BEFORE THE
ILLINOIS POLLUTION CONTROL BOARD

AMEREN ENERGY GENERATING: COMPANY,	)	
Petitioner,	)	
v.	)	PCB _____ (Thermal Demonstration)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	)	
Respondent.	)	

APPEARANCE

Schiff Hardin LLP, by its attorney, Amy Antoniolli, files its appearance on behalf of Ameren Energy Generating Company.

Amy Antoniolli

December 15, 2008

Amy Antoniolli
Schiff Hardin LLP
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Tel: 312-258-5550
Email: aantoniolli@schiffhardin.com

BEFORE THE
ILLINOIS POLLUTION CONTROL BOARD

AMEREN ENERGY GENERATING COMPANY,	)	
Petitioner,	)	
v.	)	PCB _____ (Thermal Demonstration)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	)	
Respondent.	)	

NOTICE OF FILING

To:

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

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Pollution Control Board **PETITION TO MODIFY SPECIFIC THERMAL STANDARD, CERTIFICATE OF SERVICE,** and **APPEARANCE**, copies of which are herewith served upon you.

Ameren Energy Generating Company

Amy Antoniolli

By: Amy Antoniolli

Dated: December 15, 2008

Amy Antoniolli
SCHIFF HARDIN, LLP
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Tel: 312-258-5550
Email: aantoniolli@schiffhardin.com

CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 15th day of December, 2008, I have served electronically the attached, **PETITION TO MODIFY SPECIFIC THERMAL STANDARD and APPEARANCE**, upon the following persons:

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

Joey Logan-Wilkey
Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276

and by first class mail, postage affixed, upon:

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276

Amy Antoniolli
By: Amy Antoniolli

December 15, 2008

Amy Antoniolli
SCHIFF HARDIN, LLP
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
312-258-5500

BEFORE THE
ILLINOIS POLLUTION CONTROL BOARD

AMEREN ENERGY GENERATING COMPANY,	)	
Petitioner,	)	
v.	)	PCB _____ (Thermal Demonstration)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	)	
Respondent.	)	

PETITION TO MODIFY SPECIFIC THERMAL STANDARD

Submitted on behalf of
Ameren Energy Generating Company

St. Louis, Missouri

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

AMEREN ENERGY GENERATING COMPANY,	)	
Petitioner,	)	
v.	)	PCB _____ (Thermal Demonstration)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	)	
Respondent.	)	

PETITION TO MODIFY SPECIFIC THERMAL STANDARD

Ameren Energy Generating Company[1] ("Ameren" or "the Company"), by and through its attorneys, Schiff Hardin, LLP, and pursuant to Section 28.1 of the Environmental Protection Act ("Act"),[2] 35 Ill. Adm. Code 106.200 *et seq.*, and 35 Ill. Adm. Code 302.211(j)(5), requests that the Illinois Pollution Control Board ("Board") modify the specific thermal standard applicable to Ameren's heated effluent discharge to Coffeen Lake from the Coffeen Power Station, located in Montgomery County.

I. INTRODUCTION

Ameren petitions the Board to modify the specific thermal standard applicable to the Coffeen Power Station's discharge to Coffeen Lake. The current specific thermal standard was

[1] Ameren Energy Generating Company operates a non-rate regulated business in Illinois and Missouri. The Company was incorporated in Illinois in March 2000, in conjunction with the Illinois Electric Service Customer Choice and Rate Relief Law of 1997. On May 1, 2000, Central Illinois Public Service Company transferred its coal-fired generating stations, including the Coffeen Power Station, to Ameren Energy Generating Company. CIPS owns and operates electric and gas distribution utility services in central Illinois. Both CIPS and Ameren Electric Generating Company are subsidiaries of Ameren Corporation.

[2] 415 ILCS 5/28.1 (2006).

established by the Board for Central Illinois Public Service Company (CIPS, the station's then owner and operator) in 1982 pursuant to 302.211(j)(5).[3] It provides as follows:

> The thermal discharge to Coffeen Lake from the Central Illinois Public Service Company's Coffeen Power Station shall not result in a temperature, measured at the outside edge of the mixing zone in Coffeen Lake, which:
>
> 1. Exceeds 105 degrees Fahrenheit as a monthly average, from June through September, and 112 degrees Fahrenheit as a maximum for more than three percent of the hours during that same period.
>
> 2. Exceeds 89 degrees Fahrenheit as a monthly average, from October through May, and 94 degrees Fahrenheit as a maximum for more than two percent of the hours during that same period. *Id.* at 4.[4]

This language is incorporated into Ameren's current National Pollutant Discharge Elimination System ("NPDES") permit as Special Condition No. 5.[5]

Ameren now seeks to modify the specific thermal standard to increase the thermal limits for the calendar months of May and October. Coffeen Station is not able to comply at all times with the monthly average thermal limit for the months of May and October without de-rating its units or otherwise affecting operational availability. This is true for unseasonably warm days toward the end of May and in the beginning of October. At these times, summer ambient temperatures prevail, but non-summer seasonal thermal limits apply. The need for relief is

[3] CIPS v. IEPA, PCB 77-158, PCB 78-100 (consolidated) (Mar. 18, 1982).

[4] A "mixing zone" means a portion of a waterbody identified as a region within which mixing is allowed. See 35 Ill. Adm. Code 302.100. A formal definition of the area and volume of the mixing zone can be incorporated as a condition of an NPDES permit. 35 Ill. Adm. Code 302.102(d). The Board's water quality standards also provide that in no circumstances may a mixing zone encompass a surface area larger than 26 acres. 35 302.102(b)(12).

[5] Attached as Exhibit 1 is Ameren's NPDES Permit (No. IL0000108) for Coffeen Lake.

greater now than it has been in the past due to more frequent high summer temperatures, especially in periods of low lake levels.[6]

This issue is not new for Coffeen Station. In 1997, it sought and obtained relief from the thermal limits for May and October in the form of a temporary variance. The 1997 variance set the thermal discharge standard for Coffeen Station to not exceed "105 degrees Fahrenheit as a monthly average from May though October, and 112 degrees Fahrenheit as a maximum for more than 3% of the hours during that same period."[7] As a condition of that variance, CIPS was required to conduct studies and collect data regarding the effects of the Station's thermal discharge on the lake's fishery. The variance also contained a condition providing for termination of the variance if the Illinois EPA or the IDNR determined that the variance was causing an adverse impact to the lake. The Station operated under the variance for two years before a fish kill led to its termination in 1999.

However, the studies of the fishery continued. From 1997 through 2006, Southern Illinois University-Carbondale ("SIUC") conducted for Ameren studies on the effect of the station's thermal discharge on aquatic life. The data collected in those SIUC studies have been examined and summarized in a report by ASA Analysis & Communication, Inc., ("ASA") which is an exhibit in support of this Petition.[8]

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[6] In October 2007, the Agency granted Ameren a provisional variance from Ameren's NPDES thermal limits, stating "[d]ue to the extremely hot humid and dry weather conditions, the Coffeen Lake level has fallen 7 feet below normal pool. As a consequence, the capacity of the lake to dissipate heat has been drastically reduced." See Ameren Energy Generating Company Coffeen Power Station v. IEPA (IEPA—08-14) (granting the request for a provisional variance for the thermal discharge limits at Coffeen Station) which is attached as Exhibit 2.

[7] Central Illinois Public Service Co. (Coffeen Power Station) v. IEPA, PCB 97-131 (Jun. 5, 1997).

[8] See Evaluation of Potential Adverse Impacts from Revised Site-Specific Thermal Standards in May and October for Coffeen Lake prepared by ASA Analysis & Communications, Inc., which is attached as Exhibit 11 ("ASA Report")

As a result of the 1999 fish kill, and two smaller fish kills in 2001 and 2002, Ameren went forward with several significant capital projects designed to improve thermal performance of its cooling system. These efforts substantially improved cooling system performance. There have been no significant fish kills since the completion of those capital projects.

Despite these improvements, however, compliance with the thermal standard in May and October has been maintained, in part, by scheduling planned outages or extending forced outages in those months. As noted above, declining lake levels coupled with higher than normal summer temperatures exacerbated the compliance issues in 2007. In 2007, Ameren resorted to de-rating its units in May and October, at substantial financial hardship, in order to maintain compliance with the monthly average thermal limits.

As set forth in greater detail in this Petition and accompanying exhibits, the effect of modifying the thermal limits for May and October is expected to be environmentally acceptable and within the meaning of the Act to aquatic life. Studies conducted over the past decade show that Coffeen Lake has and will continue to support a robust fish and wildlife population. The proposed modification to the thermal standard is limited to an upward adjustment of the monthly average and maximum limits for the months of May and October, the transitional months between winter and summer thermal conditions. The proposed standard is 96°F as a monthly average, and 102°F as a maximum, a level between the current summer and non-summer limits.[9]

If adopted, these limits would more realistically reflect a natural thermal environment, where temperatures fluctuate daily or weekly while increasing in the spring or decreasing in the fall, rather than track the abrupt (16 to 18 degree) change inherent in the existing thermal

[9] The proposed revision to the thermal limits represents a significantly more modest adjustment to the May and October limits than was granted during the 1997 variance, which provided for a monthly average of 105°F and a maximum of 112°F not more than three percent of the hours for the period.

standard. In recent years, the natural transition in ambient temperatures has threatened exceedances of the non-summer thermal standards during unusually warm weather in May and October. The proposed revisions to the May and October limits will avoid circumstances that would cause reductions or suspension of electricity generation simply to adhere to artificially lower limits for the transition months. The lake therefore has been, and would continue to be, environmentally acceptable.

As noted above, Ameren has already invested in capital projects that have provided additional cooling capacity. Ameren has analyzed other cooling alternatives to meet the current thermal standard for May and October. That analysis concluded that potential alternatives are either technically infeasible or otherwise unreasonably cost prohibitive. Incurring substantial additional costs for the enhanced cooling technologies investigated beyond those investments already made by the Company is not economically reasonable as none of these alternatives would provide a substantial additional environmental benefit.

Accordingly, Ameren seeks an order from the Board modifying the specific thermal standard applicable to its discharge to Coffeen Lake to state the following:

> The thermal discharge to Coffeen Lake from Ameren's Coffeen Power Station shall not result in a temperature, measured at the outside edge of the mixing zone in Coffeen Lake, which:
>
> > 1. Exceeds 105 degrees Fahrenheit as a monthly average, from June through September, and a 112 degrees Fahrenheit as a maximum for more than three percent of the hours during that same period.
> >
> > 2. Exceeds 89 degrees Fahrenheit as a monthly average, from November through April, and 94 degrees Fahrenheit as a maximum for more than two percent of the hours during that same period. *Id.* at 4.
> >
> > 3. Exceeds 96 degrees Fahrenheit as a monthly average, in each of the months of May and October, and 102 degrees

Fahrenheit as a maximum for more than two percent of the hours in each of those same months.

For the reasons discussed in this Petition, Ameren respectfully requests that the Board grant this relief.

II. DESCRIPTION OF FACILITY AND THE NATURE OF PETITIONER'S ACTIVITIES

A. Location; History of Construction; Existing Physical Conditions and Operations; Nature of Area Involved.

Ameren operates the Coffeen Power Station, a two-unit 950 megawatt (MW) coal-fired generating station ("Station").[10] The Station is located approximately two miles southwest of the Village of Coffeen, in Montgomery County, Illinois.[11] The Station property encompasses about 3,200 acres of land, of which approximately 1,100 acres is occupied by the horseshoe-shaped Coffeen Lake. Agriculture is the dominant land use in the area surrounding Coffeen Station.

The Station has the capability to utilize both Illinois basin coal, which comes predominantly from mines in Central Illinois, and western Powder River Basin ("PRB") coal. The Station provides employment for 400 people.[12] Over the next three years significant environmental projects will be constructed at the station that will allow the Company to continue to burn Illinois coal, depending upon availability and economics. Such projects will utilize the services of skilled union craftsmen and provide work for many more jobs.[13]

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[10] An aerial photograph of Coffeen Station is attached as Exhibit 3.

[11] A map of Coffeen Lake is attached as Exhibit 4.

[12] See Affidavit of James Williams, which is attached as Exhibit 5, par. 4.

[13] Exhibit 5, par. 5.

Planning for Coffeen Power Station began in 1958. In 1962, the Illinois Commerce Commission granted CIPS a certificate of public convenience and necessity to construct the plant at its current location. Construction of the Station began in 1962 and the 360 megawatt (MW) Unit No. 1 went into service in 1965. A second unit, Unit No. 2, of 590 MW was placed in service in 1972. Coffeen Lake was created in 1963. It is an 1,100-acre artificial impoundment created to provide a source for Coffeen Station's once-through cooling water.[14]

While the lake was created to provide cooling water for the Station, it has since become a resource for recreational fishing and boating. In 1986, CIPS and the Illinois Department of Conservation (the predecessor of the Illinois Department of Natural Resources ("IDNR")) entered into a Lease Agreement allowing portions of Coffeen Lake and certain surrounding property to be used for conservation and public recreational purposes.[15] Under the Lease Agreement, the parties recognized that public use of Coffeen Lake and the surrounding property needed to be restricted and regulated to avoid conflict between the public use and the present and future operation of Coffeen Station. The parties developed a Site Development Management Plan which allows for public fishing and boating in certain recreational areas on Coffeen Lake. Other recreational uses initially were not permitted. Since September 1999, however, hunting and trapping have been allowed on Coffeen Lake and in the surrounding area, subject to IDNR licensing and permitting requirements.[16]

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[14] Exhibit 5, par. 6.

[15] A copy of the Lease Agreement is attached as Exhibit 6.

