/10/2004	74.8	78.4	73.0	76.3	75.0	76.6
5/11/2004	78.7	83.7	72.3	76.7	77.6	80.7
5/12/2004	83.4	89.8	72.0	74.4	77.8	80.3
5/13/2004	84.7	93.2	72.5	73.6	78.4	80.0
5/14/2004	80.7	83.1	70.7	72.6	72.4	79.3
5/15/2004	76.8	80.5	68.1	69.2	69.0	69.8
5/16/2004	76.3	80.1	67.0	68.5	69.4	71.5
5/17/2004	79.5	84.1	67.3	68.4	70.2	71.6
5/18/2004	76.8	80.4	67.3	68.3	70.5	72.1
5/19/2004	77.6	82.4	67.4	70.2	69.4	70.6
5/20/2004	81.5	85.5	69.4	70.9	72.2	73.5
5/21/2004	81.5	84.4	70.2	71.0	74.2	75.7
5/22/2004	79.9	82.8	70.8	72.4	73.3	75.7
5/23/2004	79.6	83.3	70.1	72.5	72.4	74.0
5/24/2004	78.4	82.1	68.0	68.9	70.8	71.3
5/25/2004	74.9	79.2	66.9	68.2	69.4	70.4
5/26/2004	73.9	75.5	66.4	67.4	68.8	70.0
5/27/2004	73.5	75.0	66.4	67.3	69.8	71.3
5/28/2004	75.8	79.0	66.4	67.2	69.6	70.4
5/29/2004	74.1	76.8	65.7	66.9	68.7	69.7
5/30/2004	74.3	77.2	66.4	67.8	67.9	68.9
5/31/2004	73.9	76.0	66.7	67.5	66.8	67.5

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
4/1/2004	68.2	69.6	56.9	58.1	57.0	58.7
4/2/2004	67.3	68.4	56.7	57.7	57.5	59.3
4/3/2004	64.8	68.4	56.4	57.7	57.7	59.3
4/4/2004	65.6	67.2	55.0	55.7	56.8	58.4
4/5/2004	66.8	68.6	56.2	57.3	56.9	58.5
4/6/2004	70.1	72.6	59.2	61.2	58.5	61.8
4/7/2004	67.6	70.3	57.9	59.4	61.1	63.6
4/8/2004	69.2	71.0	59.1	60.6	60.6	62.8
4/9/2004	70.9	73.0	59.7	61.3	60.9	62.5
4/10/2004	72.7	74.5	60.2	61.7	62.4	63.2
4/11/2004	69.5	72.1	59.1	61.3	62.8	64.6
4/12/2004	71.6	73.3	58.1	59.4	60.9	63.1
4/13/2004	70.4	74.1	57.4	59.2	59.8	60.7
4/14/2004	71.0	75.9	59.1	64.7	62.9	66.5
4/15/2004	75.3	80.1	63.2	66.8	66.7	68.2
4/16/2004	75.0	77.6	63.4	65.5	68.6	71.5
4/17/2004	77.4	79.8	65.3	67.3	72.1	75.8
4/18/2004	78.7	80.4	66.8	70.0	72.5	74.8
4/19/2004	74.8	78.1	66.8	69.9	71.1	72.5
4/20/2004	75.9	77.8	65.1	66.6	70.4	71.7
4/21/2004	67.8	72.5	64.8	65.9	68.3	70.8
4/22/2004	67.8	69.0	62.7	63.8	66.4	67.7
4/23/2004	68.4	70.6	63.8	65.2	64.4	65.8
4/24/2004	68.9	69.9	64.1	64.8	64.6	65.9
4/25/2004	68.5	71.5	62.7	63.7	63.6	64.0
4/26/2004	70.8	73.2	62.8	64.0	62.8	64.5
4/27/2004	71.2	74.6	62.9	64.7	64.4	65.6
4/28/2004	72.7	76.1	64.1	66.0	66.0	68.0
4/29/2004	73.5	77.1	65.1	66.4	66.7	68.4
4/30/2004	73.2	76.0	65.4	66.7	69.0	70.1

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
3/1/2004	57.6	58.6	52.0	53.0	53.5	54.5
3/2/2004	61.8	65.2	52.3	53.1	53.6	53.9
3/3/2004	60.5	63.5	51.8	52.7	53.7	54.9
3/4/2004	62.1	65.0	53.1	54.5	54.0	54.5
3/5/2004	62.4	64.3	52.6	53.6	52.8	54.1
3/6/2004	59.3	61.4	49.5	51.0	51.0	51.8
3/7/2004	56.6	59.2	47.8	49.3	49.0	50.1
3/8/2004	57.1	59.0	46.7	47.2	47.7	48.1
3/9/2004	57.8	61.5	47.2	49.8	48.1	48.2
3/10/2004	56.4	60.5	47.6	49.3	48.5	49.0
3/11/2004	54.9	59.1	46.8	48.7	48.4	49.0
3/12/2004	54.2	57.0	44.4	47.2	46.6	47.3
3/13/2004	57.6	61.0	47.9	48.9	46.9	47.6
3/14/2004	56.4	59.7	48.4	49.4	48.9	49.7
3/15/2004	57.2	59.5	47.3	49.7	49.3	49.6
3/16/2004	55.8	57.5	45.3	46.2	49.2	63.2
3/17/2004	56.4	60.2	47.4	48.5	47.8	48.5
3/18/2004	60.4	61.3	49.2	50.8	49.3	50.6
3/19/2004	52.4	56.4	48.8	50.7	51.2	52.9
3/20/2004	57.2	58.8	52.0	54.1	51.9	54.0
3/21/2004	55.1	57.6	49.4	51.0	51.6	53.3
3/22/2004	55.5	57.7	50.7	52.5	51.1	52.5
3/23/2004	60.3	65.3	53.9	56.0	52.4	54.9
3/24/2004	62.6	66.4	55.1	55.9	54.8	57.2
3/25/2004	61.6	63.8	55.1	56.6	56.5	57.1
3/26/2004	62.7	63.8	56.7	58.0	57.2	58.3
3/27/2004	62.5	63.8	57.4	58.9	58.2	59.0
3/28/2004	63.8	64.4	59.2	60.1	59.1	60.7
3/29/2004	63.3	64.1	58.7	59.6	58.9	60.3
3/30/2004	63.7	64.3	58.8	59.9	58.3	59.9
3/31/2004	66.6	69.6	56.4	58.1	56.8	57.8

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
11/1/2003	73.6	76.4	63.8	65.1	68.8	69.5
11/2/2003	71.7	75.6	63.6	64.7	68.1	69.7
11/3/2003	75.3	76.8	61.7	62.5	64.8	66.3
11/4/2003	75.5	78.5	62.4	64.1	64.7	65.7
11/5/2003	72.2	74.4	60.2	63.0	63.5	65.5
11/6/2003	70.4	73.0	58.3	59.1	60.3	61.3
11/7/2003	67.8	71.5	56.6	57.6	58.4	60.1
11/8/2003	65.4	66.8	52.7	55.4	57.6	58.0
11/9/2003	65.2	69.0	54.6	55.6	56.5	58.0
11/10/2003	66.9	71.8	55.4	57.8	57.7	59.2
11/11/2003	66.4	69.6	55.6	58.3	58.6	60.5
11/12/2003	69.5	71.5	56.7	58.4	60.5	61.5
11/13/2003	67.2	70.8	55.6	57.5	59.2	60.8
11/14/2003	67.2	68.4	53.9	55.3	57.2	60.5
11/15/2003	69.0	72.0	56.7	59.5	59.7	60.7
11/16/2003	67.8	72.7	57.0	62.9	59.0	61.1
11/17/2003	69.1	72.1	57.4	59.0	62.5	64.2
11/18/2003	67.8	69.4	58.5	60.3	61.0	65.5
11/19/2003	67.9	69.8	57.1	59.9	57.8	58.4
11/20/2003	67.9	68.8	55.5	56.0	56.7	57.8
11/21/2003	68.0	69.3	55.1	56.0	57.4	58.1
11/22/2003	67.7	69.1	55.1	55.9	57.9	59.2
11/23/2003	67.0	70.5	57.0	58.1	58.7	60.0
11/24/2003	66.7	68.2	54.1	56.3	54.7	59.5
11/25/2003	64.8	65.9	51.7	52.6	52.6	53.1
11/26/2003	61.4	63.8	50.4	51.8	53.4	55.0
11/27/2003	62.4	63.9	51.5	53.0	54.8	55.8
11/28/2003	60.4	63.2	50.2	53.0	52.5	54.3
11/29/2003	58.4	62.5	49.2	51.8	52.1	52.8
11/30/2003	59.6	62.2	50.9	52.0	50.9	51.7

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
10/1/2003	77.7	82.2	66.6	69.6	68.8	69.6
10/2/2003	80.3	85.8	68.5	74.1	69.5	70.3
10/3/2003	77.8	81.6	65.6	68.3	69.9	70.5
10/4/2003	76.8	80.0	66.3	68.6	70.1	70.6
10/5/2003	75.3	77.6	65.5	67.2	69.6	70.6
10/6/2003	77.2	80.8	65.9	68.9	70.7	71.6
10/7/2003	78.8	83.0	67.3	69.8	70.8	71.9
10/8/2003	76.7	80.9	69.6	73.2	72.9	74.6
10/9/2003	75.8	79.5	68.2	71.4	73.9	74.3
10/10/2003	75.3	78.5	68.5	72.0	74.5	75.6
10/11/2003	75.5	78.3	67.0	69.8	74.5	75.2
10/12/2003	75.4	78.7	67.4	70.4	73.2	73.9
10/13/2003	81.6	87.4	69.1	72.9	71.3	73.0
10/14/2003	80.8	83.7	67.8	70.2	71.6	74.4
10/15/2003	79.6	83.1	68.3	70.2	70.4	70.9
10/16/2003	72.8	74.4	65.7	67.5	71.5	73.5
10/17/2003	71.7	73.3	65.4	66.8	69.4	71.2
10/18/2003	71.6	73.8	65.0	66.7	69.2	69.9
10/19/2003	73.1	75.6	66.8	68.4	69.2	69.9
10/20/2003	76.9	79.8	66.6	68.4	70.4	71.3
10/21/2003	77.9	82.1	66.7	68.6	70.6	71.1
10/22/2003	77.9	85.6	66.9	72.2	70.3	70.8
10/23/2003	78.1	83.1	67.5	72.1	70.4	71.2
10/24/2003	77.4	79.7	65.1	66.2	71.1	71.9
10/25/2003	75.9	79.5	66.2	67.6	70.8	71.9
10/26/2003	73.5	75.9	64.2	65.9	68.5	69.6
10/27/2003	74.4	76.8	62.9	65.1	66.8	68.6
10/28/2003	74.4	77.1	62.6	63.8	65.2	66.0
10/29/2003	75.9	78.1	63.0	64.8	65.1	65.7
10/30/2003	77.5	80.2	64.3	67.2	65.0	66.1
10/31/2003	75.6	79.6	64.5	67.0	67.7	68.7

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
9/1/2003	88.0	89.8	79.7	81.9	82.1	83.3
9/2/2003	88.7	91.9	77.4	78.4	80.4	80.8
9/3/2003	88.7	92.4	78.1	79.1	80.8	82.0
9/4/2003	88.3	91.5	76.6	77.3	81.1	82.7
9/5/2003	88.0	92.6	76.5	77.9	81.3	83.3
9/6/2003	88.2	91.8	77.0	78.0	82.0	84.3
9/7/2003	87.8	91.8	77.4	78.5	82.2	83.8
9/8/2003	90.1	95.1	78.3	80.9	84.3	86.0
9/9/2003	91.7	94.5	79.6	80.9	85.1	86.8
9/10/2003	92.1	94.2	80.6	82.1	83.9	84.7
9/11/2003	91.7	94.4	81.4	82.5	85.5	86.9
9/12/2003	91.3	95.1	81.2	81.9	84.2	85.1
9/13/2003	93.6	97.2	81.5	82.2	83.9	84.8
9/14/2003	91.1	95.5	81.6	83.1	84.6	86.4
9/15/2003	90.1	93.1	79.0	80.9	82.3	84.3
9/16/2003	88.9	91.9	78.2	78.9	82.3	83.1
9/17/2003	88.4	92.7	78.6	80.8	82.1	83.3
9/18/2003	90.7	94.3	78.2	79.7	83.1	85.2
9/19/2003	87.6	90.7	77.3	78.2	81.8	83.3
9/20/2003	87.0	90.0	76.8	78.0	79.7	81.5
9/21/2003	84.6	87.0	76.2	77.4	80.4	82.0
9/22/2003	87.1	89.7	75.9	76.5	78.7	79.7
9/23/2003	87.0	90.4	75.3	76.4	78.1	79.2
9/24/2003	85.1	88.2	73.6	74.4	77.7	78.6
9/25/2003	83.3	86.7	72.2	73.4	77.5	78.8
9/26/2003	79.8	81.2	72.2	73.3	76.7	78.6
9/27/2003	77.0	79.2	70.4	71.6	73.7	75.5
9/28/2003	74.5	76.0	68.6	69.3	71.2	71.9
9/29/2003	78.1	81.4	67.5	68.3	69.4	70.1
9/30/2003	78.3	81.6	67.5	70.7	69.4	70.2