[16] Attached as Exhibit 7 is the IDNR website for the Coffeen Lake State Fish and Wildlife Area located at http://dnr.state.il.us/lands/landmgt/PARKS/R4/COFFEEN.HTM.

Additionally, in 1986, CIPS and the Illinois Department of Conservation entered into a Sublease Agreement with Indian Grove Campground to allow for public recreation on property located on the west side of Coffeen Lake.[17]

B. Nature of Cooling Lake and Downstream Water Bodies

Coffeen Lake was formed by damming the McDavid Branch of the East Fork of Shoal Creek at a point approximately two miles directly south of the Village of Coffeen. The lake has a watershed area of approximately 18 square miles. The spillway has an elevation of 590 feet and discharges to the East Fork of Shoal Creek. The East Fork of Shoal Creek is a "general use" water body and rated a "B" stream under the Illinois Environmental Protection Agency's Biological Stream Characterization system.[18] The creek is not listed as a biologically significant water body in the Illinois Natural History Survey publication Biologically Significant Illinois Streams. Coffeen Lake experiences extended periods of low water levels. Several months often lapse without discharge over the spillway. Prior to an overflow on April 11, 2008, the lake had not discharged to the East Fork of Shoal Creek since May 2005.[19]

C. Previous Regulatory Proceedings

On May 31, 1977, CIPS petitioned the Board for a specific thermal water quality standard to be applied to Coffeen Lake. Based on CIPS' showing, the Board set interim thermal standards for Coffeen Lake. The Board ordered that the temperature at the edge of the mixing zone not

[17] Attached as Exhibit 8 is a copy of the Sublease Agreement.

[18] Attached as Exhibit 9 is a copy of the Illinois Environmental Protection Agency's Stream Characterization Report.

[19] See Affidavit of Michael L. Menne, which is attached as Exhibit 10, par. 9.

exceed 98° F more than 8.2% of the hours in a twelve-month period, and at no time exceed 108° F.

CIPS later filed an amended petition requesting a more relaxed thermal standard than the previously-granted interim limitations.[20] The Board granted the following permanent thermal standard for Coffeen Lake:

> The thermal discharge to Coffeen Lake from the Central Illinois Public Service Company's Coffeen Power Station shall not result in a temperature, measured at the outside edge of the mixing zone in Coffeen Lake, which:
>
> 1. Exceeds 105 degrees Fahrenheit as a monthly average, from June through September, and a 112 degrees Fahrenheit as a maximum for more than three percent of the hours during that same period.
>
> 2. Exceeds 89 degrees Fahrenheit as a monthly average, from October through May, and 94 degrees Fahrenheit as a maximum for more than two percent of the hours during that same period.[21]

This is the current thermal standard and is incorporated into Ameren's current NPDES permit as Special Condition No. 5.[22]

In 1997, CIPS sought and the Board granted a 5-year variance from the current standard.[23] The variance extended the summer limits to encompass the months of May through October. CIPS sought the relief when it changed its maintenance schedule so that it no longer routinely conducted planned outages during the months of May and October.

The 1997 variance contained a condition requiring CIPS to submit a monitoring plan to Illinois EPA to study the thermal effects of the Coffeen Station discharge on the lake's fishery.

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[20] CIPS v. IEPA, PCB 77-158, PCB 78-100 (consolidated) (Mar. 18, 1982).

[21] Id., slip op. at 4.

[22] See Exhibit 1.

[23] CIPS v. IEPA, PCB 97-131 (Jun. 5, 1997).

The plan was approved by the Illinois EPA, and the studies were conducted for CIPS (now Ameren) from 1997 through 2006 by Southern Illinois University- Carbondale ("SIUC").[24]

Coffeen Station operated under the 1997 variance until the summer of 1999. In mid-July 1999, water temperatures reached atypically high levels and dissolved oxygen concentrations were depressed during a prolonged stretch of calm, cloudy weather. A significant fish kill occurred that July. The variance contained a condition allowing termination based on a determination by the Illinois EPA or DNR that the thermal standards of the variance caused an adverse impact such as a fish kill. The 1999 fish kill resulted in a suspension of the variance even without any determination that May and October water temperatures were related to the conditions experienced during July 1999.[25] The thermal standards for May and October reverted to the previous winter limits (89° F and 94° F) and Coffeen continues to operate under these site-specific standards.[26]

SIUC later concluded that the 1999 fish kill was likely induced by a combination of factors including prolonged periods of relatively hot air temperatures and low levels of dissolved oxygen. Independent of the thermal discharge, in 1999, calm, cloudy weather accompanied the warm ambient water temperatures, resulting in dissolved oxygen depletion. The calm winds that year kept the lake surface from being oxygenated by wave action and reduced mixing in the water column. Cloud cover reduced light penetration which, in turn, reduced levels of oxygen produced through photosynthesis. According to SIUC, ambient weather clearly played a

[24] Exhibit 10, par. 6.

[25] Exhibit 10, par. 7.

[26] Exhibit 10, par. 7; Exhibit 11, par. 1.2.

significant role as fish kills were also reported in ambient lakes such as East Fork Lake in Olney.[27]

Two smaller fish kills were recorded in the summers of 2001 and 2002. Like the 1999 fish kill, the two later events occurred in late June and/or July, during prolonged periods of high ambient temperatures.[28]

Furthermore, in subsequent studies, SIUC evaluated whether the 1999 fish kill and the two smaller kills adversely affected the three sport fish populations. SIUC concluded that the fish kill was insignificant from Coffeen Lake's overall fish population standpoint and did not have an impact on the fishery as a whole (SIUC, March 2005). ASA agrees with this conclusion.

Finally, Ameren sought and obtained a provisional variance in October 2007. Extreme weather conditions and fallen lake levels served as the justification for the 2007 provisional variance.[29]

D. Method of Heat Dissipation

Waste heat is rejected from the Station primarily by means of Coffeen Lake, an artificial cooling lake. Both Units 1 and 2 have two circulating water pumps. Cooling water for the condensers is obtained from the lake through a crib house located in the western arm of the lake. After passing through the condensers, the cooling water is discharged into Coffeen Lake via a 17-foot diameter discharge pipe which empties into an open flume.[30] Circulating cooling water travels back through the 0.6 mile flume which discharges over a spillway back into the eastern

[27] Exhibit 11, par. 3.7.

[28] Id.

[29] See Exhibit 2.

[30] Exhibit 5, par. 7.

arm of Coffeen Lake. The total length of the cooling water path from the discharge spillway structure to the intake crib house is 4.1 miles. The circulation pattern for the cooling water in Coffeen Lake is in a clockwise direction and takes 7-10 days to complete, depending on the number of pumps in operation and the lake level.[31]

Beginning in 2000, Ameren moved forward with several capital projects designed to enhance cooling capability in addition to the historic once-through lake arrangement. In 2000, Ameren developed a 70-acre supplemental cooling basin which is located near the open flume terminus for the cooling water discharge. That project was completed at a cost of $20,734,000.[32]

In 2002, Ameren installed a 48-cell helper cooling tower structure. The helper cooling tower structure is also located adjacent to the open flume. The cooling tower project was completed at a total cost of $6,833,000.[33] Both the supplemental cooling basin and the cooling tower structure are supplied from upstream of the flume discharge in order to condition the circulating water temperature to meet the mixing zone limits.[34]

The station has the capability to direct the circulating water flow to the basin, the cooling towers, the mixing zone or a combination of the three. In its current configuration, the cooling basin and cooling towers can draw up to 90% of the maximum plant discharge.[35]

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[31] See Exhibit 5, par. 8.

[32] Id. at par. 10.

[33] Id.

[34] Id.

[35] Id. at par. 9.

E. Thermal Environment of Coffeen Lake

Since 1997, SIUC has monitored water temperatures and dissolved oxygen concentrations at several locations and various depths in Coffeen Lake. The data has been reviewed and summarized in a report by ASA.[36]

As explained in greater detail in the ASA Report, mean daily water temperatures during the period 1997 through 2007, as measured at the edge of the mixing zone, have followed a regular seasonal pattern, occasionally exceeding 100°F in July and August, and reaching lows of 44 to 55°F in January. Since 1997, average daily water temperatures at the edge of the mixing zone in May and October typically have been 80 to 90°F, and rarely have exceeded 96°F. Maximum daily temperatures during those two months typically have been in the 90s, and have not exceeded 102°F.[37]

Data collected by SIUC also confirm that water temperatures vary throughout the lake. Temperatures at the edge of the mixing zone (in the eastern arm of the lake) represent the warmest temperatures to which fish and other organisms are exposed outside of the mixing zone. Temperatures at the plant intake structure (in the western arm) are 10 to 15 degrees cooler during the period May through October.[38]

Temperatures also vary over the course of the day. Hourly temperature data express an especially pronounced diel cycle during the warmest months.[39] Vertical stratification of

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[36] Exhibit 11.

[37] See Exhibit 11, at Section 2.3.

[38] Id.

[39] See Exhibit 11, at Section 2.3.1.

temperatures and dissolved oxygen occurs in summer months, especially in deeper parts of the lake.[40]

Finally, the SIUC data indicate that raising water temperatures in the mixing zone during May via higher thermal limits will not necessarily result in warmer temperatures throughout the remainder of the summer. Utilizing the concept of "degree-days", ASA was able to examine the SIUC data to assess longer term, cumulative effects of temperatures. It examined data over the eleven-year period 1997 through 2007. The examination found that there was no statistically significant relationship between May temperatures (degree-days) and the degree-days accumulated over the subsequent five-month June to October period.[41]

F. Generating Capacity, Availability and Demand Growth

In 1997, a substantial restructuring of Illinois' electric markets and electric industry was initiated by enactment of the Illinois Electric Service Customer Choice and Rate Relief Law of 1997.[42] The Company was formed to own and operate a non-regulated wholesale electric generating business. CIPS transferred its electric generating assets, including Coffeen Station, to the Company as part of that restructuring. The other major Illinois electric utilities also sold or transferred their generating assets to unregulated wholesale generating companies.

Like the other major Illinois electric utilities, CIPS continues to provide electricity distribution services to retail consumers in Illinois. These utilities also continue to be required to acquire electricity on the wholesale market to be provided, at the cost of acquisition, to retail

[40] See Exhibit 11, at Section 2.3.2.

[41] See Exhibit 11, at Section 2.3.3.

[42] 220 ILCS 5/16-101 *et seq.*

customers that do not purchase electricity directly from competitive retail suppliers. CIPS and the other major Illinois utilities acquire electricity primarily to supply residential and small business customers. The utilities acquire a substantial portion of this electricity under contracts bid through a procurement process established by legislation enacted in 2007. The prices that CIPS and other utilities – and thus, their retail customers – pay for electricity, however, are ultimately determined by prices in the wholesale electricity markets in Illinois and the Midwest.

All the Company's generating plants, including Coffeen, now compete to sell energy and capacity in the wholesale electricity markets. The Midwest Independent System Operator ("MISO") exercises functional control of electric transmission facilities, administers wholesale electricity markets, and acts as the reliability coordinator, within its footprint in all or parts of 11 states in the upper Midwest, including most of Illinois.[43] MISO administers day-ahead and hourly energy markets in its footprint by receiving bids from wholesale electric generators to supply electricity and matching these bids against the needs of wholesale purchasers in the region. MISO accepts suppliers' bids as needed to meet the demands of buyers based on "security-constrained economic dispatch", meaning that MISO selects the lowest bid prices consistent with the need to have generators operating throughout the region to maintain reliability of the grid.[44]

Owners of generating stations such as Coffeen can commit (some or all of) the output of their plants to particular wholesale buyers through contracts, or bid (some or all of) the output of their plants into the MISO wholesale markets, or both. In either event, the amount of electric capacity and energy a plant like Coffeen is able to deliver impacts the market prices for

[43] See Exhibit 5, par. 17.

[44] See Exhibit 5, par. 18.

electricity in Illinois. Coffeen is a baseload plant with low variable costs per MWh generated; its power generation is among the most inexpensive power available in Illinois. Therefore, to the extent Coffeen's generating capability is reduced, higher-cost generating resources must be operated to serve the total electricity demand in Illinois and the Midwest, thereby increasing the wholesale market prices of electricity in the region. Additionally, the principle of security-constrained economic dispatch means that to the extent Coffeen's availability to supply electricity is reduced, electricity may need to be imported into the Central Illinois area from more distant generators, at higher costs.[45]

These impacts may be felt by retail customers in the immediate term and will be felt by retail customers in the longer term. In the immediate term (day-to-day), to the extent the electric utilities rely on purchases from the MISO day-ahead and hourly markets for a portion of the electricity they need to serve retail customers, the unavailability or reduced availability of a lower-cost generator like Coffeen will increase the daily and hourly market prices. Further, on unseasonably warm days, demand for electricity will be higher, thereby exacerbating the impact on prices and costs to consumers of the reduced availability of a baseload generator like Coffeen. In the longer term, the experience of higher wholesale prices for electricity in Illinois and the Midwest will compel wholesale suppliers to bid higher prices to supply the needs of electric utilities such as CIPS, Illinois Power and ComEd under contract, and thereby ultimately increase the prices paid by retail consumers for electricity.[46]

Moreover, demand for electricity from lower-cost generators like Coffeen continues to grow. The annual mean hourly generation for Coffeen Station increased from 460 gross MWh in

[45] Exhibit 5, par. 19.

[46] Exhibit 5, par. 20

1997 to 694 gross MWh in 2007.[47] Coffeen's mean hourly generation for the six-month interval from May through October followed a similar pattern of increase, from 388 gross MWh in 1997 to 772 gross MWh in 2007. During 2002 through 2006, the average annual net generation from Coffeen Station was 66 percent of its capacity.[48] But Ameren anticipates that continuing demand growth, along with potentially reduced supply, will increase the capacity utilization of the Coffeen Station toward 90% by 2011.[49]

At the same time, while demand utilization is expected to grow over the next few years, net generation might not grow proportionately. By 2010, and in order to reduce NO_x, SO_2, and PM emissions, Ameren expects that it will have installed and be operating pollution control equipment known as Selective Catalytic Reduction ("SCR") and Flue Gas Desulfurization ("FGD"). The SCRs on both units at Coffeen Generating Station are already installed and operating. Such equipment will be operated on a continual basis and consume significant amounts of energy from the facility and effectively reduce the net output of the plant by an estimated 22.6 MWh.[50]

In summary, maximizing the availability of Coffeen Station to supply capacity and electricity to the wholesale electricity market in Illinois and the Midwest will inure to the benefit of retail electricity consumers in Illinois.

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[47] See Exhibit 11, at Section 2.2.

[48] Id.

[49] Exhibit 5, par. 14.

[50] Id.

III. STATUTORY AND REGULATORY BACKGROUND

Section 13 of the Act provides the Board with the authority to adopt "[w]ater quality standards specifying among other things . . . the temperature of such waters."[51] The Board may grant, in an adjudicatory determination, an adjusted standard for persons who can provide the required justification.[52]

Board regulations specify the required level of justification for a specific thermal standard applicable to the discharge to an artificial cooling lake.[53] To make a successful demonstration, Section 106.200(a) provides:

> 2) Artificial Cooling Lake Demonstration
>
> A) If a discharger wishes to have the Board establish specific thermal standards for its discharge to an artificial cooling lake pursuant to 35 Ill. Adm. Code 302.211(j)(5) that would apply to the discharge in lieu of the applicable provisions of the thermal water quality standards set forth in 35 Ill. Adm. Code 302.211 and 303, the discharger must demonstrate in an adjudicatory proceeding before the Board, pursuant to 35 Ill. Adm. Code 302.211(j)(3), that the artificial cooling lake receiving the heated effluent will be environmentally acceptable and within the intent of the Act.
>
> B) If the Board finds that the proof of the discharger under subsection (a)(2)(A) of this Section is adequate, the Board will establish, pursuant to 35 Ill. Adm. Code 302.211(j)(5), specific thermal standards to be applied to the discharge to the artificial cooling lake in lieu of the applicable provisions of the thermal water quality standards set forth in 35 Ill. Adm. Code 302.211 and 303.
>
> C) A Board order providing alternate thermal standards under subsection (a)(2)(B) of this Section will include, but not be limited to, the following conditions:

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[51] 415 ILCS 5/13(a)(1) (2006).

[52] 415 ILCS 5/28.1 (2006).

[53] 35 Ill. Adm. Code 302.211(j); 35 Ill. Adm. Code 106.200(a). Section 302.211(j)(5) sets forth the substantive standards for obtaining a specific thermal standard to an artificial cooling lake. Sections 106.200(a)(2) and 106.202(b) set forth the specific showings and petition requirements for seeking and obtaining such relief.

i) Pursuant to 35 Ill. Adm. Code 302.211(j)(1), all discharges from the artificial cooling lake to other waters of the State must comply with the applicable provisions of 35 Ill. Adm. Code 302.211(b) through (e); and

ii) Pursuant to 35 Ill. Adm. Code 302.211(j)(2), the heated effluent discharged to the artificial cooling lake must comply with all applicable provisions of 35 Ill. Adm. Code Subtitle C, Chapter I, except 35 Ill. Adm. Code 302.211(b) through (e).[54]

In addition, the Board's procedural rules set forth the requirements for the petition seeking a specific thermal limit for discharges to an artificial cooling lake. The petition must contain, where applicable, the following:

1) A demonstration that the artificial cooling lake receiving the heated effluent will be environmentally acceptable and within the intent of the Act, including:

   A) Provision of conditions capable of supporting shellfish, fish and wildlife, and recreational uses consistent with good management practices; and

   B) Control of the thermal component of the discharger's effluent by a technologically feasible and economically reasonable method.

2) The demonstration required under subsection 1A and 1B above may take the form of any of the following:

   A) A final environmental impact statement;

   B) Pertinent provisions of environmental assessments used to prepare the final environmental impact statement; or

   C) A showing pursuant to Section 316(a) of the Clean Water Act (33 USC 1326).

3) A citation to any prior proceedings, in which the petitioner was a party, brought pursuant to 35 Ill. Adm. Code 302.211(f) or (j)(3).[55]

[54] 35 Ill. Adm. Code 106.200(a)(2).

[55] 35 Ill. Adm. Code 106.202(b).

The following sections of this Petition set forth adequate justification for the modification Ameren seeks to the specific thermal limits applicable to discharge to Coffeen Lake in the months of May and October.

IV. PETITION CONTENT REQUIREMENTS

A. Coffeen Lake Is Environmentally Acceptable and Within the Intent of the Act (35 Ill. Adm. Code 106.202(b)(1); 35 Ill. Adm. Code 302.211(j)(3)).

1. Coffeen Lake is Capable of Supporting Shellfish, Fish, and Wildlife, and Recreational Uses Consistent with Good Management Practices (35 Ill. Adm. Code 106.202(b)(1)(A); 35 Ill. Adm. Code 302.211(j)(3)(A))

The Board early on recognized that the addition of heat to artificial cooling lakes from electric generating plants allows fish and other aquatic organisms to grow continually during the winter, which is not usually the case for Illinois lakes.[56] It also recognized that the phenomenon contributes to the recreational value of an artificial cooling lake, and moreover, can actually indicate the general environmental quality and acceptability of an artificial cooling lake.[57]

This has proven to be the case with Coffeen Lake. Coffeen Station has been operating for more than 40 years, and water temperatures at or above the thermal limits Ameren is proposing (96°F and 102°F) have occurred repeatedly. Despite that, Coffeen Lake supports abundant and diverse wildlife, including muskrat, turtles, heron and mussels. It also supports a robust fishery, comprised of 22 species of fish, and is well known as the home of numerous competitive sport-fishing tournaments. Game species include largemouth bass, crappie, channel catfish and bluegill. The lake fishery has continued to thrive under the winter and summer

[56] Water Quality and Effluent Standards Amendments, Cooling Lakes ("Cooling Lakes"), R75-2, slip op. at 22 (Sept. 29, 1975).

[57] Id.

thermal standards obtained in 1982, which remain in place today.[58] The proposed modification to the thermal standard -- which proposes an intermediate step between the summer and winter limits for the transitional months -- will not adversely affect the fishery.

a. Retrospective Assessment

ASA examined data collected over the past decade by IDNR, SIUC and Coffeen Station to evaluate the potential for adverse ecological impacts from the proposed modifications to the current thermal standard for May and October. ASA focused on data relating to potential impacts to populations of "representative important species" ("RIS"), and specifically, whether and how the populations have adapted to the recent thermal environment in the lake.[59]

ASA notes that retrospective assessments of RIS "provide the strongest evidence of the long-term effects of periodically higher water temperatures in that they integrate all aspects of the thermal environment on the life cycle for the fish species and the lower trophic levels in the lake, such as phytoplankton, epiphyton, macrophytes, zooplankton and benthos."[60] ASA's retrospective assessment found that fish populations have indeed adapted and thrived in the thermal environment of Coffeen Lake. Specifically, ASA makes the following conclusions based on its review of the historic data:

Largemouth bass

The largemouth bass fishery of Coffeen Lake appears to be exceptional primarily due to warmer temperatures. Such temperatures have resulted in earlier spawning under more stable

[58] Attached as Exhibit 12 is the IDNR Lake Management Status Report, dated March 23, 2007.

[59] In assessing the potential impact of elevated water temperatures on cooling lake biota, it is the generally accepted practice to select species for detailed analysis which (1) are important because of their social or ecological value and (2) can adequately represent other species not studied to the same extent. In this case, SIUC studied largemouth bass, bluegill and channel catfish. These species were identified as RIS and selected for study in 1997, pursuant to a work plan approved by Illinois EPA and IDNR.

[60] See Exhibit 11, Section 3.1.

thermal conditions, a prolonged growing season, faster growth and earlier attainment of a size permitting a fish diet, and improved over-winter survival and growth.

Early spawning by largemouth bass has resulted in the egg and larvae life stages being completed by May in Coffeen Lake, especially by late May when temperatures would be highest. In May, young largemouth bass primarily would be juveniles, with tolerance for temperatures that more typically would be experienced in summer months. The fact that juvenile largemouth bass have prospered under the summer temperature regime in Coffeen Lake suggests that May temperatures approaching (but less than) June temperatures would easily be tolerated.[61]

Bluegill

Bluegill have successfully spawned in late spring and throughout summer when temperatures are highest. Spawning success at these temperatures has been demonstrated amply by an abundance of small bluegill in Coffeen Lake. Accordingly, ASA anticipates that higher May temperatures should not adversely affect bluegill. Higher October water temperatures might even prolong their spawning season, which in the past has continued into September and October.[62]

Channel Catfish

Channel catfish probably have experienced earlier than normal spawning in Coffeen Lake caused by warm water temperature during the spring months. Like largemouth bass, early spawning would allow completion of egg and larval life stages prior to May (especially late May), leaving juveniles which are much less temperature sensitive and have been shown to

[61] Exhibit 11, Section 3.2.

[62] Exhibit 11, Section 3.3.

thrive through summer temperatures much higher than those that they would experience in May under the proposed revised thermal limits.[63]

In summary, temperatures that are higher than naturally-occurring and stable during May have been shown to promote survival, growth and development of early life stages for largemouth bass, and have not adversely affected bluegill or channel catfish populations.

ASA concludes that no prior appreciable harm has been observed during the summer months in the past several years which have experienced warmer than expected May and October temperatures. Accordingly, ASA anticipates that there would be no adverse effect on the fishery by the proposed increase in the thermal standard for May and October. The thermal limits being requested for May and October are lower than the limits currently applicable to the June-through-September season, to which the RIS have been shown to adapt.

ASA also points to the diversity in water temperatures existing in the eastern and western arms of Coffeen Lake, noting that such temperature diversity would be advantageous for all fish species. While water temperatures may be too warm or too cool for a particular species or life stage at a particular location, there are areas elsewhere in the lake where water temperatures will be closer to optimal. The northern portion of the western arm, which is minimally influenced by thermal discharges from the plant, serves as both a nursery for young fish and a thermal refuge for older fish during the warmest times of the year.[64]

The studies conducted in Coffeen Lake provide evidence that fish in fact do behaviorally adapt to the warmest temperatures in the lake by avoiding them and seeking areas with cooler temperatures, such as outside the eastern arm. Fish kills in 2001 and 2002 did not continue after

[63] Exhibit 11, Section 3.4.

[64] Exhibit 11, Section 5.3

the initial temperature rise to 100°F or more in the mixing zone, suggesting that fish avoided the warmest areas in the lake at this time and sought thermal refuges where they would no longer be exposed to these temperatures or to depleted DO levels.[65]

b. Prospective Assessment

In addition to the retrospective assessment, ASA also performed a prospective assessment. The prospective assessment incorporated existing data on the lake's thermal environment and the thermal requirements of its fish populations as reported in the literature. It assessed the thermal tolerances and requirements of the three RIS – largemouth bass, bluegill and channel catfish – and compared them to the water temperatures that could exist during May and October under the proposed thermal standards.

Based on its prospective assessment, ASA expects that the fish species would adapt to the warmer May and October environments by finding many areas and depths within the lake with suitable temperatures and dissolved oxygen concentrations. As previously noted, water temperature variation between the western and eastern arms of the lake range 10 to 15 degrees. Similarly, vertical profiling has demonstrated that temperatures at the edge of the mixing zone can be up to 18 degrees cooler at depth than at the near-surface in May, and 13 to 14 degrees lower in October. ASA, in fact, cites to studies (ESE 1995, Rush 2000) that suggest fish indeed increase their movement in the summer away from the warmer discharge area toward cooler areas of the lake, where temperatures are well within their temperature tolerance.[66]

The foregoing assessment relied on historic thermal data to assess the available environment for fish species when temperatures at the edge of the mixing zone have or would

[65] Exhibit 11, Section 5.6.

[66] See Exhibit 11, Section 4.1.

approach the proposed thermal standard. ASA also utilized the results of thermal modeling conducted by Sargent & Lundy, LLC to evaluate future potential worst-case operating conditions. The modeling demonstrated that even under conditions of warmer than normal meteorological conditions and maximum operating conditions, water temperatures decrease as distance from the discharge increases. It also demonstrated that warmer May temperatures would not necessarily result in a carryover effect in later months.[67]

The ASA Report, and the data on which it relies, demonstrate that Coffeen Lake is supporting a healthy fishery and that it would continue to do so under anticipated and worst-case operating conditions even with Ameren's requested relief. The RIS are primary components of the recreational fishery of Coffeen Lake, and the species for which SIUC and IDNR collected data. Wildlife such as red-tailed hawks, bobwhite, coyote, white-tailed deer and the black rat snake are common to the area and are highlighted by the IDNR as attractions for campers, picnickers and hikers.[68] Deer, squirrel, turkey, coyote, and waterfowl hunting are also allowed in the areas surrounding Coffeen Lake.[69] The survival of fish and wildlife in and around Coffeen Lake provides a vibrant recreational resource for public use and indicates the general environmental quality and acceptability of the lake.

Ameren also ensures minimal impacts to the environment by instituting good management practices at the Coffeen Power Station. In accordance with Ameren's NPDES permit, Ameren takes extensive measures to control storm water runoff and minimize the potential for any pollutants to enter the storm water conveyance system. Specifically with regard

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[67] Exhibit 11, Section 4.2.