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
8/1/2003	91.1	94.9	77.9	80.1	82.0	83.0
8/2/2003	90.0	93.4	77.7	78.7	82.9	84.2
8/3/2003	89.5	92.9	78.1	79.5	82.0	82.9
8/4/2003	89.9	91.6	76.2	78.3	80.2	81.0
8/5/2003	90.3	93.8	78.7	79.3	80.5	81.9
8/6/2003	86.9	93.0	78.5	79.9	82.2	82.8
8/7/2003	91.8	93.9	77.8	79.0	81.7	82.5
8/8/2003	92.1	94.2	78.6	79.2	82.2	82.7
8/9/2003	89.6	94.6	78.5	79.4	82.1	82.4
8/10/2003	90.3	94.5	78.6	79.4	82.2	82.5
8/11/2003	90.7	94.2	79.2	79.9	82.7	83.3
8/12/2003	91.4	93.9	78.6	79.6	82.4	82.8
8/13/2003	91.9	94.8	78.6	79.7	82.4	83.2
8/14/2003	93.3	96.2	80.4	81.9	84.0	84.6
8/15/2003	95.6	98.4	82.0	83.5	86.4	87.8
8/16/2003	97.3	99.3	83.3	85.1	87.6	88.9
8/17/2003	97.9	100.5	84.3	85.4	87.7	88.9
8/18/2003	96.7	100.4	84.7	86.3	86.8	87.4
8/19/2003	97.0	98.5	83.9	84.9	86.7	87.9
8/20/2003	98.3	99.4	84.9	85.4	87.7	88.3
8/21/2003	97.8	100.8	85.2	86.4	88.3	89.1
8/22/2003	98.2	101.1	85.2	86.1	88.5	89.0
8/23/2003	96.5	101.8	84.6	85.8	87.3	88.0
8/24/2003	95.1	99.4	85.0	86.5	86.8	87.8
8/25/2003	98.0	100.0	84.3	85.6	86.6	88.3
8/26/2003	98.9	100.9	85.4	86.5	88.2	89.2
8/27/2003	98.1	99.8	86.2	87.1	89.3	90.0
8/28/2003	96.3	99.4	85.7	86.6	88.4	89.2
8/29/2003	95.6	100.5	84.7	86.2	87.5	87.9
8/30/2003	95.1	96.8	83.5	85.1	85.8	86.6
8/31/2003	91.7	94.7	83.4	85.1	84.5	86.4

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp.		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6/1/2003	74.8	76.0	66.0	66.7	69.6	70.1
6/2/2003	76.9	79.3	66.9	67.6	69.2	70.0
6/3/2003	75.9	79.3	66.4	67.3	69.1	70.2
6/4/2003	76.6	79.5	65.6	66.4	69.5	71.4
6/5/2003	79.5	83.8	67.5	69.1	71.5	73.3
6/6/2003	79.9	83.3	67.7	68.3	72.9	74.4
6/7/2003	78.1	80.4	69.0	70.9	73.5	76.3
6/8/2003	78.4	80.2	69.7	70.8	74.2	75.6
6/9/2003	82.3	87.0	70.5	72.7	72.3	74.6
6/10/2003	83.9	88.4	71.4	73.2	76.0	79.0
6/11/2003	84.6	87.8	71.7	72.8	75.6	78.7
6/12/2003	85.3	89.2	72.3	73.4	77.1	77.8
6/13/2003	86.1	89.0	72.7	73.6	78.1	80.0
6/14/2003	85.5	90.6	73.7	75.5	79.1	81.0
6/15/2003	82.2	84.8	74.5	76.5	79.6	81.8
6/16/2003	88.5	92.7	75.1	76.8	78.9	80.9
6/17/2003	89.6	93.5	76.4	77.9	81.6	83.9
6/18/2003	88.3	93.2	77.3	78.2	82.7	84.6
6/19/2003	83.1	85.6	74.7	77.2	79.0	82.4
6/20/2003	81.1	84.7	73.2	75.1	77.1	79.1
6/21/2003	86.1	89.2	75.8	76.9	77.6	79.4
6/22/2003	86.4	90.0	76.1	77.7	80.1	82.5
6/23/2003	90.6	94.9	76.6	77.8	81.7	83.7
6/24/2003	91.0	95.7	78.5	80.1	83.8	86.6
6/25/2003	93.2	97.8	80.0	83.5	84.4	86.8
6/26/2003	95.5	100.4	81.4	85.8	85.5	87.1
6/27/2003	90.7	94.6	78.6	81.4	82.6	84.7
6/28/2003	93.1	95.6	79.3	82.4	82.0	83.8
6/29/2003	92.9	98.8	80.5	82.9	82.5	83.2
6/30/2003	89.7	92.7	81.1	83.7	85.3	88.0

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 #55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
4/1/2003	70.7	75.3	58.9	62.0	62.7	65.5
4/2/2003	72.3	76.5	60.7	63.7	65.7	67.4
4/3/2003	72.8	77.1	61.5	63.1	67.0	67.7
4/4/2003	73.4	76.0	60.6	62.8	63.9	67.5
4/5/2003	68.8	70.2	56.1	59.3	57.6	61.2
4/6/2003	60.2	65.7	52.2	54.8	55.3	57.0
4/7/2003	59.1	61.3	49.8	51.0	51.7	53.3
4/8/2003	59.6	61.2	49.6	50.5	50.7	51.3
4/9/2003	58.8	61.5	49.3	51.7	51.7	54.1
4/10/2003	58.2	61.2	51.2	52.2	53.2	55.5
4/11/2003	59.1	61.5	53.3	55.1	55.5	57.5
4/12/2003	60.4	62.6	54.9	56.6	57.1	58.5
4/13/2003	61.7	64.2	56.3	58.2	58.3	59.7
4/14/2003	66.4	72.5	56.8	58.5	59.7	62.8
4/15/2003	60.0	64.8	59.2	61.6	61.6	64.4
4/16/2003	62.5	64.0	61.0	63.2	62.9	63.6
4/17/2003	60.8	61.8	61.5	62.0	61.6	62.8
4/18/2003	60.5	62.0	61.0	62.2	60.7	61.8
4/19/2003	62.2	64.8	61.9	63.4	61.7	62.8
4/20/2003	68.7	74.4	63.6	65.0	63.3	65.7
4/21/2003	70.4	72.6	61.9	62.3	63.0	63.7
4/22/2003	72.8	79.2	61.8	63.7	63.1	66.2
4/23/2003	69.6	74.4	63.4	67.2	63.5	65.9
4/24/2003	67.7	72.6	63.3	64.8	64.9	66.3
4/25/2003	68.8	73.4	65.6	69.1	65.4	66.1
4/26/2003	72.6	76.4	65.3	69.2	65.6	67.3
4/27/2003	74.1	77.3	66.0	70.0	69.0	70.7
4/28/2003	77.7	84.1	67.1	72.8	70.4	71.5
4/29/2003	69.2	72.8	67.6	70.2	71.6	72.8
4/30/2003	69.2	74.5	67.4	70.5	71.2	72.5

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
3/1/2003	65.6	69.5	52.9	55.3	57.3	58.1
3/2/2003	62.7	66.6	51.1	55.5	57.0	58.0
3/3/2003	63.4	67.0	50.9	55.0	55.2	56.0
3/4/2003	59.1	64.0	46.5	49.5	53.8	54.6
3/5/2003	56.2	57.7	44.3	47.7	53.3	54.3
3/6/2003	57.3	65.7	46.9	52.2	51.7	52.5
3/7/2003	58.6	65.0	47.0	50.3	51.6	52.4
3/8/2003	53.9	55.5	46.1	47.7	54.4	55.8
3/9/2003	49.3	53.3	44.0	45.5	49.9	54.6
3/10/2003	43.9	45.2	42.8	45.2	48.5	49.6
3/11/2003	49.6	56.2	45.2	50.4	47.1	48.4
3/12/2003	54.1	58.9	46.3	49.1	48.8	50.6
3/13/2003	59.1	62.9	45.4	46.5	50.2	52.7
3/14/2003	59.6	62.0	46.2	47.1	52.6	53.6
3/15/2003	59.7	62.4	46.5	47.5	53.2	54.5
3/16/2003	60.0	63.8	47.6	50.0	55.0	56.9
3/17/2003	62.5	66.8	50.1	53.3	56.8	58.2
3/18/2003	63.7	66.5	50.8	53.0	58.6	60.0
3/19/2003	63.8	65.4	51.2	52.2	57.7	59.8
3/20/2003	65.4	68.9	53.3	54.4	56.6	57.5
3/21/2003	67.0	69.3	53.9	54.7	57.9	58.8
3/22/2003	65.6	67.0	52.4	52.7	57.4	58.7
3/23/2003	63.6	67.3	53.2	55.9	57.1	60.8
3/24/2003	68.1	72.4	55.5	58.2	59.5	62.0
3/25/2003	70.6	74.2	57.4	60.0	62.5	65.2
3/26/2003	71.8	75.4	58.9	60.9	63.0	64.5
3/27/2003	72.7	75.7	59.4	61.9	63.3	64.5
3/28/2003	70.6	73.6	58.7	60.2	62.9	64.1
3/29/2003	68.7	72.6	56.6	58.5	60.5	62.4
3/30/2003	68.4	70.5	55.1	56.6	61.8	64.3
3/31/2003	69.6	72.5	56.9	60.0	61.4	63.1

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
2/1/2003	57.5	61.2	46.1	49.1	53.6	56.4
2/2/2003	59.6	61.5	47.6	51.7	54.4	56.5
2/3/2003	59.5	65.7	47.3	51.7	53.2	54.6
2/4/2003	57.9	62.3	46.0	53.0	50.2	52.3
2/5/2003	60.9	65.4	47.2	52.0	49.9	51.1
2/6/2003	62.3	67.1	48.9	52.6	49.4	50.4
2/7/2003	58.6	61.8	46.5	50.3	49.4	51.5
2/8/2003	61.3	64.4	48.2	51.0	49.8	51.7
2/9/2003	61.6	65.8	49.2	52.9	47.7	48.6
2/10/2003	61.2	66.3	49.3	53.6	49.1	50.7
2/11/2003	61.1	65.6	48.4	53.5	49.6	51.1
2/12/2003	61.3	66.0	47.5	51.9	47.0	48.4
2/13/2003	61.1	65.8	48.8	52.0	48.4	49.9
2/14/2003	60.6	64.3	48.9	52.0	50.5	51.5
2/15/2003	55.2	63.9	43.9	54.5	50.3	51.0
2/16/2003	52.7	57.0	41.0	45.9	48.6	49.6
2/17/2003	55.7	59.7	42.6	47.7	47.3	48.1
2/18/2003	58.1	65.3	46.0	50.1	47.2	49.1
2/19/2003	61.1	67.8	47.1	51.4	49.8	51.1
2/20/2003	63.8	69.7	50.6	54.4	51.5	52.5
2/21/2003	62.6	68.2	49.8	52.6	53.9	55.6
2/22/2003	59.2	64.2	49.4	53.6	56.6	57.6
2/23/2003	58.0	62.5	48.5	51.6	53.2	55.8
2/24/2003	57.3	60.2	46.1	49.0	49.3	50.7
2/25/2003	61.8	65.9	48.3	51.2	49.1	49.8
2/26/2003	61.9	66.0	49.9	53.3	49.0	51.1
2/27/2003	64.4	66.8	50.7	53.6	52.7	54.5
2/28/2003	65.1	70.9	52.0	55.5	55.6	57.1

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
1/1/2003	56.6	58.3	48.0	51.8	50.8	52.2
1/2/2003	57.7	63.5	46.4	50.2	50.0	50.9
1/3/2003	60.0	65.9	47.5	50.3	49.5	50.4
1/4/2003	60.1	65.2	49.2	53.6	51.3	52.6
1/5/2003	60.2	63.1	50.9	54.3	52.5	53.0
1/6/2003	60.4	64.5	49.3	51.7	53.4	54.8
1/7/2003	61.6	66.8	51.1	55.2	52.8	53.9
1/8/2003	61.7	65.6	50.7	53.9	52.1	53.3
1/9/2003	61.8	64.7	49.1	52.4	52.0	53.0
1/10/2003	63.3	69.1	50.3	54.6	52.0	54.0
1/11/2003	61.5	66.2	53.5	52.7	46.9	49.5
1/12/2003	58.8	64.4	47.1	51.6	48.8	50.2
1/13/2003	62.2	66.5	49.3	53.6	49.4	50.5
1/14/2003	59.9	64.0	49.4	53.5	47.6	48.7
1/15/2003	61.4	65.9	47.3	52.1	49.3	51.1
1/16/2003	62.2	65.0	49.1	52.8	49.8	50.9
1/17/2003	62.9	67.4	48.8	52.3	50.2	51.1
1/18/2003	62.9	65.9	48.8	51.0	49.0	50.2
1/19/2003	61.7	67.1	48.2	51.5	47.7	49.6
1/20/2003	61.6	67.2	48.6	52.1	48.3	49.4
1/21/2003	63.5	66.7	49.3	51.5	48.7	50.0
1/22/2003	60.4	63.2	47.7	50.3	49.1	50.3
1/23/2003	58.0	62.5	45.4	49.6	48.1	50.0
1/24/2003	58.9	61.6	46.3	49.5	48.0	49.0
1/25/2003	59.8	64.1	48.9	51.6	46.9	48.0
1/26/2003	61.5	65.1	48.2	51.3	45.8	47.8
1/27/2003	59.5	62.0	46.9	49.2	46.4	48.4
1/28/2003	61.1	67.3	47.1	51.4	49.3	50.5
1/29/2003	59.0	62.5	47.0	50.2	50.6	51.9
1/30/2003	61.7	66.0	49.2	52.6	52.6	53.8
1/31/2003	62.8	67.5	49.9	53.0	51.8	52.9