[68] See Exhibit 7.

[69] Id.

to thermal discharges, good management, through scheduled maintenance, de-rating, and the implementation of various cooling system enhancements, has allowed Ameren to maintain compliance with the thermal limits and ensure that Coffeen Lake is more than capable of supporting shellfish, fish and wildlife and a wide range of recreational uses.[70]

Finally, ASA specifically considered whether granting the modified thermal limitations for May and October would result in fish kills. It concluded that they would not. As noted earlier in this Petition, fish kills involving more than a few fish in Coffeen Lake have been restricted to the warmest temperatures during summer months, especially when the lake is stratified and dissolved oxygen (DO) concentrations have been depleted. Fish kills in 1999, 2001 and 2002 all occurred in the late June or early July time frame, during extended periods of cloudy and overcast conditions, and where mean daily water temperatures steadily rose over a period of weeks to reach levels over 100°F. These extreme conditions would not be expected to occur during either May or October, even under the proposed revisions to the thermal standards. Based on studies conducted in Coffeen Lake, ASA concludes that fish have behaviorally adapted to the warmest temperatures in the lake by seeking refuge in cooler areas with higher DO levels. ASA finds that Coffeen Lake will retain refuge areas even under the requested relief.[71] Accordingly, fish kills are unlikely to result from granting the relief sought in this petition.

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[70] See Exhibit 5, par. 21.

[71] See Exhibit 11, Section 5.6. SIUC data over the past few years show DO concentrations in May and October were consistently 4.0 mg/l or higher at locations throughout the lake, except at the very bottom of the segment nearest the discharge

2. Technical Feasibility and Economic Reasonableness of Compliance Alternatives (35 Ill. Adm. Code 106.202(b)(1)(B); 35 Ill. Adm. Code 302.211(j)(3)(B))

a. Costs Invested or Incurred As a Result of the Existing Cooling System Components

In adopting procedures to allow the Board to set specific thermal standards for artificial cooling lakes, the Board recognized that the cost of alternate or additional cooling is high.[72] Nonetheless, since the establishment of specific thermal limits applicable to Coffeen Lake, Ameren has implemented, at substantial cost, several cooling system enhancements to improve the lake's ability to dissipate waste heat.

In 2000, Ameren constructed the 70-acre cooling basin which remains in operation today.[73] The capital cost incurred by the Company to construct the basin was $20,734,000.[74]

In 2002, Ameren constructed the existing 48-cell cooling tower structure.[75] The capital expenditure for the cooling tower structure was $6,833,000.[76]

More recently, in 2007, the Company has experimented with solar-powered aerators, known as "solar bees," which stimulate circulation of water from lower depths to the surface.[77] The capital outlay for this initiative, including renting the eight solar bees, was $120,000.[78]

While these enhancements -- totaling $27,687,000 -- have improved the performance of the cooling system, meeting the thermal limits remains a challenge only in the transitional

[72] Cooling Lakes, R75-2, slip op. at 9 (Sept. 29, 1975).

[73] See Exhibit 5, par. 10.

[74] Id.

[75] Id.

[76] Id.

[77] Exhibit 5, par. 11; Attached as Exhibit 13 are invoices for the solar-powered aerators.

[78] Id.

months of May and October when non-summer seasonal limits apply, but where temperatures in Southern Illinois are either transitioning to or from summer temperature regimes and energy consumption remains high.[79]

Coffeen Station employs a variety of operational practices to maintain compliance with the restrictions of its thermal limits in Special Condition 5 of its NPDES Permit. In order to stay within its permit limits, the Company periodically adjusts its operations as needed. Historically, the Company scheduled planned outages for the May and October months, thus reducing heat loading in those transitional months. In addition, the Company has de-rated during evening hours and lowered load over weekends.[80] As shown by Exhibit 14, the Company has resorted to de-rating the units 64 times since 2001. The cost associated with de-rating of the units is $5,584,477.17.[81]

In calendar year 2007, Ameren resorted to de-rating its units in May and October at substantial financial hardship. This situation will worsen as future demand on its system increases. Unless relief is granted, the Station will be required to shut down or significantly de-rate its generating units on a regular basis in order to comply with the monthly average requirements of the permit.[82]

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[79] Exhibit 10, par. 8.

[80] See Summary of Coffeen Station's de-rating from January 1999-September 2007, which is attached as Exhibit 14.

[81] Id.; see also Exhibit 5, par, 13.

[82] Exhibit 5, par. 15.

b. Assessment of Alternatives for Achieving Compliance with the Existing Thermal Standards

Sargent & Lundy performed an engineering assessment to compare various engineering alternatives to meet thermal discharge limits for Coffeen Lake, both presently and in light of potential capacity increases at Coffeen Station.[83] The assessment first established a computer model of Coffeen Station's cooling system and benchmarked the model with actual plant operating data. Sargent & Lundy then modeled how that same system would perform under the same historic weather conditions, but under operating conditions anticipated under forecasted increases in capacity. This analysis projected a trend that shows increasing lost generation due to increasing temperatures during the month of May over time.[84] With the current cooling system, Ameren would average a 16% loss in annual capacity factor under forecasted operating conditions.[85] The study shows, however, a theoretical 34% loss in capacity factor, which translates into approximately $5 million in revenue, in 2007 alone based on 2007 weather and 2007 dollars.[86] A large amount of this loss was avoided, however, due to unplanned outages of the units.

Sargent & Lundy then considered several alternatives to improve performance so as to meet the current thermal limits without resorting to de-rates, and evaluated whether the alternatives are technically feasible. It then estimated the cost for each alternative considered technically feasible, to provide a framework for determining whether the alternative was also

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[83] See Coffeen Cooling System Thermal Study prepared by Sargent & Lundy, which is attached as Exhibit 15.

[84] Exhibit 15, Fig. 2-2.

[85] Id. at n. 1.

[86] Id. at n. 3.

economically reasonable. Finally, Sargent & Lundy assessed the alternative thermal limits necessary to allow Ameren to operate in May and October without de-rating.

The alternatives considered by Sargent & Lundy are set forth in Table 1 below. The table indicates whether Sargent & Lundy concluded the alternative was technically feasible.

Table 1

OPTION	DESCRIPTION OF ALTERNATIVE	TECHNICAL FEASIBILITY	COMMENTS
OPTION 1 (BASE CASE)	**Existing system with continued unit de-rating.**	Yes	- Based on projected demand, substantial loss of generation due to de-rates necessary to meet current thermal limits.
OPTION 2A	**New Helper Tower (175,000 gpm tower)**	Yes	- Provides an additional 150% of the existing tower cooling capacity. - Maintain compliance without de-rates in extreme weather conditions.
OPTIONS 2B	**New Helper Tower (130,000 gpm tower)**	Yes	Eliminates lost generation for all but one year out of the 22 years examined (1980-2001).
OPTION 2C	**New Helper Tower (100,000 gpm tower)**	Yes	Would result in 4% to 10% lost generation in May for 7 years of the 22 years examined.
OPTION 3	**Additional Cooling Basin Capacity**	No	- Insufficient real estate available for construction of additional cooling basin. - Would not result in compliance with standards
OPTION 4	**Closed cycle mechanical draft tower**	No	- Station not originally designed or arranged to support a major modification. - Design pressure would need to be increased by approximately 40% or more above original design values to accommodate static head. - Major upgrades to all of the main and auxiliary condensers and water expansion joints and valves to support additional pressure. - Existing configuration would complicate modifications; substantial outages would be necessary.
OPTION 5	**Air-cooled condenser**	No	- Station not originally designed or arranged to support a major modification to either unit. - No suitable area for installation near the existing condensers. - Extensive and expensive modifications to plant infrastructure. - Even with the substantial

			modifications necessary, an air-cooled condenser would lower generation efficiency and increase air emissions.
OPTION 6	**Utilize entire length of Coffeen Lake**	No	-Moving water the entire length of the lake and back to the station would require such high pumping power that it would offset the slight gain in net electrical output.

Table 1: Analysis of technical feasibility of alternatives to enhance cooling capacity of Station cooling system assuming 1026 MWh gross generation and a 90% capacity factor.

As shown on Table 1, the alternatives considered technically feasible are limited to Options 2A, 2B, and 2C, each involving the construction of a new helper cooling tower. Sargent & Lundy examined the capital costs associated with each option and provided input for an analysis of cash flows taking into account the annual operation and maintenance costs and increased revenues flowing from increased generating capacity.[87] Table 2 summarizes the economic comparison of the alternatives.

[87] Exhibit 15, par. 4.1.

Table 2

Option	Description of Alternatives	Capital Cost to Install Each Alternative	Annual Capacity Gain	Year Project Value Becomes Positive
Option 1	Base	Base	Base	Base
Option 2A	New 175k gpm Helper Tower	$18,266,000	20.52MW	11.5
Option 2B	New 130k gpm Helper Tower	$15,283,000	20.42MW	11.5
Option 2C	New 100k gpm Helper Tower	$13,053,000	19.19MW	9

Table 2: Comparison of evaluated options and respective capital costs, capacity gains, and payback periods.

As shown on Tables 1 and 2, and explained in greater detail in Exhibit 15, the only technically feasible alternative to de-rates to comply with the existing thermal limits involves the construction of additional helper cooling towers.[88] To avoid de-rating even in the most extreme conditions, a 175,000 gallon-per-minute (gpm) helper cooling tower would be necessary.[89] The fully-loaded cost associated with that option would exceed $18,000,000.[90]

Even the scaled-down versions of a new helper cooling tower analyzed by Sargent & Lundy would be prohibitively expensive. The fully-loaded costs for the most modest of these – a 100,000 gpm helper tower -- would exceed $13,000,000. Moreover, Sargent & Lundy predicts that the smaller tower would not obviate the need to de-rate in May and October.[91]

[88] The alternatives considered in Table 2 compare capital costs only but there may be additional operating costs for each alternative, including: auxiliary power consumption; evaporated water loss; displaced power from forced outages.

[89] Exhibit 15, par. 3.2.

[90] Id. at par. 4.1.

[91] Id. at par. 3.2

Considering capital and operating and maintenance costs, Ameren would not recover its costs from either Option 2A or 2B until 2022.[92] Ameren expects commissioning to take approximately 2.5 years and the payback period for both projects is estimated to take 11.5 years after commissioning. Of the three additional helper tower options, Option 2C is the most economical because the payback period is 2.5 years less than the other two options. Nonetheless, Option 2C still would require Ameren to derate to meet the current thermal limits and would require the existing towers to remain in service and operate for the longest period annually. This reliance on the existing towers imposes higher operating and maintenance expenditures. It is clear from the economic evaluation that installing additional cooling system capacity is not economically reasonable for Ameren due to the high capital costs and long payback periods.[93]

None of the alternatives studied, including de-rating during the months of May and October, are both technically feasible and economically reasonable, especially considering the minimal reduction in temperature they would provide. The relief Ameren seeks is critical for maintaining compliance and operating capacity. As noted above, Ameren has invested in excess of $27,000,000 in capital costs for its current cooling system enhancements. Despite these investments, the Station periodically requires de-rating to maintain compliance with the limits currently in place for May and October. The Sargent & Lundy study predicts that the proposed thermal limits for May and October would allow it to continue to operate in those months without resorting to de-rates. As the ASA study shows, the changes being proposed for the May and October thermal limits should not cause environmental harm.

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[92] Exhibit 5, par. 16.

[93] Id.

B. History of Prior Section 302.211(j)(3) Proceedings (35 Ill. Adm. Code 106.202(b)(3)).

As noted earlier, CIPS presented its initial petition for specific thermal standard on May 31, 1977. At that time, the Board set interim thermal standards for Coffeen Lake. The Board ordered that the temperature at the edge of the mixing zone not exceed 98° F more than 8.2% of the hours in a twelve-month period, and at no time exceed 108° F.

Subsequently, CIPS filed an amended petition requesting a modified thermal standard.[94] The Board granted the following permanent thermal standard for Coffeen Lake:

> The thermal discharge to Coffeen Lake from the Central Illinois Public Service Company's Coffeen Power Station shall not result in a temperature, measured at the outside edge of the mixing zone in Coffeen Lake, which:
>
> 1. Exceeds 105 degrees Fahrenheit as a monthly average, from June through September, and a 112 degrees Fahrenheit as a maximum for more than three percent of the hours during that same period.
>
> 2. Exceeds 89 degrees Fahrenheit as a monthly average, from October through May, and 94 degrees Fahrenheit as a maximum for more than two percent of the hours during that same period. *Id.* at 4.

This is the current thermal standard and is incorporated into Ameren's current NPDES permit as Special Condition No. 5.[95]

V. ADDITIONAL CONSIDERATIONS

Ameren can also demonstrate compliance with the conditions required for an exception from the applicable thermal water quality standards.[96] If the Board finds that Ameren has made a successful demonstration, the Board's order providing alternate thermal standards for Coffeen

[94] CIPS v. IEPA, PCB 77-158, PCB 78-100 (consolidated) (Mar. 18, 1982).

[95] See Exhibit 1.

[96] 35 Ill. Adm. Code 302.211(j).

Lake must include certain conditions.[97] First, discharges from Coffeen Lake to other waters of the state must comply with the applicable thermal limits of Section 302.211. Ameren will ensure that such discharges comply with the applicable provisions of Section 302.211(b)-(e).

Second, thermal discharges to Coffeen Lake must comply with all water quality criteria other than thermal limits. Ameren will ensure that such discharges comply with all other water quality criteria, except the provisions of Section 302.211(b)-(e), by relying on the results of monitoring required by its NPDES permit. The permit imposes effluent limitations on 17 outfalls to Coffeen Lake. In addition to temperature, Ameren must monitor the following parameters at one or more of the 17 outfalls: total suspended solids, total dissolved solids, pH, biochemical oxygen demand (BOD_5), total residual chlorine, boron, manganese, iron and mercury. Ameren's NPDES permit requires monitoring as frequent as weekly or monthly for several constituents. Using the results of monitoring required by its NPDES permit, Ameren can demonstrate that its heated effluent will comply with all other applicable water quality criteria.[98]

VI. NARRATIVE DESCRIPTION OF MODIFIED THERMAL DISCHARGE LIMIT

Ameren therefore requests that the specific thermal discharge applicable to its heated effluent discharge to Coffeen Lake be modified to state as follows:

> The thermal discharge to Coffeen Lake from Ameren's Coffeen Power Station shall not result in a temperature, measured at the outside edge of the mixing zone in Coffeen Lake, which:
>
> > 1. Exceeds 105 degrees Fahrenheit as a monthly average, from June through September, and 112 degrees Fahrenheit as a maximum for more than three percent of the hours during that same period.

[97] 35 Ill. Adm. Code 106.200(a)(2)(C).

[98] Exhibit 10, par. 10.

2. Exceeds 89 degrees Fahrenheit as a monthly average, from November through April, and 94 degrees Fahrenheit as a maximum for more than two percent of the hours during that same period.

3. Exceeds 96 degrees Fahrenheit as a monthly average, in each of the months of May and October, and 102 degrees Fahrenheit as a maximum for more than two percent of the hours in each of those same months.

Upon modification of the thermal limit as provided herein, Ameren will seek to modify Condition 5 of its NPDES permit.

VII. CONSISTENCY WITH FEDERAL LAW

Section 402 of the Clean Water Act ("CWA"), 33 U.S.C. 1342, requires that thermal discharges be permitted under the NPDES permit requirements. NPDES permit requirements include, pursuant to Section 301 of the CWA (33 U.S.C. 1311), any applicable state standard. At issue is a specific thermal standard adopted by the Board and included in Coffeen Station's NPDES permit.

Section 316 of the CWA allows the Board to establish alternative thermal effluent standards upon a demonstration by the owner or operator that the alternative standard will "assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on that body of water."[99] This standard is consistent with the Board's standard set forth in Section 302.211(j)(3)(A).

[99] 33 U.S.C. 1326(a).

VIII. WAIVER OF HEARING AND REQUEST FOR EXPEDITED REVIEW

Section 302.211(j)(3) states that the discharger must demonstrate that the artificial cooling lake receiving the heated effluent will be environmentally acceptable at an adjudicative hearing before the Board.[100] The Board's procedural rules, however, state that an artificial cooling lake demonstration must be made in an adjudicatory proceeding, but do not explicitly require a hearing.[101] Ameren waives hearing on the petition unless the Board determines that one is necessary pursuant to Section 302.211(j)(3) or on its own motion.

Unless granted the relief requested in this petition, Ameren predicts it will need to de-rate its units at Coffeen Station as soon as May 2009, to its financial detriment. Ameren requests that the Board expedite review of this Petition in accordance with the Board's resources.

[100] 35 Ill. Adm. Code 302.211(j)(3).

[101] 35 Ill. Adm. Code 106.200(a)(2)(A).

WHEREFORE, for all the foregoing reasons Ameren Energy Generating Company respectfully requests that its Petition to Modify Specific Thermal Standard be granted and the Board provide Ameren the relief requested herein.

Respectfully submitted,

AMEREN ENERGY GENERATING COMPANY

By: Amy Antoniolli

Schiff Hardin LLP
6600 Sears Tower
Chicago, IL 60606
312-258-5500

EXHIBIT LIST

1. Ameren's NPDES Permit (No. IL0000108) for Coffeen Lake
2. Ameren Energy Generating Company Coffeen Power Station v. IEPA (IEPA—08-14)
3. Coffeen Station Aerial Map
4. Coffeen Lake Diagram
5. Affidavit of James Williams
6. Lease Agreement with Department of Conservation
7. IDNR Internet Website for Coffeen Lake State Fish and Wildlife Area
8. Sublease Agreement with Indian Grove Campground
9. IEPA Biological Stream Characterization
10. Affidavit of Michael L. Menne
11. ASA Report: Evaluation of Potential Adverse Impacts From Revised Site-Specific Thermal Standards In May and October For Coffeen Lake
12. IDNR Lake Management Status Report dated March 23, 2007
13. Capital Expenditures for Solar-Powered Aerators
14. Summary of De-Rate Economic Impact Chart
15. Sargent & Lundy Report: Coffeen Cooling System Thermal Study
16. Net Generation and MISO Demand Chart

EXHIBIT 1

Ameren's NPDES Permit (No. IL0000108) for Coffeen Lake

WR 3.15, 1

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 – (217) 782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 – (312) 814-6026

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

217/782-0610

JAN 2 6 2007

Ameren Energy Generating Company
One Ameren Plaza
1901 Chouteau Avenue, MC-602
Post Office Box 66149
St. Louis, Missouri 63166-6149

Re: Ameren Energy Generating Company
Coffeen Power Station
NPDES Permit No. IL0000108
Public Notice Permit

Gentlemen:

Please post the attached Public Notice for the subject discharge for at least a period of thirty days from the date on the Notice in a conspicuous place on your premises.

We have enclosed a copy of the draft NPDES modified permit on which this official Public Notice is based. If you wish to comment on the draft modified permit, please do so within 30 days of the Public Notice date. If there are any questions, please contact Darin LeCrone, at the indicated telephone number and address.

Thank you for your cooperation.

Sincerely,

Alan Keller by BAK

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

SAK:DEL:05012101.daa

Attachments: Draft Permit, Public Notice/Fact Sheet

cc: Records Unit
Compliance Assurance Section
Springfield Region

NPDES Permit No. IL0000108
Notice No. DEL:05012101.daa

Public Notice Beginning Date: **January 29, 2007**

Public Notice Ending Date: **February 28, 2007**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

Draft Reissued NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water, Division of Water Pollution Control
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-0610

Name and Address of Discharger:

Ameren Energy Generating Company
One Ameren Plaza
1901 Chouteau Avenue, MC - 602
Post Office Box 66149
St. Louis, Missouri 63166-6149

Name and Address of Facility:

Coffeen Power Station
134 CIPS Lane
Coffeen, Illinois 62017
(Montgomery County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue a NPDES permit to discharge into the waters of the state and has prepared a draft permit and associated fact sheet for the above named discharger. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. The last day comments will be received will be on the Public Notice period ending date unless a commentor demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the draft permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. Persons submitting comments and/or requests for public hearing shall also send a copy of such comments or requests to the permit applicant. The NPDES permit and notice number(s) must appear on each comment page.

The application, engineer's review notes including load limit calculations, Public Notice/Fact Sheet, draft permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicates a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 45 days before any public hearing. Response to comments will be provided when the final permit is issued. For further information, please call Darin LeCrone at 217/782-0610.

The applicant operates Coffeen Power Station which is an existing 950 MW coal fired steam-electric generating station (SIC 4911). Cooling and service water for the power station is provided by Coffeen Lake which occupies 1100 acres. Once through cooling systems are used to cool the main condensers of each unit and condenser cooling water is discharged from the units to Coffeen Lake for dissipation of waste heat via flume. Service water is used for make-up to the recycle pond (approximately 23 acres) and to the water treatment plant. A municipal water supply is utilized for sanitary use and make-up to the water treatment plant.

Plant operation results in a total discharge of 0.144 MGD of condenser cooling water discharge flume from outfall 001; 527.69 MGD of condenser cooling water diversion channel overflow from outfall 020; 37.97 MGD of supplemental cooling pond discharge from outfall 021; 85.35 MGD of supplemental cooling tower discharge from outfall 022; intermittent discharge of boiler draining wastewater from outfall A01; 0.39 MGD of electrodialysis reversal and demineralizer regenerant waste from outfall B01; intermittent discharge of unit 1 floor and equipment drains from outfall C01; 0.0085 MGD of sewage treatment plant effluent from outfall D01; intermittent discharge of unit 2 floor and equipment drains from outfall E01; intermittent discharge of maintenance shop oil/water separator from outfall F01; intermittent discharge of equalization tank bypass line discharge from outfall G01 which occurs during maintenance of the equalization tank; 0.6 MGD of coal yard settling pond discharge from outfall 002; 0.07 MGD of intake screen backwash from outfall 003; 0.0005 MGD of maintenance building sewage treatment plant discharge from outfall 004; intermittent discharge of tractor shed storm water runoff from outfall 005,

intermittent discharge of rail spur storm water runoff from outfalls 008-0016; and 0.0005 of temporary office building sewage treatment plant from outfall 023. Outfall F01 maintenance shop oil/water separator discharge requires best management practice (BMP) maintenance, outfall 004 maintenance building sewage treatment plant discharge and outfall 023 temporary office building sewage treatment plant are regulated by the Illinois Department of Public Health because of the treatment facility's small size.

Application is made for new and existing discharges which are located in Montgomery County, Illinois. The following information identifies the discharge point, receiving stream and stream classifications:

Outfall	Receiving Stream	Latitude	Longitude	Stream Classification	Biological Stream Characterization
001	Coffeen Lake	39° 03' 36" North	89° 23' 28" West	General Use	Not Rated
020	Coffeen Lake	39° 03' 34" North	89° 23' 28" West	General Use	Not Rated
021	Coffeen Lake	39° 03' 37" North	89° 23' 25" West	General Use	Not Rated
022	Coffeen Lake	39° 03' 31" North	89° 23' 23 West	General Use	Not Rated
A01	Coffeen Lake	39° 03' 34" North	89° 23' 28" West	General Use	Not Rated
B01	Coffeen Lake	39° 03' 34" North	89° 23' 28" West	General Use	Not Rated
C01	Coffeen Lake	39° 03' 34" North	89° 23' 15" West	General Use	Not Rated
D01	Coffeen Lake	39° 03' 34" North	89° 23' 28" West	General Use	Not Rated
E01	Coffeen Lake	39° 03' 34" North	89° 23' 28" West	General Use	Not Rated
F01	Coffeen Lake	39° 03' 34" North	89° 23' 28" West	General Use	Not Rated
G01	Coffeen Lake	39° 03' 34" North	89° 23' 28" West	General Use	Not Rated
002	Coffeen Lake	39° 03' 16 North	89° 24' 19" West	General Use	Not Rated
003	Coffeen Lake	39° 03' 36" North	89° 24' 18" West	General Use	Not Rated
004	Coffeen Lake	39° 03' 27" North	89° 24' 24" West	General Use	Not Rated
005	Coffeen Lake	39° 03' 24" North	89° 24' 22" West	General Use	Not Rated
008	Coffeen Lake	39° 03' 16" North	89° 23' 56" West	General Use	Not Rated
009	Coffeen Lake	39° 03' 14" North	89° 23' 57" West	General Use	Not Rated
010	Coffeen Lake	39° 03' 12" North	89° 23'57 West	General Use	Not Rated
011	Coffeen Lake	39° 03' 01" North	89° 24' 01" West	General Use	Not Rated
012	Coffeen Lake	39° 02' 57" North	89° 23' 54" West	General Use	Not Rated
013	Coffeen Lake	39° 02' 39" North	89° 23' 41" West	General Use	Not Rated
014	Coffeen Lake	39° 02' 36" North	89° 23' 38" West	General Use	Not Rated
015	Coffeen Lake	39° 03' 19" North	89° 24' 02" West	General Use	Not Rated

016	Coffeen Lake	39^0 03' 39" North	89^0 24' 18" West	General Use	Not Rated
023	Coffeen Lake	39^0 03' 37" North	89^0 24' 19" West	General Use	Not Rated

To assist you further in identifying the location of the discharge please see the attached map.