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 J55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
11/1/2002	69.6	71.5	60.0	62.5	62.5	63.7
11/2/2002	67.6	72.4	58.0	59.9	61.0	62.0
11/3/2002	66.9	69.6	58.2	60.2	60.6	61.9
11/4/2002	70.7	75.5	60.5	62.7	60.7	61.6
11/5/2002	70.2	71.7	59.0	61.7	60.4	61.9
11/6/2002	72.9	77.4	61.0	63.2	61.6	62.7
11/7/2002	76.2	79.7	62.7	64.8	61.4	61.9
11/8/2002	71.5	73.9	61.3	62.6	62.4	64.3
11/9/2002	67.5	70.3	61.1	62.8	64.5	65.0
11/10/2002	69.3	70.3	62.7	63.3	64.0	65.0
11/11/2002	68.2	71.9	60.2	62.6	61.5	62.3
11/12/2002	69.4	72.2	59.5	63.6	61.0	62.5
11/13/2002	68.5	72.0	59.2	61.8	61.5	63.0
11/14/2002	69.4	72.0	60.1	61.0	61.2	61.8
11/15/2002	68.8	72.1	60.2	61.3	62.2	63.5
11/16/2002	69.1	73.8	60.0	62.8	61.7	63.6
11/17/2002	65.1	69.2	56.9	58.9	60.7	62.1
11/18/2002	68.1	71.8	56.7	58.7	61.2	62.3
11/19/2002	65.6	67.6	57.2	59.8	60.0	60.9
11/20/2002	63.6	70.9	58.8	61.0	61.5	62.0
11/21/2002	66.4	70.2	58.5	62.1	59.6	61.8
11/22/2002	63.7	67.0	56.4	57.7	60.4	62.1
11/23/2002	64.3	66.5	56.2	57.9	58.1	61.1
11/24/2002	63.3	68.1	54.3	55.8	57.9	59.2
11/25/2002	65.2	67.3	54.7	55.8	56.6	58.7
11/26/2002	64.3	67.0	53.8	54.9	56.2	56.9
11/27/2002	65.8	71.2	55.4	57.0	56.1	56.8
11/28/2002	65.7	68.3	54.3	57.2	55.3	56.5
11/29/2002	62.3	67.5	52.7	54.3	55.1	56.7
11/30/2002	62.1	64.4	52.1	54.3	52.4	54.5

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Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
10/1/02	87.4	91.1	77.5	78.7	81.4	81.9
10/2/02	88.2	91.5	80.2	83.0	81.2	83.7
10/3/02	89.0	90.4	77.3	80.9	80.0	81.2
10/4/02	87.1	89.7	76.8	79.5	80.2	81.7
10/5/02	81.6	85.3	74.5	76.4	76.8	77.6
10/6/02	78.5	79.6	71.6	72.7	74.3	76.5
10/7/02	79.5	82.2	69.5	70.2	71.1	72.7
10/8/02	81.0	83.8	70.8	72.8	71.5	72.1
10/9/02	78.9	81.4	71.4	73.3	74.2	77.2
10/10/02	79.7	82.0	72.0	73.5	74.7	76.0
10/11/02	79.3	83.8	71.0	72.9	76.7	80.7
10/12/02	81.3	85.2	72.2	73.5	76.2	77.5
10/13/02	79.0	82.7	69.5	71.3	73.2	75.3
10/14/02	79.6	83.3	68.9	70.5	71.8	73.8
10/15/02	79.7	84.7	67.6	69.6	70.5	72.4
10/16/02	82.0	85.6	71.5	71.2	70.9	71.6
10/17/02	82.2	84.3	69.6	70.5	70.3	71.4
10/18/02	80.8	83.2	67.7	68.8	69.4	70.2
10/19/02	77.9	83.5	68.2	70.3	70.3	71.2
10/20/02	78.1	82.5	68.0	70.9	70.3	71.0
10/21/02	78.2	80.7	77.0	68.2	70.6	71.6
10/22/02	77.7	80.6	80.0	68.1	70.8	72.1
10/23/02	77.6	80.9	81.0	69.6	69.4	71.2
10/24/02	75.7	80.1	82.0	68.3	67.6	68.5
10/25/02	75.6	77.5	83.0	66.6	66.9	67.9
10/26/02	74.3	75.7	82.0	65.4	67.7	68.6
10/27/02	72.1	75.4	61.9	63.0	66.2	67.1
10/28/02	73.0	77.1	60.9	63.2	65.5	66.5
10/29/02	71.0	75.3	59.3	61.8	63.8	64.5
10/30/02	68.0	74.0	60.4	62.9	64.0	64.8
10/31/02	70.0	72.0	61.5	62.0	65.0	66.0

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Attachment A: Daily Maximum and Average Temperatures

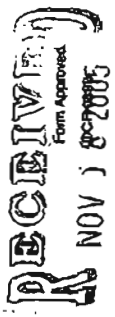
DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
9/1/02	92.0	93.9	81.7	82.7	86.7	88.6
9/2/02	94.9	99.6	83.0	84.5	85.8	86.9
9/3/02	94.0	97.2	82.4	84.2	85.9	88.1
9/4/02	92.3	94.4	82.2	83.4	86.2	88.2
9/5/02	93.4	95.8	82.9	83.7	85.6	86.5
9/6/02	93.2	95.8	83.1	84.0	86.2	87.3
9/7/02	93.9	96.4	83.4	84.2	86.9	89.2
9/8/02	93.2	95.2	84.7	85.7	88.2	90.5
9/9/02	94.9	96.1	84.7	85.3	88.2	89.5
9/10/02	98.6	103.8	85.9	87.0	89.2	89.7
9/11/02	96.3	101.2	85.1	86.7	86.9	88.4
9/12/02	96.0	100.5	84.1	86.1	86.2	87.9
9/13/02	95.6	100.3	83.6	85.2	87.2	88.7
9/14/02	92.3	98.0	84.6	86.5	87.8	88.7
9/15/02	89.0	93.8	83.0	84.2	84.1	86.8
9/16/02	88.7	96.2	71.5	83.6	81.9	82.5
9/17/02	93.2	97.2	81.3	82.8	82.0	84.6
9/18/02	96.4	100.8	83.0	84.5	85.8	87.4
9/19/02	96.6	98.7	82.2	83.2	86.3	87.9
9/20/02	92.8	97.0	81.8	83.4	84.8	87.7
9/21/02	90.1	94.2	77.0	81.3	82.6	83.8
9/22/02	86.1	87.9	80.0	79.3	81.1	82.6
9/23/02	84.8	86.1	81.0	78.4	78.7	80.2
9/24/02	84.3	87.2	82.0	75.9	77.9	78.4
9/25/02	86.7	91.8	83.0	77.2	77.9	79.1
9/26/02	87.8	91.2	82.0	77.3	78.4	79.6
9/27/02	87.5	90.9	77.2	79.2	80.4	81.4
9/28/02	86.9	89.7	77.4	79.0	80.2	81.6
9/29/02	88.9	94.4	77.7	79.3	81.9	82.7
9/30/02	89.9	92.7	77.4	78.7	81.3	82.2

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 155 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
2/1/02	63.0	66.9	51.1	52.6	51.1	53.2
2/2/02	58.7	62.6	48.1	51.3	51.9	52.7
2/3/02	57.9	62.1	47.8	48.9	49.7	51.2
2/4/02	59.7	63.4	46.2	48.0	47.5	48.8
2/5/02	57.9	61.2	45.2	46.9	48.4	49.4
2/6/02	60.6	64.9	47.6	49.8	49.9	51.3
2/7/02	58.8	64.2	48.4	49.3	51.0	52.9
2/8/02	50.2	54.5	48.9	50.7	52.3	53.1
2/9/02	50.6	52.0	49.5	51.0	52.1	52.9
2/10/02	49.1	49.7	48.0	48.6	51.3	52.6
2/11/02	49.6	54.0	46.8	47.7	48.1	49.0
2/12/02	56.3	60.6	47.0	48.1	47.6	48.9
2/13/02	58.2	62.0	47.6	48.8	48.7	50.0
2/14/02	56.4	59.7	47.9	48.8	49.9	50.5
2/15/02	55.2	56.3	47.8	49.0	49.5	50.1
2/16/02	48.2	52.6	47.8	48.3	49.8	50.3
2/17/02	47.8	48.9	47.3	48.2	48.5	49.2
2/18/02	46.5	47.8	46.0	47.2	48.4	48.9
2/19/02	47.6	49.6	47.3	49.1	48.6	49.3
2/20/02	51.9	57.7	49.6	50.7	49.3	50.4
2/21/02	56.6	58.4	47.3	49.0	49.2	50.3
2/22/02	57.3	58.8	47.7	48.6	49.4	50.2
2/23/02	57.8	59.0	48.1	48.8	50.7	51.7
2/24/02	59.0	60.5	49.7	51.0	51.7	52.0
2/25/02	58.0	59.6	49.0	49.3	52.4	52.9
2/26/02	58.3	61.4	47.7	48.6	51.3	51.8
2/27/02	60.2	62.2	49.0	49.7	50.1	51.1
2/28/02	58.6	61.5	47.5	48.8	50.3	51.6

Attachment A: Daily Maximum and Average Temperatures

DATE	9J0ESR1011 29 Discharge Temp		9J0ESR1021 J29 Inlet Temp		9J0ESR1031 I55 Water Temp	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
1/1/02	49.4	51.3	43.8	44.8	42.3	43.5
1/2/02	54.2	58.6	44.0	44.8	43.5	44.4
1/3/02	54.4	58.3	43.5	44.4	44.6	46.4
1/4/02	54.6	58.4	44.8	47.9	47.1	49.0
1/5/02	53.6	54.5	46.0	47.2	47.6	48.3
1/6/02	54.8	57.5	46.4	47.5	48.9	49.9
1/7/02	53.7	55.4	44.7	47.0	48.2	49.7
1/8/02	54.0	58.5	43.5	45.9	47.5	48.5
1/9/02	56.3	61.7	46.6	48.7	48.6	50.1
1/10/02	57.8	61.9	47.9	49.8	50.3	51.0
1/11/02	55.9	57.6	46.7	49.9	51.6	52.9
1/12/02	56.6	60.8	48.4	51.0	51.4	52.7
1/13/02	56.7	60.0	48.0	48.9	50.5	51.5
1/14/02	56.4	60.2	47.0	48.8	51.4	52.4
1/15/02	56.3	60.0	46.4	48.7	49.5	51.1
1/16/02	60.9	65.9	49.9	52.0	49.7	51.0
1/17/02	58.8	61.7	49.9	52.4	50.0	52.8
1/18/02	59.4	62.9	49.8	50.8	51.8	53.0
1/19/02	58.7	61.5	50.1	53.2	51.6	52.3
1/20/02	56.8	59.9	48.1	49.4	51.9	53.3
1/21/02	61.3	64.8	49.8	52.1	51.3	53.2
1/22/02	57.7	61.6	48.3	52.9	51.8	54.0
1/23/02	60.2	67.5	50.7	54.5	54.7	55.1
1/24/02	59.4	64.1	48.8	51.6	53.4	54.9
1/25/02	59.4	62.5	48.7	50.4	54.3	55.8
1/26/02	58.1	62.2	48.3	51.0	52.9	53.7
1/27/02	57.6	60.3	49.0	50.4	53.1	53.9
1/28/02	61.2	64.9	50.4	52.5	53.1	53.8
1/29/02	58.2	60.3	49.6	50.8	53.5	54.1
1/30/02	60.0	63.3	50.3	51.8	53.8	54.7
1/31/02	60.6	64.5	50.3	52.4	52.4	53.7



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
MIDWEST GENERATION, LLC- JOLIET 9
440 SOUTH LASALLE, SUITE 3500
CHICAGO, IL 60605

MAJOR (SUBR)02
F - FINAL
CONDENSER COOLING AND HSE SERV
EFFLUENT
*** NO DISCHARGE

02(18) IL0002216 PERMIT NUMBER
DISCHARGE NUMBER 001 0
MONITORING PERIOD
FROM 05 10 01 TO 05 10 31
YEAR MO DAY YEAR MO DAY

FACILITY LOCATION
MIDWEST GENERATION, LLC- JOLIET 9
JOLIET, IL 60438

PARAMETER (21-27)	QUANTITY OR LOADING (24-28)		QUANTITY OR CONCENTRATION (24-31)		NO. EX (22-23)	FREQUENCY OF ANALYSIS (24-25)	SAMPLE TYPE (24-26)
	AVERAGE (24-28)	MAXIMUM (24-29)	MINIMUM (24-30)	AVERAGE (24-31)			
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0	*****	*****	*****	78.2	0	105	RC
EFFLUENT GROSS VALUE FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	*****	459	*****	REPORT MO AUG	0	105	CA
EFFLUENT GROSS VALUE CHLORINE, TOTAL RESIDUAL 50060 1 0 0	*****	*****	*****	*****	0	500	*****
EFFLUENT GROSS VALUE CHLORINATION FREQ. 78738 1 0 0	*****	*****	*****	*****	0	500	*****
EFFLUENT GROSS VALUE CHLORINATION DURATION 78739 1 0 0	*****	*****	*****	*****	0	500	*****
EFFLUENT GROSS VALUE CHLORINE USAGE 81400 1 0 1	*****	*****	*****	*****	0	500	*****
EFFLUENT GROSS VALUE TEMPERATURE, WATER DEG. FAHRENHEIT 00011 6 0 1	*****	*****	*****	82.3	0	105	RC
DOWNSTREAM MONITOR	*****	*****	*****	*****	0	500	*****
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE		DATE	
Mike Hanrahan, Station Director		<i>Mike Hanrahan</i>		(815) 741-9000		05 11 11	
TYPED OR PRINTED		OFFICER OR AUTHORIZED AGENT		NUMBER		YEAR MO DAY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
* Downstream Monitor: 48.75 excursion hours used year to date, 126.25 excursion hours remaining. Presently no chemical treatment is being used, therefore there is no Chlorine added to Joliet 9 Unit 6 discharge 001.