The stream segment receiving the discharge from the above outfalls is on the 303 (d) list of impaired waters for secondary contact uses. The following parameters have been identified as the pollutants causing impairment:

Pollutants	Potential Contributors
Siltation, Thermal Modification, Priority Organics, Nutrients and Phosphorus	Industrial Point Sources, Agriculture, Crop Related Sources, Non-irrigated Crop Production, Streambank Modification/Destabilization, and Forest/Grassland/Parkland

The discharge(s) from the facility shall be monitored and limited at all times as follows:

Outfalls: 001, 020, 021 and 022 (Condenser Cooling Water Discharge Flume, Condenser Cooling Water Diversion Channel Overflow , Supplemental Cooling Pond Discharge and Supplemental Cooling Tower Discharge)

	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/l		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
Flow						
PH					6 - 9 S.U.	35 IAC 304.125
Total Residual Chlorine				--	0.2	40 CFR 423
Temperature						IPCB Order 77-158

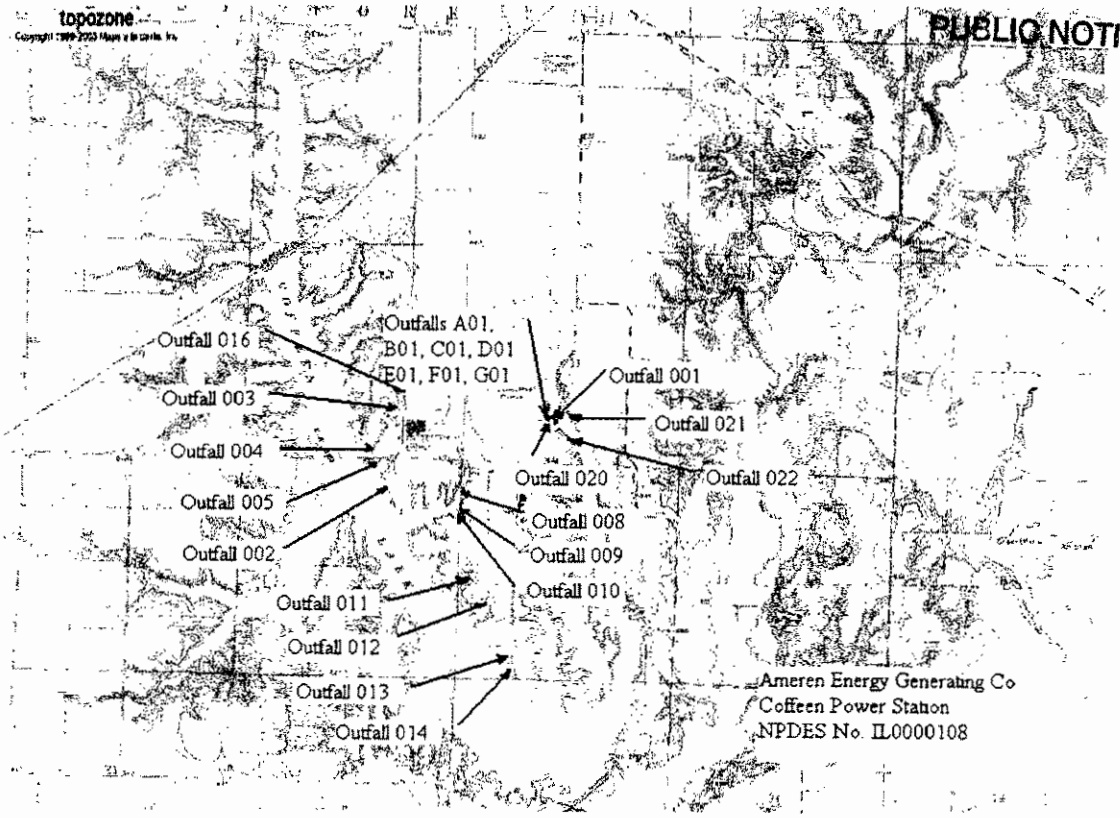
The following explain the conditions of the proposed permit:

Special Condition 5 contains the temperature limitations set forth in IPCB Order 77 - 158.

The discharge(s) from the facility shall be monitored and limited at all times as follows:

Outfalls: 002 (Coal Yard Settling Pond Discharge)

	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/l		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
Flow						
PH					6 - 9 S.U.	35 IAC 304.125
Total Suspended Solids				35	50	BPJ
Oil and Grease				15	20	40 CFR 423
Boron					1.8	35 IAC 302
Total Dissolved Solids					1300	35 IAC 302
Manganese				1.0	1.3	35 IAC 302
Iron (total)				2.0	4.0	35 IAC 304



Public Notice of Draft Permit

Public Notice Number AAH:05012101.daa is hereby given by Illinois EPA, Division of Water Pollution Control, Permit Section, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 (herein Agency) that a draft reissued National Pollutant Discharge Elimination System (NPDES) Permit Number IL0000108 has been prepared under 40 CFR 124.6(d) for Ameren Energy Generating Company, One Ameren Plaza, 1901 Chouteau Avenue, MC-602, Post Office Box 66149, St. Louis, Missouri 63166-6149 for discharge into Coffeen Lake from the Coffeen Power Station, 134 CIPS Lane , Coffeen, Illinois 62017. Applicant operates an existing 950 MW coal fired steam electric generating station. The facility discharges non-contact cooling water, boiler draining wastewater, water treatment wastes, sewage treatment plant effluent, coal pile runoff, floor drains and sump discharges, intake screen backwash and storm water associated with industrial activity to Coffeen Lake.

The application, draft permit and other documents are available for inspection and may be copied at the Agency between 9:30 A.M. and 3:30 P.M. Monday through Friday. A Fact Sheet containing more detailed information is available at no charge. For further information, call the Public Notice Clerk at 217/782-0610.

Interested persons are invited to submit written comments on the draft permit to the Agency at the above address. The NPDES Permit and Joint Public Notice numbers must appear on each comment page. All comments received by the Agency not later than 30 days from the date of this publication shall be considered in making the final decision regarding permit issuance.

Any interested person may submit written request for a public hearing on the draft permit, stating their name and address, the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to these issues in the hearing. Such requests must be received by the Agency not later than 30 days from the date of this publication.

If written comments and/or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 45 days before any public hearing.

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PUBLIC NOTICE

NPDES Permit No. IL0000108

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date:

Issue Date:
Effective Date:

Name and Address of Permittee:

Ameren Energy Generating Company
One Ameren Plaza
1901 Chouteau Avenue, MC - 602
Post Office Box 66149
St. Louis, Missouri 63166-6149

Facility Name and Address:

Coffeen Power Station
134 CIPS Lane
Coffeen, Illinois 62017
(Montgomery County)

Discharge Number and Name:		Receiving Waters:
No. 001	Condenser Cooling Water Flume Discharge	Coffeen Lake
No. 020	Condenser Cooling Water Diversion Channel Overflow	Coffeen Lake
No. 021	Condenser Cooling Water Supplemental Cooling Pond Overflow	Coffeen Lake
No. 022	Condenser Cooling Water Supplemental Cooling Tower Discharge	Coffeen Lake
No. A01	Boiler Draining Wastewater	Coffeen Lake
No. B01	Electrodialysis Reversal and Demineralizer Regenerant Wastes	Coffeen Lake
No. C01	Unit 1 Floor Drains and Sumps	Coffeen Lake
No. D01	Sewage Treatment Plant Discharge	Coffeen Lake
No. E01	Unit 2 Floor Drains and Sumps	Coffeen Lake
No. F01	Maintenance Shop Oil/Water Seperator	Coffeen Lake
No. G01	Equalization Tank Bypass Line Discharge	Coffeen Lake
No. 002	Coal Yard Settling Pond Discharge	Coffeen Lake
No. 003	Intake Screen Backwash	Coffeen Lake
No. 005	Storm Water Runoff from Tractor Shed Area	Coffeen Lake
No. 008, 009, 010, 011, 012, 013, 014, 015 , 016	Storm Water Runoff from Rail Spur	Coffeen Lake

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

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

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

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NPDES Permit No. IL0000108

Effluent Limitations and Monitoring

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

Outfall(s): 001*, 020, 021 and 022

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

This discharge consists of:

	Approximate Flow:
1. Condenser cooling water discharge flume	0.144 MGD
2. Condenser cooling water diversion channel overflow	527.69 MGD
3. Supplemental Cooling pond discharge	37.97 MGD
4. Supplemental Cooling tower discharge	85.35 MGD
2. Miscellaneous heat exchanger cooling water discharges	48.0 MGD
3. Boiler draining wastewater	0.075 MGD
4. Electrodialysis reversal and demineralizer regenerant waste	0.390 MGD
5. Sewage treatment plant effluent	0.0085 MGD
6. Maintenance shop oil/water separator discharge	Intermittent
7. Equalization tank bypass line discharge	Intermittent
8. Stormwater runoff**	Intermittent
9. Chemical containment area drains	Intermittent
10. Unit 1 floor and equipment drains ***	Intermittent
11. Unit 2 floor and equipment drains***	Intermittent
12. Emergency recycle pond overflow	Intermittent

Flow				Daily	Continuous Recording
pH	See Special Condition No. 2			2/Month	Grab
Total Residual Chlorine	See Special Condition No. 4	--	0.2	2/Month	Grab
Temperature	See Special Condition No. 5			Daily	Continuous Recording

*Outfall 001 is the discharge of leakage through a stoplog structure. Flow shall be estimated twice per month and reported accordingly.
** See Special Condition 15.
*** These contributory waste streams are routed through an oil/water separator prior to discharge.

Flow shall be sampled daily by continuous recording at 001, 020, and 022 when discharging.

pH shall be sampled 2/month when discharging. Sampling point for 001, 020 and 022 shall be at a point within the cooling water discharge flume. Sampling point for 021 shall be at the supplemental cooling pond overflow, prior to discharge to Coffeen Lake.

Total residual chlorine shall be sampled 2/month when discharging. Sampling point for 001, 020, 021 and 022 shall be at a point within the cooling water discharge flume.

Temperature shall be sampled daily by continuous recording at the edge of the mixing zone in Coffeen Lake.

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PUBLIC NOTICE

NPDES Permit No. IL0000108

Effluent Limitations and Monitoring

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

Outfall(s): A01 Boiler Draining Wastewater

PARAMETER	LOAD LIMITS lbs/day 30 DAY AVG.	LOAD LIMITS lbs/day DAILY MAX.	CONCENTRATION LIMITS mg/l 30 DAY AVG.	CONCENTRATION LIMITS mg/l DAILY MAX.	SAMPLE FREQUENCY	SAMPLE TYPE
	Approximate Flow: Intermittent					
Flow					When discharging	Measure when monitoring
Total Suspended Solids			15.0	30.0	1/Year when discharging	Grab
Oil and Grease			15.0	20.0	1/Year when discharging	Grab

Outfall(s): B01*** Electrodialysis Reversal and Demineralizer Regenerant Wastes

This discharge consists of		Approximate Flow:			
1. Electrodialysis Reversal and Demineralizer Regenerant Wastes		0.39 MGD			
2. Chemical Containment Area Drains		Intermittent			
Flow				2/Month	Measure when monitoring
Total Suspended Solids		15.0	30.0	2/Month	8-Hr. Composite
Total Dissolved Solids	See Special Condition No. 6			2/Month	Grab
Oil and Grease		15.0	20.0	1/Quarter	Grab

*** These waste streams are routed to an 80,000 gallon capacity equalization tank prior to discharge to the cooling water discharge flume.

NPDES Permit No. IL0000108

Effluent Limitations and Monitoring

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

Outfall(s): C01 Unit 1 Floor Drains and Sumps****

	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.	SAMPLE FREQUENCY	SAMPLE TYPE
This discharge consists of:			Approximate Flow:			
1. Floor drains and sump discharges			Intermittent			
2. Storm water runoff			Intermittent			
Flow					2/Month	24-Hr. Total
Total Suspended Solids			15.0	30.0	2/Month	8-Hr. Composite
Oil and Grease			15.0	20.0	2/Month	Grab

**** Outfall C01 includes storm water associated with industrial activity which comes into contact with the floor drain and sump discharges prior to discharge into the receiving stream. The above limitations and monitoring requirements apply only to the floor drain and sump discharges. For requirements concerning the storm water portion of the discharge, see Special Condition No. 15.

Outfall(s): D01 Sewage Treatment Plant Discharge (DAF = 0.0085 MGD) (DMF 0.03 MGD)

Flow					2/Month	Measure when monitoring
pH	See Special Condition No. 2				2/Month	Grab
Total Suspended Solids	4.5	15.0	30.0	60.0	2/Month	8-Hr. Composite
BOD_5	4.5	15.0	30.0	60.0	2/Month	8-Hr. Composite
Total Residual Chlorine	See Special Condition No. 7				Daily	Grab

Outfall(s): E01 Unit 2 Floor Drains and Sumps*****

This discharge consists of:			Approximate Flow:			
1. Floor drains and sump discharges			Intermittent			
2. Storm water runoff			Intermittent			
Flow					2/Month	24-Hr.Total
Total Suspended Solids			15.0	30.0	2/Month	8-Hr. Composite
Oil and Grease			15.0	20.0	2/Month	Grab

*****Outfall E01 includes storm water associated with industrial activity which comes into contact with the floor drain and sump discharges prior to discharge into the receiving stream. The above limitations and monitoring requirements apply only to the floor drain and sump discharges. For requirements concerning the storm water portion of the discharge, see Special Condition No. 15.
See Special Condition No. 17.

NPDES Permit No. IL0000108

Effluent Limitations and Monitoring

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

Outfall(s): F01 Maintenance Shop Oil/Water Separator*

*See Special Condition 12

Outfall(s): G01****** Equalization Tank Bypass Line Discharge

	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.	SAMPLE FREQUENCY	SAMPLE TYPE
This discharge consists of			Approximate Flow:			
1. Electrodialysis Reversal and Demineralizer Regenerant Wastes			0.224 MGD			
2. Chemical Containment Area Drains			Intermittent			
Flow					Daily when discharging	Estimate
Total Suspended Solids			15.0	30.0	Daily when discharging	8-Hr. Composite
Oil and Grease			15.0	20.0	1/Week when discharging	Grab

****** The Permittee shall restrict the use of the bypass of the equalization tank to required maintenance of the tank and once bypassing commences such maintenance shall be promptly undertaken to minimize the length of time of bypass of the equalization tank.

NPDES Permit No. IL0000108

Effluent Limitations and Monitoring

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

Outfall(s): 002 Coal Yard Settling Pond Discharge

	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.	SAMPLE FREQUENCY	SAMPLE TYPE

This discharge consists of: Approximate Flow:

1. Stormwater runoff from the coal yard and southwest plant yard area******* Intermittent
2. Water treatment clarifier and filter wastes 0.06 MGD
3. Coal crusher house sump pit discharge 0.42 MGD
4. Ash dewatering bin overflows Intermittent
5. Tractor shed oil/water separator 0.005 MGD
6. Coal recovery pond effluent Intermittent
7. Recycled pond level control* Intermittent
8. Ultrasonic resin cleaner backwash 0.01 MGD
9. Coal unloading septic system 0.0002 MGD
10. Fuel unloading oil/water separator Intermittent
11. Tripper room floor drains 0.003 MGD

Flow				1/Week	Measure when monitoring
pH	See Special Condition No. 2			1/Week	Grab Sample when discharging
Total Suspended Solids		35.0	50.0	1/Week	24-Hr.Composite when discharging
Oil and Grease		15.0	20.0	1/Month	Grab Sample when discharging
Boron	See Special Condition No. 8		1.8	1/Month	8-Hr. Composite when discharging
Total Dissolved Solids	See Special Condition No. 8		1300.0	1/Month	8-Hr. Composite when discharging
Manganese	See Special Condition No. 8	1.0	1.3	1/Month	8-Hr. Composite when discharging
Iron (total)		2.0	4.0	1/Quarter	8-Hr. Composite when discharging
Mercury	See Special Condition No. 21			1/Quarter	Grab

******* See Special Condition No. 14
*Emergency overflow from the Recycle Pond is diverted to Outfall 001.

NPDES Permit No. IL0000108

Effluent Limitations and Monitoring

Outfall(s): 003 Intake Screen Backwash Approximate Flow: 0.07 MGD

Adequate maintenance of the trash basket is required to prevent the discharge of debris collected on intake screens back to Coffeen Lake.

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

Outfall(s): 005 Storm Water from Tractor Shed Area

	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/L			
PARAMETER	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.	SAMPLE FREQUENCY	SAMPLE TYPE

See Special Condition No. 15

Outfall(s): 008, 009, 010, 011, 012, 013, 014, 015 and 016
Storm Water Runoff from Rail Spur

Mercury					1/Quarter	Grab

See Special Condition No. 15, 18, 19 and 21.

NPDES Permit No. IL0000108

Special Conditions

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

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

SPECIAL CONDITION 3. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream. For internal outfalls A01, B01, C01, D01, E01, and G01, samples taken in compliance with effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the cooling water discharge flume.

SPECIAL CONDITION 4. Total Residual Chlorine limit is an instantaneous maximum limit which shall not be exceeded at any time.

a. Chlorine may not be discharged from each unit's main cooling condensers for more than two hours in any one day.

b. A minimum of three grab samples shall be taken at approximately two minute intervals at a point in the discharge flume during the respective chlorination period of each unit allowing for lag time between the initiation of chlorination and the point of sampling before the first grab sample is taken. The individual values of total residual chlorine for each chlorination period sampled shall be reported. The highest individual TRC value for the month should be reported as the maximum value on the Discharge Monitoring Report (DMR). The time and duration of the chlorine dosing period plus the amount of chlorine applied shall be included with the monthly DMR.

c. Continuous analyzers may be substituted for the above grab sampling method. When continuous analyzers are used, calculations submitted with the Discharge Monitoring Reports (DMRs) will be based on the data collected on the first and third Wednesday of the calendar month. In the event of an analyzer malfunction on the above days, data will be collected on the following Wednesday by either an analyzer or by use of the grab sampling method. Discharge Monitoring and Reporting requirements are specified above.

SPECIAL CONDITION 5. The following specific thermal limitations adopted through IPCB Order 77-158 pursuant to 35 Ill. Adm. Code 302.211(j)(5) shall apply at the edge of the mixing zone for the condenser cooling water discharge. The edge of the mixing zone shall be a maximum area of 26 acres and compliance with the following thermal limitations determined by a fixed temperature recorder set at the edge of the mixing zone below the surface of the water.

1. The thermal discharge to Coffeen Lake from Coffeen Power Station shall not result in a temperature, measured at the outside edge of the mixing zone in Coffeen Lake, which: 1) Exceeds $105^{O}F$ as a monthly average from June through September, and $112^{O}F$ as a maximum for more than three percent of the hours during that same period. 2) Exceeds $89^{O}F$ as a monthly average from October through May, and $94^{O}F$ as a maximum for more than two percent of the hours during that same period.

The maximum instantaneous temperature recorded during a day shall be reported as the daily maximum temperature on the DMR form. The monthly average temperature shall be reported as the monthly average on the DMR form. The number of hours the temperature exceeds the maximum temperature limitation shall be reported in the comment section of the DMR form.

SPECIAL CONDITION 6. This waste stream shall not alone or in combination with other sources cause a violation of the applicable total dissolved solids water quality standard of 1000 mg/l in Coffeen Lake. Monitoring shall be of a representative lake water sample collected at the Station intake.

SPECIAL CONDITION 7. Any use of chlorine to control slime growths, odors or as an operational control, etc. shall not exceed the limit of .05 mg/l (daily maximum) total residual chlorine in the effluent. Sampling is required on a daily grab basis during the chlorination process. Reporting shall be submitted with the (DMR's) on a monthly basis.

SPECIAL CONDITION 8. As part of the review process for this permit, the Agency concluded that adequate mixing exists in compliance with 35 Ill. Adm. Code 302.102 for boron, manganese and total dissolved solids at outfall 002. The extent of the mixing zone for these parameters is a radius of 100 feet from the end of the outfall 002 discharge pipe into Coffeen Lake. The daily maximum limits given for these parameters were established to result in compliance with the water quality standards of 35 Ill. Adm. Code 302 outside of these maximum zones. All parameters known to be present in the effluents at levels above water quality standards are listed above. Other such parameters may be discovered in the future and will be evaluated for mixing according to the Illinois Permitting Guidance for Mixing Zones.

Special Conditions

SPECIAL CONDITION 9. The Permittee's facility has been deemed to meet the criteria as a phase II existing facility (under section 316(b) of the Clean Water Act) pursuant to 40 CFR 125.91. Therefore, the permittee must fulfill the applicable requirements of 40 CFR 125 Subpart J, and 40 CFR 122(r)(2), (3) and (5). The regulation at 40 CFR 125.95 requires submittal of a Proposal for Information Collection (PIC) to support the development of a Comprehensive Demonstration Study (CDS) for the herein permitted facility. The PIC will be reviewed by the Agency and a response will be provided. An extension of time to submit the CDS has been granted. Therefore, you must submit your CDS on or before January 7, 2008. Once the CDS has been reviewed by the Agency and a compliance strategy has been approved, this permit will be modified to include implementation, monitoring, and reporting requirements pursuant to 40 CFR 125.98.

Ameren Energy Generating Company's (formerly Central Illinois Public Service Company) original demonstration for the Coffeen Power Station in accordance with Section 316(b) of the Clean Water Act, was approved by this Agency by letter dated April 27, 1982.

SPECIAL CONDITION 10. There shall be no discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly used for transformer fluid.

SPECIAL CONDITION 11.

A. Chemical metal cleaning wastewater may be stored in an on-site tank until placement on an active area of the coal pile. Chemical metal cleaning wastewater may be placed on an active area of the coal pile for evaporation in an operating boiler provided a demonstration showing BAT equivalency is submitted to the IEPA within 90 days following completion of treatment. This demonstration will consist of a sampling program approved by the IEPA which will provide for the monitoring of iron and copper levels in coal pile runoff prior to, during, and after placement of rinses onto the coal pile. This monitoring must show that the naturally occurring iron and copper levels in coal pile runoff are not altered through this disposal practice (Attachment A).

B. Chemical metal cleaning wastewater may be discharged to the recycle pond following treatment. The following discharge limits and sampling requirements shall apply prior to discharge to the recycle pond:

Parameter	Daily Maximum Limits	Sample Frequency	Sample Type
Iron	1.0 mg/l	1/Day *	Grab
Copper	1.0 mg/l	1/Day *	Grab

*When discharging. Sample results shall be included on the monthly Discharge Monitoring Report.

SPECIAL CONDITION 12. Permitted discharges which will not have discharge monitoring requirements include No. F01 maintenance shop oil/water separator discharge which will require best management practice (BMP) maintenance schedule and No. 004 maintenance building sewage treatment plant discharge, and Outfall 023 (temporary office building sewage treatment plant) which are regulated by the Illinois Department of Public Health because of the treatment units small size.

SPECIAL CONDITION 13. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

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

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

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 28th day of the following month, unless otherwise specified by the permitting authority.

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

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

Attention: Compliance Assurance Section, Mail Code # 19

NPDES Permit No. IL0000108

Special Conditions

SPECIAL CONDITION 14. (Outfall 002) The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit reissuance, and no pollution prevention plan will be required for such storm water. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated storm water discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 15.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

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

B. The plan shall be completed within 180 days of the effective date of this permit. Plans shall provide for compliance with the terms of the plan within 365 days of the effective date of this permit. The owner or operator of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request. [Note: If the plan has already been developed and implemented it shall be maintained in accordance with all requirements of this special condition.]

C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.

D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph G of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within the shortest reasonable period of time, and shall be provided to the Agency for review upon request.

E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:

1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility s storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate.

2. A site map showing:

   i. The storm water conveyance and discharge structures;

   ii. An outline of the storm water drainage areas for each storm water discharge point;

   iii. Paved areas and buildings;

   iv. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.

   v. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);

   vi. Surface water locations and/or municipal storm drain locations
   vii. Areas of existing and potential soil erosion;

   viii. Vehicle service areas;

ix. Material loading, unloading, and access areas.

3. A narrative description of the following:

   i. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;

   ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;

   iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;

   iv. Industrial storm water discharge treatment facilities;

   v. Methods of onsite storage and disposal of significant materials;

4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.

6. A summary of existing sampling data describing pollutants in storm water discharges.

F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:

1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.

2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.

3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.

4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, spill clean up equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.

5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:

   i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff;

   ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm ,

   iii. water discharges;

   iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges;

   iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed

Special Conditions

of in an approved manner and in a way which prevents them from entering storm water discharges.

v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination;

vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.

6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion and describe measures to limit erosion.

7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.

8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.

G. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.

H. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated thereunder, and Best Management Programs under 40 CFR 125.100.

I. The plan is considered a report that shall be available to the public under Section 308(b) of the CWA. The permittee may claim portions of the plan as confidential business information, including any portion describing facility security measures.

J. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.

Construction Authorization

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

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

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

2. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.

NPDES Permit No. IL0000108

Special Conditions

3. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.

4. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one or more acres of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

L. The facility shall submit an annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part G of the Storm Water Pollution Prevention Plan of this permit. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) Which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s).

M. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year□s information and shall be submitted no later than one year after the previous year□s report was due.

N. Annual inspection reports shall be mailed to the following address:

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

O. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.

SPECIAL CONDITION 16. If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

SPECIAL CONDITION 17. The permittee shall monitor the discharge from outfall E01 for zinc once per month by eight hour composite sample. Monitoring results shall be reported on the DMR form. The IEPA may modify this permit during its term to incorporate additional limitations or requirements based on the results of this monitoring. Modifications under this condition shall follow public notice and opportunity for hearing.

SPECIAL CONDITION 18. The discharge from outfalls 008, 009, 010 and 012 shall be monitored for boron, manganese, total dissolved solids and sulfate during qualifying storm events. The outfalls shall be monitored semiannually, in the spring and fall quarters, and at additional times as necessary to ensure that two qualifying storm events are sampled per year at each outfall. A qualifying storm event is defined as an event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event.

A grab sample shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable), and a flow weighted composite shall be taken for the entire event or for the first three hours of the event.

Grab and composite samples are defined as follows:

Grab sample: An individual sample of at least 100 milliliters collected during the first thirty minutes (or as soon thereafter as practicable) of the discharge. This sample is to be analyzed separately from the composite sample.

Flow-Weighted Composite sample: A flow-weighted composite sample may be taken with a continuous sampler that proportions the amount of sample collected with the flow rate or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot being at least 100 milliliters and collected with a minimum

period of fifteen minutes between aliquot collections. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

Pollutants shall be analyzed using test methods promulgated in 40 CFR 136. For each qualifying event, permittee shall record flow measurements or estimates of flow rate, the total amount of discharge for the storm event sampled, and the method of flow measurement or estimation. Permittee shall also record the duration of storm event sampled, rainfall measurements, or estimates of the storm event which generated the sampled runoff and the duration between the storm event sampled and the end of the previously measurable (greater than 0.1 inch rainfall) storm event.

Monitoring results and all other information required by this condition shall be submitted upon your receipt as an attachment to the DMR form.

The IEPA may modify this permit during its term to incorporate additional limitations or requirements based on the results of this monitoring. Modifications under this condition shall follow public notice and opportunity for hearing.

SPECIAL CONDITION 19. Based on monitoring results submitted to the IEPA for outfalls 008-010 and 012 the permittee shall modify its existing Storm Water Pollution Prevention Plan to reduce the amount of pollutants discharged to Coffeen Lake. At a minimum, the permittee shall increase the frequency of coal removal activities along the rail spur.

Amendments to the Storm Water Pollution Prevention Plan shall be made within the shortest reasonable period of time, and shall be provided to the IEPA for review upon request.

SPECIAL CONDITION 20. The discharge of a reportable quantity is not subject to the reporting requirements of Section 311 of the Clean Water Act, if such a discharge is in compliance with this permit and such activity was reviewed and made part of the public record in accordance with the issuance of this permit. The permittee is exempt from Section 311 reporting for discharges meeting the terms and conditions as found at 40 CFR 117.12.

SPECIAL CONDITION 21. Outfall 002 shall be monitored for mercury on a quarterly basis until twelve samples have been collected. Outfalls 008, 009, 010, 011, 012, 013, 014, 015 and 016 shall be monitored for mercury on a quarterly basis until four samples have been collected. Due to the similar nature of these outfalls, two maybe chosen by the permittee as representative of the others. In this case, the permittee shall report the outfalls sampled along with the results. After collection of all required samples, and upon written notification to the Agency the sampling may cease, unless the Agency modifies the permit to require continued sampling at some frequency. This low-level mercury monitoring shall be performed using USEPA analytical test method 1631 or equivalent.