PREVIOUS EDITIONS MAY BE USED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)

PAGE 1 OF 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS
MIDWEST GENERATION, LLC-JOLIET
440 SOUTH LASALLE, SUITE 3500
CHICAGO IL 60605
FACILITY
MIDWEST GENERATION, LLC-JOLIET
LOCATION
JOLIET IL 60436

Major
02

IL0064254
PERMIT NUMBER
0010
DISCHARGE NUMBER

MONITORING PERIOD
FROM 08-01-2007 TO 08-31-2007
MO - DAY - YEAR
MO - DAY - YEAR

CONDENSER COOLING WTR., HSE SER
EFFLUENT
*** No Discharge ***

PARAMETER	X	QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 6	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	91.6	00	02/99	
DOWNSTREAM MONITOR	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	93 MO MAX		OTHER-Explain in comments	
NO DATA : CODE	DESCRIPTION									
COMMENTS:										
TEMPERATURE, LENGTH OF EXCURSION 45600 6	SAMPLE MEASUREMENT	*****	0.75	(82) HOURS/MONTH	*****	*****	*****	00	02/99	
DOWNSTREAM MONITOR	PERMIT REQUIREMENT	*****	REPORT MO TOTAL		*****	*****	*****		OTHER-Explain in comments	
NO DATA : CODE	DESCRIPTION									
COMMENTS:										
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1	SAMPLE MEASUREMENT	1079	1400	(03) MGD	*****	*****	*****	00	99/99	RC
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MAX		*****	*****	*****		CONTINUOUS	RCORDR
NO DATA : CODE	DESCRIPTION									
COMMENTS:										
CHLORINE, TOTAL RESIDUAL 50060 1	SAMPLE MEASUREMENT	*****	*****	(26) LBS/OY	*****	*****	0.08	00	01/07	
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****		*****	*****	0.2 DAILY MAX		WEEKLY	
NO DATA : CODE	DESCRIPTION									
COMMENTS:										

Form Approved
 O-5-5m
 SEP 20 2005
 CONDENSER COOLING AND HSE SERV EFFLUENT
 NO DISCHARGE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 MAJOR (SUBR.02)
 F - FINAL
 DISCHARGE NUMBER: 0010
 PERMIT NUMBER: IL0084254

PERMITTEE NAME/ADDRESS (Include Facility Name, Location if Different)
 NAME: MIDWEST GENERATION, LLC- JOLIET 29
 ADDRESS: 440 SOUTH LASALLE, SUITE 3500
 CHICAGO, IL 60605

FACILITY LOCATION
 MIDWEST GENERATION, LLC- JOLIET 29
 JOLIET, IL 60438

MONITORING PERIOD
 FROM: YEAR 05, MO 08, DAY 01
 TO: YEAR 05, MO 08, DAY 31
 DISCHARGE NUMBER: 0010

PARAMETER (82-27)	QUANTITY OR LOADING (92-51)			QUANTITY OR CONCENTRATION (92-41)			NO. EX (82-28)	PRECEDENCE OF ANALYSIS (82-29)	SAMPLE TYPE (82-76)
	AVERAGE (92-52)	MAXIMUM (92-53)	UNITS (92-54)	MINIMUM (92-42)	AVERAGE (92-43)	MAXIMUM (92-44)			
TEMPERATURE, WATER DEG. FAHRENHEIT	*****	*****	****	*****	95.1	103.4	0	105	RC
00011 1 0 0					REPORT MO AVG.	REPORT MO MAX			
EFFLUENT GROSS VALUE	*****	*****	****	*****	*****	92.9	0	105	RC
TEMPERATURE, WATER DEG. FAHRENHEIT	*****	*****	****	*****	*****	93	0	105	RC
00011 6 0 1					*****	*****			
DOWNSREAM MONITOR	*****	*****	****	*****	*****	*****	0	285	CA
TEMPERATURE, LENGTH OF EXCURSION	*****	*****	(82)	*****	*****	*****	0	105	GA
45600 6 0 1					*****	*****			
DOWNSREAM MONITOR	*****	*****	HR/MO	*****	*****	*****	0	105	GA
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	*****	*****	(03)	*****	*****	*****	0	105	GA
50050 1 0 0					*****	*****			
EFFLUENT GROSS VALUE	*****	*****	MGD	*****	*****	*****	0	240	GU
CHLORINE, TOTAL RESIDUAL	*****	*****	(26)	*****	*****	*****	0	240	GU
50080 1 0 0					*****	*****			
EFFLUENT GROSS VALUE	*****	*****	LBS/DY	*****	*****	*****	0	135	DA
CHLORINATION FREQ	*****	*****	****	*****	*****	*****	0	135	DA
78738 1 0 0					*****	*****			
EFFLUENT GROSS VALUE	*****	*****	****	*****	*****	*****	0	145	DA
CHLORINATION DURATION	*****	*****	****	*****	*****	*****	0	145	DA
78739 1 0 0					*****	*****			
EFFLUENT GROSS VALUE	*****	*****	****	*****	*****	*****	0	145	DA

NOTE: Read instructions before completing this form.

NAME/TITLE: PRINCIPAL EXECUTIVE OFFICER
 Mike Henneshan, Station Director
 TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: *Mike Henneshan*

DATE: 05 09 14

TELEPHONE: (815) 741-9000

AC NUMBER: 05 09 14

YEAR: 05, MO: 09, DAY: 14

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 Limit of 0.05 due to use of Sodium Bromide
 **Downstream Monitor: 48.75 excursion hours used year to date, 126.25 excursion hours remaining. Attachment A (DischargeTemeratures) from Joliet Unit 7 & 8 discharge (001) is attached to this report.

EPA Form 3220-1 (05-05) PREVIOUS EDITIONS MAY BE USED

REPLACES EPA FORM T-40 WHICH MAY NOT BE USED

PAGE 1 OF 2

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
 NAME MIDWEST GENERATION, LLC- JOLIET 29
 ADDRESS 440 SOUTH LASALLE, SUITE 3500
 CHICAGO, IL 60605

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)

Form Approved
 OMB No. 2040-0004
 Approval Expires 05-31-98


2-10 (17-19)
 MAJOR (SUBR 02)
 F - FINAL
 DISCHARGE NUMBER 0010
 PERMIT NUMBER IL0064254

CONDENSER COOLING AND HSE SERV
 EFFLUENT
 *** NO DISCHARGE ***

FACILITY LOCATION
 MIDWEST GENERATION, LLC- JOLIET 29
 JOLIET, IL 60436

MONITORING PERIOD
 FROM 05/01/05 TO 05/31/05
 YEAR 05 MONTH 07 DAY 31

NOTE: Read instructions before completing this form.

PARAMETER (2-37)	QUANTITY OR LOADING (3-5)			QUANTITY OR CONCENTRATION (4-7)			NO EX (6-5)	FREQUENCY OF ANALYSIS (6-7)	SAMPLE TYPE (6-7)
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE, WATER DEG. FAHRENHEIT	*****	*****	DEG.F	*****	94.7	(15)	0	105	RC
00011 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	REPORT MO AVG	REPORT MO MAX	0	Conc	RC
TEMPERATURE, WATER DEG. FAHRENHEIT	*****	*****	*****	*****	*****	92.4	0	105	RC
00011 6 0 1 DOWNSTREAM MONITOR	*****	*****	*****	*****	*****	95 MONTHLY MAX	0	See Permit	CA
TEMPERATURE, LENGTH OF EXCURSION	*****	29.75	(82)	*****	*****	*****	0	285	CA
45600 6 0 1 DOWNSTREAM MONITOR	*****	REPORT MO TOTAL	HR/MO	*****	*****	*****	0	See Permit	CA
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	1012	1400	(03)	*****	*****	*****	0	105	CA
50050 1 0 0 EFFLUENT GROSS VALUE	REPORT MO DAILY MAX	*****	MGD	*****	*****	*****	0	Clarity	Record
CHLORINE, TOTAL RESIDUAL	*****	*****	(26)	*****	*****	0.05	0	240	QU
50060 1 0 0 EFFLUENT GROSS VALUE	*****	*****	LBS/DY	*****	*****	*****	0	Wt/Qty	Record
CHLORINATION FREQ	*****	*****	*****	*****	*****	3	0	135	DA
78738 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	See Permit	Record
CHLORINATION DURATION	*****	*****	*****	*****	*****	*****	0	145	DA
78739 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	See Permit	Record
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Mike Hanrahan, Station Director TYPED OR PRINTED									
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT 									
TELEPHONE						DATE			
(815) 741-9000						05 08 22			
AC NUMBER						YEAR MO DAY			
						05 08 22			

DO NOT FALSIFY OR ALTER THIS REPORT. PERSONS WHOSE NAMES ARE LISTED AS RESPONSIBLE FOR OBTAINING THE INFORMATION LISTED IN THIS REPORT ARE IMPROPERLY ACCOUNTABLE AND COMPLETE. I AM AWARE THAT THERE ARE PENALTIES FOR FURNISHING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 18 U.S.C. 1003 FOR PENALTIES. (Reference all attachments here)

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 - Limit 0.06 due to use of Sodium Bromide
 **Downstream Monitor: 30 excursion hours used year to date, 145 excursion hours remaining. Attachment A (Discharge Temperatures) from Joliet Unit 7 & 8 discharge (0011) is attached to this report.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS
MIDWEST GENERATION, LLC-JOLIET
ADDRESS
440 SOUTH LASALLE, SUITE 3500
CHICAGO
IL 60605

FACILITY
MIDWEST GENERATION, LLC-JOLIET
LOCATION
JOLIET
IL 60436

IL0064254
PERMIT NUMBER

0010
DISCHARGE NUMBER

Major
02

MONITORING PERIOD
MO - DAY - YEAR
07-01-2005 TO 07-31-2005

CONDENSER COOLING WTR., HSE SER
EFFLUENT

*** No Discharge ***

PARAMETER	X	QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1	SAMPLE MEASUREMENT	*****	*****		*****	94.7	103.2	00	9999	RC
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT					REPORT MO AVG	REPORT MO MAX		CONTINUOUS	
NO DATA : CODE	DESCRIPTION									
COMMENTS:										
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 6	SAMPLE MEASUREMENT	*****	*****		*****	92.4	93 MO MAX	00	9999	RC
DOWNSTREAM MONITOR	PERMIT REQUIREMENT					REPORT MO AVG	93 MO MAX		OTHER-Explain in comments	
NO DATA : CODE	DESCRIPTION									
COMMENTS:										
TEMPERATURE, LENGTH OF EXCURSION 45600 6	SAMPLE MEASUREMENT	*****	29.75	(82) HOURS/MONTH	*****	*****	*****	00	0100	CA
DOWNSTREAM MONITOR	PERMIT REQUIREMENT		REPORT MO TOTAL		*****	*****	*****		OTHER-Explain in comments	
NO DATA : CODE	DESCRIPTION									
COMMENTS:										
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1	SAMPLE MEASUREMENT	1012	1400	(03) MGD	*****	*****	*****	00	9999	CA
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVS	REPORT DAILY MAX		*****	*****	*****		CONTINUOUS	RCORDR
NO DATA : CODE	DESCRIPTION									
COMMENTS:										

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (include Facility Name/Location if Different)
MIDWEST GENERATION, LLC- JOLIET 29
440 SOUTH LASALLE, SUITE 3500
CHICAGO, IL 60605

(17-15) MAJOR (SUBR 02)
DISCHARGE NUMBER
001 0
F - FINAL

CONDENSER COOLING AND HSE SERV
EFFLUENT
*** NO DISCHARGE ***

MONITORING PERIOD

YEAR	MO	DAY	YEAR	MO	DAY
05	06	01	05	06	30
FROM		TO			

FACILITY LOCATION
MIDWEST GENERATION, LLC- JOLIET 29
JOLIET, IL 60436

NOTE: Read instructions before completing this form.

PARAMETER (84-97)	QUANTITY OR LOADING (84-95)			QUANTITY OR CONCENTRATION (84-93)			NO. EX (85-03)	SAMPLE TYPE (85-70)
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM		
TEMPERATURE, WATER DEG. FAHRENHEIT	*****	*****	*****	91	*****	102	0	105 RC
00011 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	REPORT MO AVG	REPORT MO MAX	REPORT MO MAX	0	105 RC
TEMPERATURE, WATER DEG. FAHRENHEIT	*****	*****	*****	*****	*****	91.5	0	105 RC
00011 6 0 1 DOWNSTREAM MONITOR	*****	*****	*****	*****	*****	SS MONTHLY MAX	0	105 RC
TEMPERATURE, LENGTH OF EXCURSION	*****	*****	*****	*****	*****	*****	0	285 CA
45600 6 0 1 DOWNSTREAM MONITOR	*****	*****	*****	*****	*****	*****	0	105 CA
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	*****	*****	*****	*****	*****	*****	0	105 CA
50050 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	105 CA
CHLORINE, TOTAL RESIDUAL	*****	*****	*****	*****	*****	0.04	0	240 GU
50060 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	0.2	0	135 DA
CHLORINATION FREQ	*****	*****	*****	*****	*****	DAILY MAX	0	145 DA
78738 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	2	0	145 DA
CHLORINATION DURATION	*****	*****	*****	*****	*****	REPORT MAXIMUM	0	145 DA
78739 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	160	0	145 DA
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	Mike Hanrahan, Station Director			SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT			DATE	
TYPED OR PRINTED	Mike Hanrahan, Station Director			M. Hanrahan			07/14	
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)				TELEPHONE			(815) 741-9000	
*Limit 0.05 lbs to use of Sodium Bromide				A/C			NUMBER	
**Downstream Monitor: 0.25 excursion hour used year to date, 174.75 excursion hours remaining. Attachment A (Discharge temperatures) from Joliet Unit 7 & 8 discharge (001) is attached to this report.				SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT			YEAR	
				OFFICER OR AUTHORIZED AGENT			MO	
				OFFICER OR AUTHORIZED AGENT			DAY	

PERMITTEE NAME/ADDRESS (includes Facility Name/Location if Different)
 NAME: MIDWEST GENERATION, LLC- JOLIET 29
 ADDRESS: 440 SOUTH LASALLE, SUITE 3500
 CHICAGO, IL 60605

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 (2-18) ILD064254 PERMIT NUMBER
 (17-19) 0010 DISCHARGE NUMBER
 MAJOR (SUBR 02) F - FINAL
 CONDENSER COOLING AND HSE SERV EFFLUENT

Form Approved
 DMB No. 204B-0004
 Approval Expires 05-31-98

FACILITY LOCATION: MIDWEST GENERATION, LLC- JOLIET 29
 JOLIET, IL 60436

MONITORING PERIOD
 FROM: YEAR 02, MO 09, DAY 01 TO YEAR 02, MO 09, DAY 30
 (20-21) (22-23) (24-26) (27-29) (30-31)

NO DISCHARGE
 *** NO DISCHARGE ***

PARAMETER (20-21)	QUANTITY OR LOADING (22-23)		QUANTITY OR CONCENTRATION (24-31)		NO. EX (24-25)	FREQUENCY OF ANALYSIS (26-29)	SAMPLE TYPE (30-32)
	AVERAGE (22-23)	MAXIMUM (24-25)	MINIMUM (26-27)	AVERAGE (28-29)			
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	91.7	0	105	RC
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 6 0 1 DOWNSTREAM MONITOR	*****	*****	*****	*****	0	105	RC
TEMPERATURE, LENGTH OF EXCURSION 45600 6 0 1 DOWNSTREAM MONITOR	*****	0.5	*****	*****	0	285	CA
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	*****	1069	*****	*****	0	105	CA
CHLORINE, TOTAL RESIDUAL 50060 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	0.05	0	240	CU
CHLORINATION FREQ 78738 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	3	0	135	DA
CHLORINATION DURATION 78739 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	240	0	145	DA

ROSOLO
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

(815) 741-9000
 TELEPHONE

DATE: 02 10 16
 YEAR: 02 MO: 10 DAY: 16

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 * Limit 0.05 due to the use of Sodium Bromide
 **Downstream Monitor: 55.0 excursion hours used year to date, 120.0 excursion hours remaining.
 (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)

PERMITTEE NAME/ADDRESS (include Facility Name/Location if Different)
 NAME: MIDWEST GENERATION, LLC- JOLIET 29
 ADDRESS: 440 SOUTH LASALLE, SUITE 3500
 CHICAGO, IL 60605

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 (2-19) PERMIT NUMBER: IL0064254
 (17-19) DISCHARGE NUMBER: 0010
 MAJOR (SUBR 02) F - FINAL

Form Approved
 OMB No. 2040-0004
 Approval Expires 06-31-98

FACILITY LOCATION: MIDWEST GENERATION, LLC- JOLIET 29
 JOLIET, IL 60436

CONDENSER COOLING AND HSE SERV
 EFFLUENT NO DISCHARGE

MONITORING PERIOD
 FROM: YEAR 02 MO 07 DAY 01 TO YEAR 02 MO 07 DAY 31
 QUANTITY OR LOADING (64-67) UNITS (64-68)

PARAMETER (62-63)	QUANTITY OR LOADING (64-67)			QUANTITY OR CONCENTRATION (64-67)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-65)	SAMPLE TYPE (66-70)
	AVERAGE (64-67)	MAXIMUM (64-68)	UNITS (64-68)	MINIMUM (64-67)	AVERAGE (64-68)	MAXIMUM (64-69)			
SAMPLE MEASUREMENT	*****	*****	*****	*****	95.1	106.8	0	105	RC
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0	*****	*****	*****	*****	*****	*****	0	105	RC
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	105	RC
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 6 0 1	*****	*****	*****	*****	*****	*****	0	105	RC
DOWNSTREAM MONITOR	*****	*****	*****	*****	*****	*****	0	105	RC
TEMPERATURE, LENGTH OF EXCURSION 45600 6 0 1	*****	*****	*****	*****	*****	*****	0	285	CA
DOWNSTREAM MONITOR	*****	*****	*****	*****	*****	*****	0	105	CA
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	*****	*****	*****	*****	*****	*****	0	105	CA
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	240	CU
CHLORINE, TOTAL RESIDUAL 50060 1 0 0	*****	*****	*****	*****	*****	*****	0	135	DA
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	145	DA
CHLORINATION FREQ	*****	*****	*****	*****	*****	*****	0	145	DA
78738 1 0 0	*****	*****	*****	*****	*****	*****	0	145	DA
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	145	DA
CHLORINATION DURATION 78739 1 0 0	*****	*****	*****	*****	*****	*****	0	145	DA
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	145	DA

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 (815) 741-9000

TELEPHONE

DATE 08 23

YEAR 02 MO 08 DAY 23

NUMBER 02

YEAR 02 MO 08 DAY 23

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 * Limit 0.05 due to the use of Sodium Bromide
 **Downstream Monitor: 37 excursion hours used year to date, 138 excursion hours remaining.
 Attachment A (Discharge Temperature) from Joliet Unit 7 & 8 discharges (0011) is attached to this report

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

COMED COMPANY
JOLIET GENERATING STATION #29 UNIT 7&8
1800 CHANNAHON ROAD
JOLIET, ILLINOIS 60436

RECEIVED
MAR 2 - 1998

IL	IL0064264	4911	41 26' 15"	88 07' 30"	REPORTING PERIOD	1/31/98
STATE	PERMIT #	SIC	LAT.	LONG.	FROM: 1/1/98	TO: 1/31/98
DIS : 001	001 CONDENSER COOLING WATER HSE SERVICE WATER (PG 3 OF 3)					

COMMENTS:

INTAKE TEMPERATURE

AVERAGE	45	47	49	50	51	50	48	47	43	43	43
MAXIMUM	45	47	49	52	53	51	50	47	46	46	45
AVERAGE	41	42	43	43	43	43	42	42	42	42	43
MAXIMUM	42	42	44	43	44	44	44	42	42	42	43
AVERAGE	42	43	45	47	49	49	49	49			
MAXIMUM	43	44	45	49	50	50	50	50			

DISCHARGE TEMPERATURE

AVERAGE	54	53	57	59	56	55	52	50	49	48	51
MAXIMUM	57	57	59	62	59	59	55	51	50	50	52
AVERAGE	49	49	51	51	51	52	51	51	50	50	51
MAXIMUM	51	51	52	52	53	53	53	53	52	51	52
AVERAGE	60	50	53	54	57	58	61	61	60	60	61
MAXIMUM	51	53	55	57	58	60	61	61	60	60	61

I-55 TEMPERATURE

MAXIMUM	49	51	52	54	52	52	48	46	44	41	43
MAXIMUM	43	42	45	46	47	45	47	47	46	46	45
MAXIMUM	47	46	47	51	52	53	52	52	52	52	52

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE	SIGNATURE OF PRINCIPLE EXECUTIVE OFFICER
RENWICK	PLANT MANGER	98/2/28	<i>Earl J. Deakins</i> for B.A.R.
BRUCE		YR/MO/DAY	
LAST	FIRST	MID.	

I VERIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS REPORT AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

Power Industry Comments and Feedback
Regarding Draft Demand Report Revisions Presented at the April 15th, 2008
Regional Water Supply Planning Group (RWSPG) Special Meeting

General Comments:

The Power Industry of Northeastern Illinois, as represented by both Midwest Generation EME, LLC and Exelon Generation Company, appreciates the opportunity to provide comments concerning the accuracy, applicability and appropriateness of the use of power plant operational data in the analysis of the existing and current future water demand and supply considerations.

We are encouraged by the changes made to the draft report by Dr. Dziegielewski in response to our initial written comments. However, we still believe that some additional revisions are necessary in order to bring our remaining issues and concerns to final resolution. The April 15th meeting provided an excellent opportunity for the very useful exchange of information, which will hopefully allow the group to move forward by prioritizing water use issues which may have a real impact on the available resource in the future, and not on uses or activities which are largely supply-neutral.

As discussed during our presentation to the RSWPG, a majority of power plants in Northeastern Illinois utilize once-through cooling, and as such, have no net effect on the availability of surface water in the 11 County Study Area. Another important fact to recognize is that all of the once through power plants in the Study Area are located on major waterways, which are controlled for navigational uses and are thereby assured a steady supply of upstream flow. As such, there is no reason to have to consider any impacts of these open cycle plants on current or future water supply in the Region. Even those few plants which utilize closed cycle cooling exert only a small overall consumptive use of surface water, especially in comparison to public supply.

In addition, it was pointed out that due to how these power plants operate, there is no direct correlation between the amount of water used per kilowatt hour of power generated. Such comparisons are inappropriate and misleading and should be removed from the report entirely, as they do not reflect reality and do not in any way impact the overall amount of water available in the study area.

The end result of the corrections and acknowledgements made regarding the nature of the electric power business in Northeastern Illinois is that there should be less overall emphasis placed on the Power Sector than other identified sectors which have a significant influence on existing and future local water resources.

Finally, as we had discussed during the meeting, there is no accurate or predictable correlation between local demand for power and local generation, both now and in the future, due to the nature of the electric power market. There is no way to predict or estimate where additional sources of power to serve the 11 County area will come from in the next 5, let alone the next 42 years (2050). New and developing technologies will also play a large part in how electric demand will be handled, but there are no current plans from which to develop any plausible scenarios regarding future water use by our industry. All told, these unknowns make the development of likely future water demand scenarios involving the electric power industry essentially impossible to specify or even generally conceptualize.

Specific Comments:

Table 3-4:

Column 1:

Change heading from "Name plate &/Gross Capacity (MW)" to "Gross Load Capability—MWe" and include only the values to the right of the "/". Nameplate values are not meaningful.

Column 2:

Assuming that this information came from a reliable source, it appears to be accurate.

Column 3:

Eliminate this column entirely—no need to list Net Generation when Gross Generation has already been provided in Column 2.

Columns 4 and 5:

Eliminate both the "Net/Gross Generation (%)" and the "Nameplate Capacity Factor (%)". Neither of these are meaningful terms or useful data. Columns 1 and 2 provide all necessary information regarding power generation.

Table 3.4 Capacity and Generation of Large Powers Plants Located in Northeastern Illinois

Plant Name (Owner): Water Source	Name plate & Gross Capacity (MW)	2005 Gross Generation (MWh/year)	2005 Net Generation (MWh/year)	Net/Gross Generation (%)	Nameplate Capacity Factor (%)
1. Crawford Plant, Cook Co. (Midwest Generation EME LLC) Chicago San/ Ship Canal	397/582	3,201,844	2,965,873	92.6	61.2
2. Fisk Street Plant, Cook Co. (Midwest Generation EME LLC) Chicago River- S. Branch	374/342	1,603,949	1,496,937	93.3	49.0
3. Dresden Nuclear Plant, Grundy Co. (Exelon Generation Co. LLC) Kankakee DesPlaines River	1834/1734	14,031,125	13,622,453	97.1	87.8
4. Waukegan Plant, Lake Co. (Midwest Generation EME LLC) Lake Michigan	803/628	4,909,907	4,560,504	92.9	69.8
5. Zion Energy Center*, Lake Co. (Zion Energy LLC) Lake Michigan	597/546	35,058	34,876	99.5	0.7
6. Joliet 29 Plant, Will Co. (Midwest Generation EME LLC) - DesPlaines River	1320/1088	5,767,994	5,500,330	95.4	49.9
7. Joliet 9 Plant, Will Co. (Midwest Generation EME LLC) - DesPlaines River	360/326	1,922,330	1,673,843	87.1	61.0
8. Will County/Romeoville, Will (Midwest Generation EME LLC) Chicago Sanitary/ Ship Canal	1269/1154	5,658,996	5,293,858	93.5	50.9
9. Braidwood Nuclear Plant, Will Co. (Exelon Generation Co. LLC) Kankakee River/ Cooling Lake	2452/2330	20,390,274	19,796,383	97.1	94.9
10. Elwood Energy LLC*, Will Co. (Dominion Elwood Serv. Co.) Groundwater well	1540/1409	437,285	435,737	99.6	3.2
11. Kendall Co. Geo. Facility, Kendall (Dynaegy Midwest Gen. Inc.) Illinois River	1256/1160	1,367,008	1,313,416	96.1	13.5
12. LaSalle Generating Station** . LaSalle (Exelon Generation Co. LLC) LaSalle Lake (man-made)	2340/2280	19,274,580	18,713,658	97.1	94.0
Total/Average	14,569	78,600,350	75,407,873	95.9	61.6

Comments: (*) Denotes a peaking plant. Zion nuclear plant was decommissioned in February 1998; currently synchronous condensers are used at peaking time. (**) Not in study area but supplies study area with electricity.

Specific Comments (cont.):

Table 3.5:

Column 2—2005 Water Withdrawals (MGD):

Please cite source of this information and also footnote the heading to provide an explanation that the use of the word “withdrawal” here does not imply a consumptive use.

Eliminate last column from table. As discussed in our presentation, it is neither accurate nor meaningful to try to develop a correlation between cooling water use and amount of power produced. The resultant ratio is misleading and will lead to invalid conclusions regarding perceived impacts of electric power production on water availability.

Also, it is both invalid and misleading to provide a total at the bottom for water withdrawals which combines both open cycle and closed cycle plants. The water withdrawal data included for run of river (open cycle) plants is representative of the circulating water flow through the condensers, while the water withdrawal data for the make-up water (closed cycle) plants is indicative of an actual consumptive use.

Also, please footnote the word “withdrawal” in the heading of each table in order to provide the acknowledgement that it is not necessarily synonymous with consumptive use.

Table 3.5. Gross Generation and Water Withdrawals in Large Power Plants Located in Northeastern Illinois

Plant Name (Owner)/ Water Source	2005 Gross Generation (MWh/year)	2005 Water Withdrawals (MGD)	Estimated 2005 Rate of Withdrawals (Gal./kWh)
RUN-OF-THE-RIVER (LM) PLANTS:	37,131,203	4,207.2	41.4
1. Crawford Plant (Midwest Generation EME LLC) Chicago San/ Ship Canal	3,201,844	503.3	57.4
2. Fisk Street Plant (Midwest Generation EME LLC) Chicago River- S. Branch	1,603,949	222.2	50.6
3. Dresden Nuclear Plant (Exelon Generation Co.) Kankakee/DesPlaines River	14,031,125	415.6	10.8
4. Waukegan Plant (Midwest Generation EME LLC) Lake Michigan	4,909,907	758.6	56.4
5. Zion Energy Center* (Zion Energy LLC) Lake Michigan	15,058	31.7	330.0
6. Joliet 29 Plant (Midwest Generation EME LLC) - DesPlaines River	5,767,994	942.6	59.6
7. Joliet 9 Plant (Midwest Generation EME LLC) - DesPlaines River	1,922,330	415.3	78.9
8. Will County/Romeoville Plant (Midwest Generation EME LLC) Chicago Sanitary/ Ship Canal	5,658,996	917.9	59.2
MAKEUP WATER PLANTS:	41,469,147	132.7	1.17
9. Bradwood Nuclear Plant (Exelon Generation Co. LLC) Kankakee River/ Cooling Lake	20,390,274	49.8	0.89
10. Elwood Energy LLC* (Dominion Elwood Serv. Co.) Groundwater well	437,285	0.003*	0.003
11. Kendall Co. Gen. Facility (Dynergy Midwest Gen. Inc.) Illinois River	1,367,008	2.5	0.67
12. LaSalle Generating Station** (Exelon Generation Co. LLC) LaSalle Lake (man-made)	19,274,580	80.4	1.52
All Plants	78,600,350	4,339.9	--

Scenario Development Input:

Based on all the caveats included in our collective comments, below are the only two potential scenarios which the power industry believes are legitimate to consider at this time:

For the LRI Case: All current power plants in the Region (less the two Will County Units and one Waukegan unit discussed on page 7 of these comments) remain in service using existing cooling methods. Any additional demand is met with either (1) power produced outside of the 11 County Study Area; or (2) other power sources which use less water (or a combination of the two)

For the MRI Case: All current open cycle power plants in the Region (less the two Will County units and one Waukegan unit) remain in service; but are required to be retrofit with closed cycle cooling systems (i.e. cooling towers).

There is no basis to assume that any new power plants will be built in the 11 County Study Area in the foreseeable future.

However, it would be expected that any new conventional power plants built anywhere in the country in the future would be required to use closed cycle cooling (either cooling towers or cooling ponds), per the USEPA Phase I 316(b) rule.

Factor	CT	LRI	MRI
Demand for electricity	9.61 kWh/capita + 0.56% annual growth	9.61 kWh/capita without growth	9.61 kWh/capita + 0.56% annual growth
BEFORE: Power generation	Units retired + new plants in study area with closed-loop cooling	Two plants retired + no new power plants within study area	New plants in study area with closed-loop cooling
REVISED: Power generation	Units retired No new plants in study area	Need input: assumptions and narratives	Need input: assumptions and narratives

Comments/Recommendations Concerning Scenarios:

We are in general agreement with the considerations listed for LRI (Less Resource Intensive Scenario). At this time, however, there are only two units in the MWGen fleet that will be officially retired at the end of 2010 (Will County Units 1 and 2). As mentioned in our original comments, Waukegan Unit 6 was retired in December of 2007.

Other than these three, there are no current plans to retire any additional generating units in the 11 County Study Area in the foreseeable future

The ultimate prospects for distributed generation and/or green generation are also unknown at this time.

PG – Considerations for LRI

- Some older generating units or plants could be retired because of high cost of environmental controls
- Distributed generation can reduce peak loads
- Green generation portfolios can add generation without significant water use

We do not know the source of the data incorporated into the considerations below for the Less Resource Intensive Scenario, so we cannot comment on its accuracy or applicability.

For the last point below, it is unclear as to whether one can or should equate any additional projected local demand with an equivalent number of power plants in the Region. As mentioned previously, local demand is not necessarily served by local power production. Other sources of energy may also be available at some time in the future that could off-set the projected demand. There are too many unknowns to be able to make reliable projections on future electric power production in the 11 County Study Area.

PG – Considerations for LRI

Demand for electricity in 2005 is estimated at 84,000 GWh/year
– local generation is approx. 57,000 GWh/year (68% of demand, w/o LaSalle plant)

By 2050 the demand is projected to increase to the level of 116,000 to 150,000 GWh/year (depending on assumptions)

The additional demand of 32,000 to 66,000 GWh/year is approximately equivalent to net generation of 6 to 12 power plants with capacity of 600 MW (net) each

Exclusion of LaSalle County Station from Study:

The final action item which we will address is with regard to retaining LaSalle County Generating Station in the Demand Study analysis. The determination as to whether the station is hydraulically connected to the Northeastern Illinois Water Supply Planning Region will likely be responded to by the Illinois State Water Survey, but we also offer the following comments regarding this matter:

The location of LaSalle is on the outer fringes of the 11 County Region. Its inclusion is clearly beyond the boundaries of the Study Area. (LaSalle County is not one of the named 11 counties in the STU Report). This generating station utilizes Illinois River water downstream of the Study boundary as make-up for its man-made perched cooling pond.

Based on the overall intent of the Demand report, it makes sense to delete LaSalle County Station from consideration in this report primarily because: (1) it does not utilize water from within the Region; and (2) the assumption that the amount of power generated at the station supports the load demand within the Northeastern Illinois Study Region has been shown to be false. The same logic and reasoning would apply to plants located on the Mississippi River (Quad Cities Station) and the Rock River (Byron Station), which are not currently included in the Demand Report.

Permittee Name/Address (include Exact Street Address)
 Name Midwest Generation, LLC
 Address 440 S. LaSalle St., Suite 3500
 One Financial Plaza
 Chicago, IL 60605

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 (2-19) IL0002208 Permit Number
 (17-19) 0010 Discharge Number

Form Approved
 OMB No. 2040-0004
 Approval Expires 05-31-98
 Major (SUBR 02)
 F - Final
 Condenser Cooling Water & House Service Effluent

Facility Will County Station
 Location 529 E. 135th Street
 Romeoville, IL 60446
 Attn: Chemistry Specialist

Monitoring Period
 From 03/01/03 To 07/31/03
 Year Mo Day Year Mo Day
 03 01 03 07 31

*** No Discharge ***

Note: Read instructions before completing this form.

Parameter (32-37)	Quantity of Loading (48-53)			Quantity of Concentration (48-53)			Units	No. of Ex (64-69)	Frequency of Analysis (64-69)	Sample Type (68-70)
	Average (48-53)	Maximum (54-61)	Minimum (54-61)	Average (48-53)	Maximum (54-61)	Minimum (54-61)				
Temperature, Water Deg. Fahrenheit 00011 1 0 0	*****	*****	*****	*****	96	*****	(15) Deg. F	0	105	CN
Effluent Gross Value	*****	*****	*****	*****	92.6	*****	Deg. F	0	105	CN
Temperature, Water Deg. Fahrenheit 00011 6 0 0	*****	*****	*****	*****	*****	*****	Deg. F	0	105	CN
Downstream Monitor Flow, in Conduit or Thru Treatment Plant 50050 1 0 0	*****	864.0	*****	*****	*****	*****	MGD	0	105	CN
Effluent Gross Value Chlorine, Total Residual 50060 1 0 0	*****	*****	*****	*****	*****	*****	mg/L	0	500	CU
Effluent Gross Value Chlorination Frequency 78738 1 0 0	*****	*****	*****	*****	*****	*****	(88)	0	500	CU
Effluent Gross Value Chlorination Duration 78739 1 0 0	*****	*****	*****	*****	*****	*****	Occ/Day	0	500	CU
Effluent Gross Value Chlorine Usage 81400 1 0 0	*****	*****	*****	*****	*****	*****	(14) Min	0	500	CU
Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	0	500	CU

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or imprisonment of between 5 months and 5 years.)

Name/Title Principal Executive Officer
 David Strom, Station Director

Signature of Principal Executive Officer or Authorized Agent: *[Signature]*

TELEPHONE
 815 886-1010

DATE
 03 8 13

Area Code Number
 815 886-1010

Comments and Explanation of any violations (Reference all attachments here)
 See Special Conditions 5, 6 and 7 for temperature reporting requirements. 32.75 temperature excursion hours were used during the month. A total of 138 excursion hours remain available for use in 2003.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS
DISCHARGE MONITORING REPORT

RECEIVED

JAN 24 2000

COMMENTS
Condenser Cooling Water

Midwest Generation LLC
Will County Station
529 East 135th Street
Romeoville, Illinois 60445
1-815-866-1010

Total Number of Flow Days: 31

* Chlorine was not used this month, & Chlorine Concentration Graph is Attached.

MAJ-a-DR

IL	ST	(17, 18) PERMIT NUMBER 0002208	(17, 18) DIS	001	(17, 18) SIC	(17, 18) LONGITUDE
REPORTING PERIOD	FROM	(20, 21) YEAR	99	(22, 23) MO	12	(24, 25) DAY
	TO	(20, 21) YEAR	99	(22, 23) MO	12	(24, 25) DAY

PARAMETER	QUANTITY			CONCENTRATION			UNITS	# OF EX	ANALYSIS FREQUENCY	SAMPLE TYPE
	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM				
Flow	169.9	416.7	617.8	0			MGD	0	Continuous	N.A.
Intake Temperature	44.0	51.2	59.0	0			°F	0	Continuous	N.A.
Discharge Temperature	47.0	58.4	68.0	0			°F	0	Continuous	N.A.
TRO									1 / Week	Grab
Chlorination Frequency	0	0	0				per unit per day	0	1 / Month	N.A.
Chlorination Duration	0	0	0				min/day per unit	0	1 / Month	N.A.
NaOCl Applied	0.0	0.0	0.0				lb/day	0	1 / Month	N.A.
NaBr Applied	0.0	0.0	0.0				lb/day	0	1 / Month	N.A.

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

Signature of Principle Executive Officer or Authorized Agent
Karen A. House

DATE	YEAR	MO	DAY
2000	01	20	
TITLE OF THE OFFICER	Plant Manager		
NAME OF PRINCIPLE EXECUTIVE OFFICER	House, Karen A.		
LAST, FIRST MI	MI		

IL 532-0082
WPC 242 3/89

RECEIVED
MAR 29 1999

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS
DISCHARGE MONITORING REPORT

PERMITTEE NAME: Commonwealth Edison Company
 ADDRESS: Will County Station
 529 East Romeo Road
 Romeoville, Illinois 60441
 PHONE: 1-815-886-1010

COMMENTS
 Condenser Cooling Water

Total Number of Flow Days: 28
 • Chlorine Concentration Graph Attached

0002208
 PERMIT NUMBER
 001
 DIS. SEC.
 99 2 1 TO 99 2 28
 YEAR MO DAY YEAR MO DAY
 REPORTING PERIOD FROM TO

MAS-2-DR

PARAMETER	3-CASE ONLY			QUANTITY			CONCENTRATION			UNITS	# OF EX	ANALYSIS FREQUENCY	SAMPLE TYPE	
	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM					
Flow	324.0	675.7	894.2	MGD	0						Continuous	N.A.		
Intake Temperature	45.0	49.9	55.0	°F	0						Continuous	N.A.		
Discharge Temperature	50.0	55.0	60.0	°F	0						Continuous	N.A.		
TRO								0.00		mg/l	1/Week	Grab		
Chlorination Frequency	0	0.5	1.0	per unit per day	0			0.05*			1/Week	Grab		
Chlorination Duration	0	None	45	min/day	0						1/Week	N.A.		
NaOCl Applied	0.0163	163.02	230.6	lb/day	0						1/Week	N.A.		
NaBr Applied	0.0142	142.22	201.0	lb/day	0						1/Week	N.A.		
NAME OF PRINCIPLE EXECUTIVE OFFICER	House, Karen A.			TITLE OF THE OFFICER			Plant Manager			DATE			99 03 24	
LAST, FIRST MI	House, Karen A.			TITLE			Plant Manager			DATE			99 03 24	

Signature of Principle Executive Officer or Authorized Agent
Karen A. House

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

This agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111.1.2, Section 1042. Disclosures of this information is required. Failure to do so may result in a civil penalty up to \$10,000.00 per day of violation or a fine up to \$25,000.00 per day of violation and imprisonment up to one year. This form has been approved by the Forms Management Center.

May 6 1999

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS
DISCHARGE MONITORING REPORT

PERMITTEE NAME: Commonwealth Edison Company
 ADDRESS: Will County Station
 528 East Romeo Road
 Romeoville, Illinois 60441
 PHONE: 1-815-888-1010

COMMENTS
 Condenser Cooling Water

Total Number of Flow Days: 31
 • Chlorine Concentration Graph Attached

4. 10. 0002208 PERMIT NUMBER
 07. 10. 001 DIS
 01. 10. SC
 REPORTING PERIOD FROM 99 1 1 TO 99 1 31
 YEAR MONTH DAY YEAR MONTH DAY

MAJ-a-DR

PARAMETER	3 CARD ONLY (01. 01.)			QUANTITY (04. 01.)			UNITS (02. 01.)			CONCENTRATION (04. 01.)			ANALYSIS FREQUENCY (04. 02.)	SAMPLE TYPE (02. 02.)
	MINIMUM (01. 02.)	AVERAGE (01. 03.)	MAXIMUM (01. 04.)	MINIMUM (02. 02.)	AVERAGE (02. 03.)	MAXIMUM (02. 04.)	MINIMUM (04. 01.)	AVERAGE (04. 02.)	MAXIMUM (04. 03.)	MINIMUM (04. 04.)	AVERAGE (04. 05.)	MAXIMUM (04. 06.)		
Flow	400.3	602.9	829.6	MGD	0								Continuous.	N.A.
Intake Temperature	40.0	44.0	52.0	°F	0								Continuous	N.A.
Discharge Temperature	44.0	50.2	60.0	°F	0								Continuous	N.A.
TRO										0.00	0.05*		1 / Week	Grab
Chlorination Frequency	0	0.5	1.0	per unit	0								1 / Month	N.A.
Chlorination Duration			45	min/day	0								1 / Month	N.A.
NaOCl Applied	118.11	162.12	230.6	lb/day	0								1 / Month	N.A.
NaBr Applied	102.81	141.22	201.0	lb/day	0								1 / Month	N.A.

Signature of Principle Executive Officer or Authorized Agent

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

NAME OF PRINCIPLE EXECUTIVE OFFICER: House, Karen A.
 TITLE: Plant Manager
 DATE: 99 07 25
 YEAR MONTH DAY

This agency is authorized to require this information under Illinois Revised Statutes, 1978, Chapter 111.2, Section 1042. Disclosure of this information is required. Failure to do so may result in a civil penalty up to \$10,000.00 per day of violation or a fine up to \$25,000.00 per day of violation and imprisonment up to one year. This form has been approved by the Forms Management Center.

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JAN 25 1999

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS
 DISCHARGE MONITORING REPORT

PERMITTEE NAME: Commonwealth Edison Company
 ADDRESS: Will County Station
 529 East Romeo Road
 Romeoville, Illinois 60441
 PHONE: 1-815-886-1010

COMMENTS
 Condenser Cooling Water
 Total Number of Flow Days: 31
 Chlorine Concentration Graph Attached

14.18 0002208 PERMIT NUMBER
 17.18 001 DAS
 19.18 SC

REPORTING PERIOD FROM 98 YEAR 12 MO 1 DAY TO 98 YEAR 12 MO 31 DAY

21.18 LATITUDE 22.18 LONGITUDE

MAS-2-DR

PARAMETER	QUANTITY			UNITS	# OF EX	CONCENTRATION			UNITS	# OF EX	ANALYSIS FREQUENCY	SAMPLE TYPE
	MINIMUM	AVERAGE	MAXIMUM			MINIMUM	AVERAGE	MAXIMUM				
Flow	516.2	790.4	1006.6	MGD	0						Continuous	N.A.
Intake	None	None	None								Continuous	N.A.
Temperature	45.0	56.2	69.0	°F	0						Continuous	N.A.
Discharge	None	None	None								Continuous	N.A.
Temperature	50.0	61.7	73.0	°F	0						Continuous	N.A.
TRO	None	None	None								Continuous	N.A.
Chlorination	0	0.6	1.0	per unit							1 / Week	Grab
Frequency	None	None	None	per day	0						1 / Week	Grab
Chlorination	None	None	45	mlr/day							1 / Month	N.A.
Duration	120/Unit			per unit	0						1 / Month	N.A.
NaOC	148.51	190.52	214.9	lb/day	0						1 / Month	N.A.
Applied	None	None	None								1 / Month	N.A.
NaBr	129.41	166.01	187.2	lb/day	0						1 / Month	N.A.
Applied	None	None	None								1 / Month	N.A.

[Signature]
 Signature of Principle Executive Officer or Authorized Agent

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

DATE
 99 YEAR 01 MO 18 DAY

TITLE OF THE OFFICER
 Plant Manager

NAME OF PRINCIPLE EXECUTIVE OFFICER
 House, Karen A. MI

This agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111.1 2, Section 1042. Disclosure of this information is required. Failure to do so may result in a civil penalty up to \$10,000.00 per day of violation or a fine up to \$25,000.00 per day of violation and imprisonment up to one year. This form has been approved by the Forms Management Center.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

RECEIVE
MAR 30 1998

PERMITTEE NAME: Commonwealth Edison Company
ADDRESS: Will County Station
529 East Romeo Road
Romeoville, Illinois 60441

COMMENTS
Condenser Cooling Water

Total Number of Flow Days: 28
* Chlorine Concentration Graph Attached

PHONE: (630) 0002208 (ST) 001 (DS) 001 (SIC)

REPORTING PERIOD FROM 98 2 1 TO 98 2 28

MAS-2-DR

PARAMETER	3 CARD ONLY			QUANTITY			4 CARD ONLY			CONCENTRATION			ANALYSIS FREQUENCY	SAMPLE TYPE		
	REPORTED PERMIT CONDITION	MINIMUM	AVERAGE	MAXIMUM	UNITS	# OF EX	MINIMUM	AVERAGE	MAXIMUM	UNITS	# OF EX	MINIMUM			AVERAGE	MAXIMUM
Flow	0.0	None	536.5	816.5	MGD	0									Continuous	N.A.
Intake Temperature	40.0	None	44.6	51.0	°F	0									Continuous	N.A.
Discharge Temperature	52.0	None	59.6	67.0	°F	0									Continuous	N.A.
TRO												0.00			1/Week	Grab
Chlorination Frequency	0	None	0.5	1	per unit per day	0									1/Week	Grab
Chlorination Duration	None	None	None	None	min/day per unit	0									1/Week	N.A.
NaOCl Applied	0.0	None	128.8	214.9	lb/day	0									1/Week	N.A.
NaBr Applied	0.0	None	112.3	187.2	lb/day	0									1/Week	N.A.
I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.																
NAME OF PRINCIPLE EXECUTIVE OFFICER										DATE						
Spedl, F. Gary										98 3 23						
TITLE OF THE OFFICER										YEAR MO DAY						
Plant Manager										98 3 23						
LAST, FIRST MI										YEAR MO DAY						
Signature of Principle Executive Officer										or Authorized Agent						

This agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1.2, Section 1042. Disclosure of this information is required. Failure to do so may result in a civil penalty up to \$10,000.00 per day of violation or a fine up to \$25,000.00 per day of violation and imprisonment up to one year. This form has been approved by the Forms Management Center.

RECEIVED
FEB 23 1998

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
 DISCHARGE MONITORING REPORT

PERMITTEE NAME: Commonwealth Edison Company
 ADDRESS: Will County Station
 629 East Romeo Road
 Romeoville, Illinois 60441
 PHONE: 1-815-886-1010

COMMENTS
 Condenser Cooling Water

Total Number of Flow Days: 31
 * Chlorine Concentration Graph Attached

PERMIT NUMBER: 000220B
 PERMIT NUMBER: 001
 SIC: []

REPORTING PERIOD: FROM 98 YEAR 1 MO 1 DAY TO 98 YEAR 1 MO 31 DAY

MAS-2-DR

PARAMETER	QUANTITY			CONCENTRATION			UNITS	# OF EX	ANALYSIS FREQUENCY	SAMPLE TYPE
	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM				
Flow	224.6	693.0	1150.6				MGD	0	Continuous	N.A.
Intake Temperature	38.0	44.1	52.0				°F	0	Continuous	N.A.
Discharge Temperature	47.0	54.6	62.0				°F	0	Continuous	N.A.
TRO									1 / Week	Grab
Chlorination Frequency	0	0.8	1				per unit	0	1 / Month	N.A.
Chlorination Duration			45				min/day		1 / Month	N.A.
NaOCl Applied	51.8	172.8	274.5				lb/day	0	1 / Month	N.A.
NaBr Applied	45.0	150.7	239.4				lb/day	0	1 / Month	N.A.

[Signature]
 Signature of Principle Executive Officer
 or Authorized Agent

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

DATE: 98 YEAR 2 MO 17 DAY

TITLE OF THE OFFICER: Plant Manager

NAME OF PRINCIPLE EXECUTIVE OFFICER: Spedl, F. Gary
 LAST, FIRST MI

This agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111.2, Section 1042. Disclosure of this information is required. Failure to do so may result in a civil penalty up to \$10,000.00 per day of violation or a fine up to \$25,000.00 per day of violation and imprisonment up to one year. This form has been approved by the Forms Management Center.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
DAVID R. ZENZ REGARDING DISSOLVED OXYGEN ENHANCEMENT
STUDIES**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to David R. Zenz regarding dissolved oxygen enhancement:

1. Are the Chicago Area Waterways (“CAWS”) currently consistently meeting the dissolved oxygen standards that are currently applicable to them?
2. Does IEPA generally require NPDES permits to be written so as to preclude violation of dissolved oxygen standards?
3. Is MWRDGC violating its current permits each time that any part of the CAWS violates the existing dissolved oxygen standard?
4. Did you consider the costs of implementing controls necessary to meet the currently applicable DO standards?
5. How do the discharges from the Calumet, North Side or Stickney affect dissolved oxygen levels in the CAWS?
6. In Attachment A, Figure 10, how do you explain the impact new aeration stations have on DO concentrations in the Chicago River Main Stem for the period of October 2000 to May 2001 and the diminished impact from May to August 2001?
7. Did you take any effects of phosphorus or nitrogen pollution on DO levels into account in designing these studies?
8. Have you or CTI been involved in the preparation of any studies designed to determine the cost to Illinois dischargers of treating for phosphorus or nitrogen?
9. In calculating the capital costs of the work needed to meet the proposed dissolved oxygen standards, when is it assumed that construction would begin for each recommended project?
10. Are there other studies, calculations or work sheets that support the estimates and calculations made in QQ, PP, and OO of the IEPA initial filing? If so, please present them at the hearing.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
SAMUEL G. DENNISON REGARDING BUBBLY CREEK**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Samuel G. Dennison regarding Bubbly Creek:

1. On page 4 of your testimony you indicate that DO levels can fall to zero for up to three days following rain events. Has MWRDGC seen evidence of fish kills caused by such events?
2. Where do the fish that do not die go after such an event?
3. Generally does MWRDGC know where the fish go to avoid extreme low DO conditions in Bubbly Creek?
4. Where do fish go when DO conditions are extremely low in the North Shore Channel or other locations or is it thought that the fish die?
5. Were there fish kills that resulted from any of the DO drops that are reflected in Attachment 3?
6. Has the MWRDGC observed fish kills in Bubbly Creek?
7. Does MWRDGC propose that conditions be allowed to continue such that dissolved oxygen levels are allowed to fall below 3 mg/L in Bubbly Creek?
8. Does Bubbly Creek now constitute an "attractive nuisance" for fish, as stated on page 5 of your testimony?
9. Who prepared Attachment 2 to your testimony?
10. What has happened to the recommendations and ideas suggested in Attachment 2?
11. Has MWRDGC considered doing any of the things discussed in Attachment 2?
12. On page 6 of your testimony you propose a narrative standard for Bubbly Creek that would stay in place until sometime after 2024. As a practical matter, what DO levels would need to be maintained to protect such a narrative standard?
13. What would the MWRDGC do to assure compliance with your proposed narrative standard for Bubbly Creek?
14. Regarding attachment 3 p. 15, do you know what caused the DO collapse at Main St. in December 2006?
15. If Bubbly Creek cannot be expected to maintain a standard of 4 mg/L DO, how is it that the North Shore Channel at Main St. generally stays above 5 mg/L DO?

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
THOMAS E. KUNETZ, P.E.**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Thomas E. Kunetz, P.E. regarding certain capital costs:

1. How is the time value of money taken into account in calculating the various capital costs that are provided in your testimony?
2. Do these figures take into account the construction schedule now planned for these projects? For example, are the costs of expected expenditures for work that is expected to be done in 2015 given in a present value figure discounted from 2015 to 2008?
3. Is a 3% interest rate is used by the MWRDGC in making all of the present value calculations?
4. What inflation rate is assumed?
5. Over what period of time is the cost of a capital expenditure amortized by MWRDGC?
6. Does the MWRDGC also have plans for work on the Tunnel and Reservoir Plan (Deep Tunnel)?
7. How much has MWRDGC invested in the TARP?
8. How much does MWRDGC intend to invest in the future in TARP?
9. What are the yearly operating and maintenance costs of running TARP?

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
ROBERT S. ELVERT**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Robert S. Elvert:

1. Are you aware of current recreational use of the Upper Dresden Pool above the I-55 Bridge?
2. If so, please describe the current types and extent of recreational use in the Upper Dresden Pool above the I-55 Bridge.
3. Is current recreational use of the Upper Dresden Pool interfering with Exxon Mobil operations or, to your knowledge, the operations of other businesses?
4. What do you understand is the current recreational use designation of the Des Plaines River above the I-55 Bridge?
5. What is your understanding of how the IEPA proposal will change the recreational designation of the Des Plaines River above the I-55 Bridge?
6. Are there currently facilities to assist recreational boaters near the Exxon Mobil refinery or the I-55 Bridge?

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE) R08-09
CHICAGO AREA WATERWAYS SYSTEM) (Rulemaking- Water)
AND THE LOWER DES PLAINES RIVER:)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304)
)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
PAUL L. FREEDMAN**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Paul L. Freedman:

1. In various parts of your testimony you mention temperature effects as something that you do not believe that IEPA adequately studied. What portions of the CAWS need further study with regard to temperature effects?
2. What are the significant thermal dischargers to the CAWS?
3. Are the current CSOs harming aquatic life in any portion of the CAWS?
4. If your answer to question 3 is "yes," in what portions of the CAWS is aquatic life being significantly affected?
5. Are you aware of any wet weather standard that would allow dissolved oxygen conditions to fall below 1 mg/L for a significant period?

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
JOHN MASTRACCHIO REGARDING ECONOMIC ASSESSMENT FOR
DISINFECTION FACILITIES**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to John Mastracchio regarding the economic assessment for disinfection facilities:

1. What is the annualized cost of the estimated capital element for disinfection broken down for Stickney, North Side and Calumet STP for UV disinfection?
2. How was the time value of money taken into account in calculating the various capital costs that are presumed by your testimony?
3. How do these figures take into account the construction schedule now planned for these projects? For example, are the costs of expected expenditures for work that is expected to be done in 2015 given in a present value figure discounted from 2015 to 2008?
4. What interest rate is used by the MWRDGC in making present value calculations?
5. Over what period of time is the cost of a capital expenditure amortized by MWRDGC?
6. Does MWRDGC intend to finish the TARP and, if so, how does it intend to fund the completion of that project?
7. On page 3 of your testimony you refer to "user charges." What user charges are now charged by MWRDGC?
8. Can MWRDGC raise any of its user charges without additional authority from the legislature?
9. Can MWRDGC pay for its existing capital plans without an act of the state Legislature or a referendum after 2016?
10. Can MWRDGC pay for completion of the TARP without an act of Congress?
11. Can MWRDGC complete TARP without an act of the state legislature?
12. What is the basis for the estimated \$2.8 billion estimate of the cost to MWRDGC if effluent nutrient limits are imposed in the future?
13. What effluent limits are assumed would be imposed for nitrogen and for phosphorus in making this estimate?

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
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AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
JOHN MASTRACCHIO REGARDING ECONOMIC ASSESSMENT FOR
DISSOLVED OXYGEN ENHANCEMENT FACILITIES**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to John Mastracchio regarding the economic assessment for dissolved oxygen enhancement facilities:

1. Does the Chicago Area Waterway System (CAWS) currently always meet the existing dissolved oxygen standards?
2. What effect does the existing level of violations of the current DO standards have on MWRDGC?
3. What investments does MWRDGC intend to make to assure compliance with the water quality standards that are now applicable to the CAWS?
4. Has the MWRDGC determined the difference in costs between meeting the existing standards applicable to CAWS and the proposed standards?
5. If the answer to question 3 is yes, what is the net increase in capital and O&M costs that would be imposed on the MWRDGC to meet the proposed IEPA dissolved oxygen standards?
6. Can MWRDGC pay for improvements needed to meet the currently applicable dissolved oxygen standards without an act of the state Legislature or a referendum?

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
DAVID R. ZENZ REGARDING EFFLUENT DISINFECTION STUDIES**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to David R. Zenz regarding effluent disinfection studies:

1. How many disinfection facilities have you been involved in planning or building?
2. How many of these were in Illinois?
3. Could you name the Illinois disinfection facilities on which you have worked?
4. Do you believe that the disinfection facilities on which you have worked performed reasonably well?
5. Did MWRDGC disinfect at its Calumet, North Side or Stickney plants at any time in the past?
6. Did you consider using any idle existing disinfection equipment at any of these plants?
7. In calculating the operation and maintenance costs for disinfection, what period of the year was it assumed that disinfection would take place?
8. When was the construction schedule discussed on pages 9-10 of your testimony worked out and who developed the schedule?
9. Have you worked on other disinfection projects?
10. In calculating the capital costs of disinfection at the three plants, when is it assumed that construction would begin at each plant?
11. How were the presumed inflation and interest rates decided on?
12. Are there other studies, calculations or work sheets that support the estimates and calculations made in the August 2005 CTI disinfection study? If so, please present them at the hearing.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
CARL ADAMS AND ROBIN GARIBAY**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Carl Adams and Robin Garibay:

1. On page 3 of your testimony you state that Stepan's Outfall 001 would be subjected to the proposed temperature standards "likely without the option of a mixing zone due to upstream sources of warm effluent and the general nature of the Lower Des Plaines River." What upstream sources of effluent are you talking about?
2. How does the "general nature of the Lower Des Plaines River" affect the ability of Stepan to obtain a mixing zone?
3. What is the available dilution in the Des Plaines River at the point of Stepan's discharge?
4. Do recreational boaters currently use the river in the vicinity of the Stepan discharge?
5. Has Stepan ever been denied a mixing zone before because of the fact that a segment of the Des Plaines was violating water quality standards?
6. What is the distance from Stepan's wastewater treatment plant to the discharge point?
7. What businesses or other facilities are in the area of the Stepan Millsdale plant?
8. Has Stepan recently attempted to buy land in the area of the Millsdale plant?
9. What is the source and nature of the "sanitary waste" coming from the septic system overflow discharged under NPDES Permit No. IL0002453 mentioned by your testimony at page 3?
10. Does the "sanitary waste" contain human pathogens?
11. How many people regularly work at the Millsdale plant?
12. What sanitary facilities are provided for people working at the Millsdale plant?
13. Does Stepan currently discharge nitrogen and phosphorus into the Des Plaines River?
14. Is there any source of fecal coliform in the Millsdale plant discharge other than sanitary waste?
15. Does the Des Plaines River now occasionally violate dissolved oxygen standards in the Upper Dresden Pool at the the I-55 Bridge?
16. What is your understanding of how dissolved oxygen effluent limits are normally set by IEPA?

17. Are you aware of any discharger in Illinois that is required to meet effluent limits based on meeting the dissolved oxygen water quality standard at the end of the pipe where there is substantial dilution?
18. Have you considered wetland treatment for pathogens, phosphorus, nitrogen or heat?
19. Do you have data for intake temperatures for the Stepan plant? If so, please present them at the hearing.
20. Do you have data regarding the temperatures in the Des Plaines River where the Stepan plant discharges? If so, please present them at the hearing.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
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WATER QUALITY STANDARDS AND)
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CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
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**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
ALAN L. JIRIK**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to Alan L. Jirik:

1. Are you aware of current recreational use of the Chicago Sanitary and Ship Canal?
2. If so, please describe the current types and extent of recreational use in the Chicago Sanitary and Ship Canal.
3. Is the entire Chicago Sanitary and Ship Canal characterized by steep concrete walls?
4. Is some or all of the CSSC shaded?
5. What do you understand is the current recreational use designation of the Chicago Sanitary and Ship Canal?
6. What is your understanding of how the IEPA proposal will change the recreational designation of the CSSC?
7. Are there currently facilities to assist recreational boaters on the CSSC?

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAYS SYSTEM) R08-09
AND THE LOWER DES PLAINES RIVER:) (Rulemaking - Water)
PROPOSED AMENDMENTS TO 35 Ill. Adm.)
Code Parts 301, 302, 303 and 304.)

**PRE-FILED QUESTIONS OF
ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO
JAMES E. HUFF, P.E.**

The Environmental Law and Policy Center of the Midwest and the Illinois Chapter of the Sierra Club hereby file questions to James E. Huff, P.E.:

1. Why does it matter here that the Chicago Sanitary and Ship Canal (“CSSC”) is “artificial?”
2. Do you know from your personal experience on the CSSC whether fishing, recreational boating or any other recreational uses occur upstream of the Calumet Sag Channel confluence? Please describe.
3. Do you know from your personal experience on the CSSC, whether fishing, recreational boating or any other recreational uses occur downstream of the Calumet Sag Channel confluence? If so, please describe.
4. On page 4 of your testimony you express concern about the hazard the electric barrier at river mile 296.5 presents to boaters. Can you tell us the distance in feet between the most upstream and most downstream point on the barrier system (including Barrier I, IIA and IIB)?
5. Can you characterize the likely number of people crossing this barrier per year and distinguish between shipping personnel, agency or working personnel (Coast Guard, MWRD, Midwest Generation, contract biologists, etc) and recreational passengers?
6. On page 5 of your testimony, you state “These electric barriers...will also prevent all other fish from migrating up or down the Ship Canal at Lockport, effectively terminating the water body at this point from a biological perspective. What does it mean to “terminate a water body from a biological perspective”?
7. Are you aware of evidence of fish migration through the CSSC? Is the CSSC a historical migration route for fish?
8. Are you aware of other water bodies that have an upstream terminus, in terms of fish
9. movement?
10. How are water bodies with such an upstream terminus preventing fish passage managed? How does an upstream terminus affect water quality? How does it impact resident fish populations?

11. What is the basis for your statement on p. 4 that the Fisk, Crawford and Will County power plants provide "low cost" electricity to the City of Chicago?
12. Why does it matter that the CSSC is "effluent dominated," as mentioned on page 4?
13. Are discharges from the MWRDGC plants harmful to aquatic life?
14. On page 5 you mention other industries that have a "thermal component" to their discharge. What other industries? Are any thermal discharges to the CSSC significant in comparison with Midwest Generation and, during the winter, the MWRDGC?
15. At the top of page 6 of your testimony, you mention the Fisk, Crawford and Will County plants as supplying power during "peak energy demand periods." Is it your belief that they supply power only during such periods? What is the basis for that belief?
16. You mention on page 6 that there are "no backwater areas or tributary mouths along the Ship Canal." Why does this matter?
17. Are you aware of any connections between the CSSC and the Illinois and Michigan (I&M) Canal?
18. Do you agree that there are currently fish in the CSSC?
19. Are there any distinctions to be made within the CSSC that are relevant to aquatic life?
20. You mention on page 7 that there are no public access points downstream of the Calumet-Sag confluence with the CSSC. What access points do you know of above the Calumet-Sag confluence?
21. On page 8 of your testimony you state that "it is improbable that any indigenous species to the Great Lakes would establish a viable population in the Ship Canal?" What is meant by this statement? Do you believe that fish from the Great Lakes do not generally enter the CSSC?
22. How do you believe that the gizzard shad and other species now present in number in the CSSC get there?
23. On page 8 of your testimony, you consider fish movement from Lake Michigan to the CSSC. Are you aware of fish movement from the Lower Des Plaines to the Ship Canal?
24. Are you aware of seasonal fish movement in the canal towards the aeration stations, warm water discharges from the industrial dischargers or spilled grain from grain elevators adjacent to the CSSC?
25. On page 8 of your testimony, you state "The Ship Canal is also routinely subject to unavoidable moderate to severe sediment scouring associated with barge traffic? What evidence do you have to support this statement?
26. Can you tell us the range and average depths of the CSSC? Can you tell how deep the draft from the barge traffic can be?
27. On page 8 you state that the CSSC does not currently meet the 500mg/L chloride standard. Do you know approximately how many days it fails to meet this standard? If so, how many?
28. Approximately what percentage of the time does the CSSC fails to meet the chloride standard?
29. With your experience along and within the CSSC, can you provide examples of best management practices that could help alleviate this problem?
30. On page 9 you state that "industrial dischargers will lose their mixing zones [for thermal, chloride and sulfate] during periods of water quality violations. Why do you believe this is true?

31. To your knowledge, does IEPA generally prohibit mixing during periods of water quality violations?
32. To your knowledge, does IEPA currently prohibit discharge by Corn Products or Citgo of Carbonaceous Biological Oxygen Demand (CBOD) or require DO levels to meet the water quality standards at the end of the pipe as to any period or time?
33. On page 9, you refer to "growth by wet industries." What is a "wet industry?"
34. You also express concern regarding the "long-term fate of the three coal fired power plants." What do you mean by "long-term" here?
35. Is Citgo or Corn Products dependent on the Fisk or Crawford plants staying open for any particular amount of time?
36. Do Citgo or Corn Products receive or send materials by barge? What is received and sent? Approximately how much is received and sent for each operation?
37. To your knowledge, does the Board grant variances from water quality standards when these are shown to be justified under the Board rules?
38. On page 10 of your testimony, you state "The Board has already granted variances relating to Total Dissolved Solids to Citgo [and changed the water quality standard for TDS for the Exxon-Mobil Refinery]." Can you explain the latter part of this statement?
39. Can temperatures of 100 degrees kill any of the 8 species that have been identified as representative species in the CSSC?
40. On pages 14 and 15 of your testimony, you discuss the increase in the percent catch of the bluntnose minnow? How does this affect your analysis?
41. In your testimony, you make the point that high fish diversity is found downstream of the Fisk and Crawford facilities. Can you tell us during what season this is the case? With the data used to support this statement, it is possible to detect seasonal movements and changes in species diversity? Can this data show abundance on a monthly or seasonal level?
42. Are you aware of any improvements to the chemical quality of the CSSC that have occurred or the last 30 years? If so, what are those improvements?
43. Do you know how actual temperatures in the CSSC (as opposed to permitted temperatures) have changed over the last 30 years?

CERTIFICATE OF SERVICE

I, Albert F. Ettinger, the undersigned, hereby certify that I have served the attached PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO MARCELO H. GARCIA, PhD; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO ADRIENNE NEMURA; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO STEPHEN F. MCGOWAN; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO SUSAN O'CONNELL; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO SCUDDER D. MACKEY; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO RICHARD LANYON; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO CHARLES S. MELCHING; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO JULIA WOZNIAK; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO DAVID R. ZENZ REGARDING DISSOLVED OXYGEN ENHANCEMENT STUDIES; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO SAMUEL G. DENNISON REGARDING BUBBLY CREEK; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO THOMAS E. KUNETZ, P.E.; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO ROBERT S. ELVERT; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND POLICY CENTER AND SIERRA CLUB TO PAUL L. FREEDMAN; PRE-FILED QUESTIONS OF ENVIRONMENTAL LAW AND

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via electronic mail on August 25, 2008; and upon the attached service list by depositing said
documents in the United States Mail, postage prepaid, in Chicago , Illinois on August 25, 2008.

Respectfully Submitted,



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