NPDES Permit No. IL0000108

Attachment A

The Permittee shall monitor coal pile runoff for concentrations of copper (total) and iron (total) a minimum of 4 times prior to placing chemical metal cleaning wastewater rinses on the coal pile. The Permittee shall monitor the coal pile for coal pile runoff following the placement of chemical metal cleaning wastewater rinses on the coal pile. Upon placement of the wastewater rinses on the coal pile, for each placement which causes an effluent from the coal pile and each rainfall event which produces coal pile runoff during 30 days following placement on the coal pile, a representative grab sample shall be taken daily of the discharge and analyzed for iron (total) and copper (total). The analysis report shall include the frequency, duration and amounts of the month's precipitation events.

If the Permittee after monitoring twice the above practice for incineration of chemical metal cleaning wastewater rinses can demonstrate to the satisfaction of the permitting authority that there is no significant discharge of the designated parameters caused by this practice, upon written request by the Permittee, the permitting authority shall review the monitoring requirements and may, at their discretion revise or waive these monitoring requirements following Public Notice and opportunity for hearing.

Attachment H

Standard Conditions

Definitions

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L. 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24 Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8 Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

(1) Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

(2) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.

(3) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(5) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.

(6) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(7) Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

(8) Duty to provide information. The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this permit.

(9) Inspection and entry. The permittee shall allow an authorized representative of the Agency, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.

(10) Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. This period may be extended by request of the Agency at any time

(c) Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

(d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

(11) Signatory requirement. All applications, reports or information submitted to the Agency shall be signed and certified.

(a) Application. All permit applications shall be signed as follows:

(1) For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

(b) Reports. All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a); and

(2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and

(3) The written authorization is submitted to the Agency.

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

(12) **Reporting requirements.**

(a) **Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility.

(b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(d) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).

(2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.

(e) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours:

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit;

(2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit to be reported within 24 hours.

The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

(f) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12)(c), (d), or (e), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12)(e).

(g) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.

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

(a) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;

(b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees; and

(c) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.

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

(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

(1) One hundred micrograms per liter (100 ug/l);

(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or

(4) The level established by the Agency in this permit.

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

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

(a) Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and

(b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

(c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

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

(a) User charges pursuant to Section 204(b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;

(b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and

(c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.

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

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

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

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

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

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

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

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

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

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

(Rev. 3-13-98)

EXHIBIT 2

Ameren Energy Generating Company Coffeen Power Station v. IEPA (IEPA—08-14)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LEGAL COUNSEL
1021 NORTH GRAND AVENUE EAST, POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276
TELEPHONE (217) 782-5544 FACSIMILE (217) 782-9807

DATE: 10-25-07

FACSIMILE TRANSMITTAL SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

PARTY'S NAME: Mr. Menne

FIRM/COMPANY NAME: Ameren Energy Generating Co. Coffeen Power Station

FACSIMILE NO: 314-554-4182

TELEPHONE NO: 314-554-2816

FROM: Vera Terst

RE:

TOTAL NUMBER OF PAGES (INCLUDING THIS PAGE): 5

HARD COPY WILL _____ WILL NOT ✓ FOLLOW

IF YOU DO NOT RECEIVE ALL OF THE PAGES, PLEASE CALL (217) 782-5544

COMMENTS:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

October 24, 2007

Ameren Energy Generating Company **Coffeen Power Station**	)	
Petitioner,	)	
v.	)	IEPA – 08-14 (Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

Re: Provisional Variance From Special Condition 5 of NPDES Permit IL0000108

Dear Mr. Menne:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance request (Attachment A) submitted by Ameren Energy Generating Company (Ameren) for its Coffeen Power Station (Coffeen Station) on October 22, 2007.

Based on the review, the Agency GRANTS the requested variance, subject to specific conditions set forth below, for a period of 45 days.

Ameren's Coffeen Station is a two-unit 950 MW coal-fired steam generating station located approximately two miles south of Coffeen, Illinois, on the east shore of the main body of Coffeen Lake. Coffeen Lake, which is about 1,100 acres in size, provides cooling and service water for the generating station. A once-through cooling system is used to cool the main condensers of each unit and this condenser cooling water is then discharged to Coffeen Lake for dissipation of waste heat.

Due to the extremely hot humid and dry weather conditions, the Coffeen Lake level has fallen 7 feet below normal pool. As a consequence, the capacity of the lake to dissipate heat has been drastically reduced. Based on both current conditions in the lake and historical data, it is predicted that there will be periods of time that the temperatures measured will be at or above the thermal limits of NPDES permit IL0000108. In order to meet Special Condition 5 of its NPDES

permit (Attachment B) Ameren has lowered loads at Coffeen Station, when possible, over weekends; deliberately scheduled an outage to coincide with the more restrictive October temperature regime; and removed a unit from service to help reduce thermal loading. Additionally, Ameren added 42 supplemental cooling towers in 2001, and is currently operating four solar-powered aeration pumps in the lake to draw water from the bottom to the top in an attempt to cool the water. The only alternative Ameren has to maintain Coffeen Station's permit limits is to shut down or significantly de-rate its generating units for the remainder of the month.

NPDES permit IL0000108 requires Coffeen Station not to exceed 89 degrees F as a monthly average from October through May and 94 degrees as a daily maximum for more than two percent of the hours during that same period. Ameren is requesting a provisional variance that allows Coffeen Station's discharge to average 93 degrees F as a monthly average for a period of 45 additional days starting on October 1, 2007 (ending date would be November 14, 2007). Ameren also requests relief from the maximum permitted temperature for an additional 60 hours during this period of time. In granting this relief, the Agency would start the provisional variance on October 23, 2007, the date it received Ameren's request, and the provisional variance would continue through November 14, 2007.

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

1. The environmental impact from the requested relief will be closely monitored and the Agency will be immediately notified of any significant impact along with actions taken to remedy the problem;

2. No other reasonable alternatives appear available;

3. No public water supplies will be affected;

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

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

The Agency hereby GRANTS Ameren's Coffeen Station a provisional variance from Special Condition 5 of NPDES Permit IL0000108, subject to the following conditions:

1. This variance will begin October 23, 2007, and will end November 14, 2007;

2. During the variance period Coffeen Station's thermal discharge to Coffeen Lake shall not result in a temperature measured at the outside edge of the mixing zone in Coffeen Lake to exceed 93 degrees F as a monthly average and 94 degrees F as a maximum for an additional 60 hours during the provisional variance period;

This variance is subject to the following conditions:

A. During the variance period Coffeen Station shall continuously monitor intake and discharge temperatures and visually inspect intake and discharge areas at least three times daily to assess any mortalities to fish and other aquatic life;

B. Coffeen Station shall document environmental conditions during the term of the provisional variance, including the activities described in A above of this Section, and submit the documentation to the Agency and the Department of Natural Resources within 30 days after the provisional variance expires;

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

D. Coffeen Station shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions resulting from the provisional variance, including loss and damage to aquatic life;

E. Coffeen Station shall continue use of the solar powered aeration pumps during the variance period;

F. Coffen Station shall implement all reasonable measures possible to reduce temperature of all discharges to Coffeen Lake;

G. Coffeen Station shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when the need for the provisional variance begins and again when the need ends. Written confirmation of each notice shall be sent within five days to the following address:

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

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

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

_____
Petitioner

_____
Authorized Agent

_____
Title

_____
Date

I. Coffeen Station shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0000108.

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

Sincerely,

Robert A. Messina
Chief Legal Counsel

EXHIBIT 3

Coffeen Station Aerial Map

EXHIBIT 4

Coffeen Lake Diagram

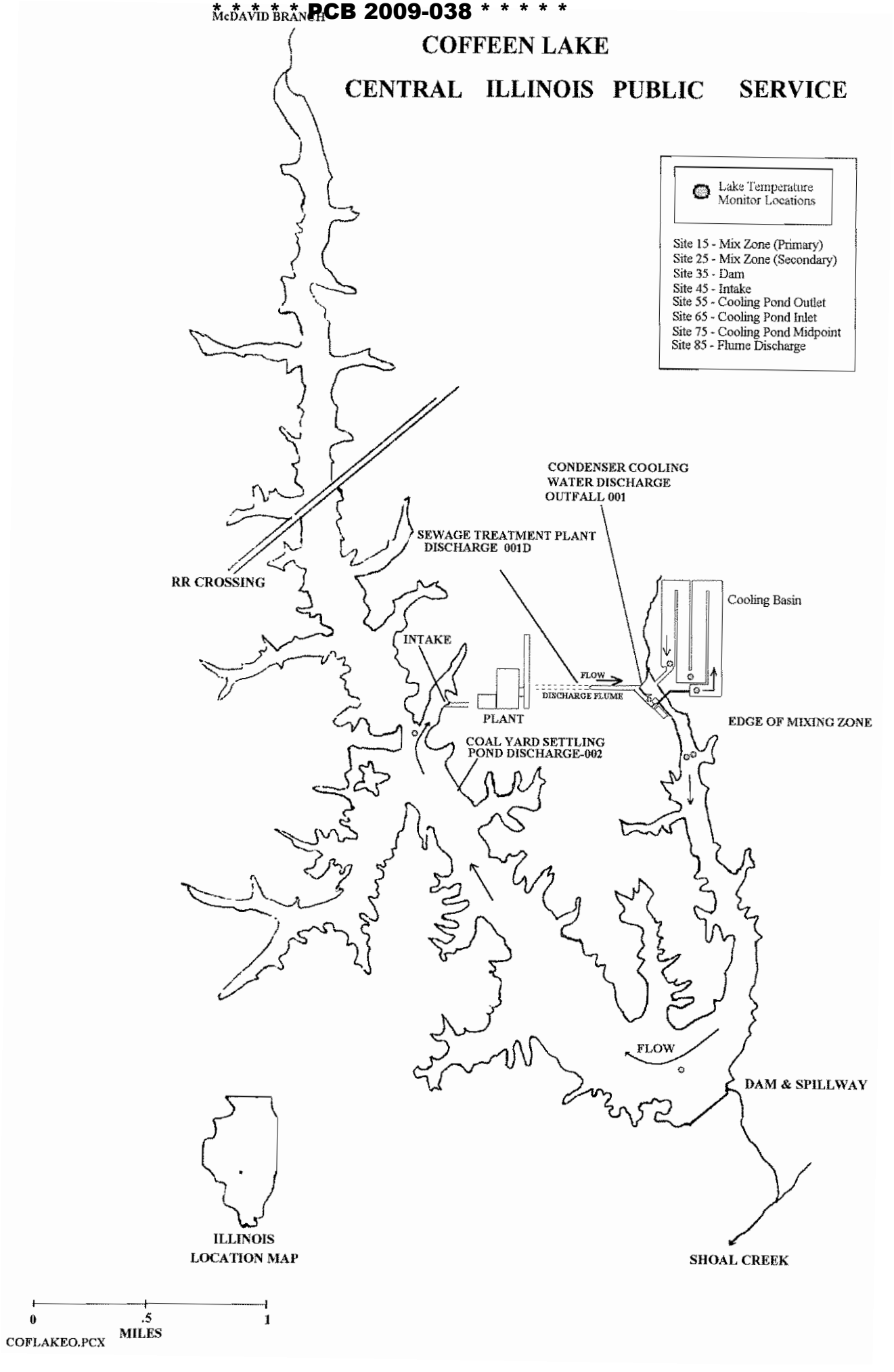
McDAVID BRANCH
COFFEEN LAKE
CENTRAL ILLINOIS PUBLIC SERVICE
Lake Temperature Monitor Locations
Site 15 - Mix Zone (Primary)
Site 25 - Mix Zone (Secondary)
Site 35 - Dam
Site 45 - Intake
Site 55 - Cooling Pond Outlet
Site 65 - Cooling Pond Inlet
Site 75 - Cooling Pond Midpoint
Site 85 - Flume Discharge
CONDENSER COOLING WATER DISCHARGE OUTFALL 001
SEWAGE TREATMENT PLANT DISCHARGE 001D
RR CROSSING
Cooling Basin
INTAKE
FLOW
DISCHARGE FLUME
PLANT
EDGE OF MIXING ZONE
COAL YARD SETTLING POND DISCHARGE-002
FLOW
DAM & SPILLWAY
ILLINOIS LOCATION MAP
SHOAL CREEK
0
.5
1
MILES
COFLAKEO.PCX

EXHIBIT 5

Affidavit of James Williams

AFFIDAVIT OF JAMES WILLIAMS

1. My name is James Williams. If sworn as a witness, I can testify competently that the following information is true and accurate to the best of my knowledge.

2. I am employed by Ameren Electric Generating Company as the Plant Manager at the Coffeen Power Station. I have served in this capacity since 2001.

3. I am responsible for safe operation of Coffeen Power Station.

4. Ameren's Coffeen Station is a two-unit 950 MW coal-fired generating station. Coffeen Station can use both Illinois coal and western Powder River Basin coal. Ameren's Coffeen Station provides employment for 400 people.

5. Over the next three years significant environmental projects will be constructed at the station which will allow the Company to continue to burn Illinois coal, depending upon availability and economics. Such projects will utilize the services of skilled union craftsmen and create many more jobs.

6. Planning for Coffeen Power Station began in 1958. In 1962, the Illinois Commerce Commission granted Ameren's corporate predecessor, Central Illinois Public Service Company (CIPS) a certificate of public convenience and necessity to construct an electric generating plant to be located approximately two miles southwest of the Village of Coffeen. Also in 1962, the Illinois Department of Public Works and Buildings issued CIPS a permit to build an earthen dam and spillway on McDavid Branch of the East Fork of Shoal Creek. Construction started in 1962 and the 360 MW Unit No. 1 went into service in 1965. A second unit, Unit No. 2, of 590 MW was placed in service in 1972. Coffeen Lake was created in 1963. It is an 1,100-acre artificial impoundment created to provide a source for Coffeen Station's once-through cooling water.

7. Heat is rejected from Coffeen Station primarily by means of Coffeen Lake. Both Units 1 and 2 have two circulating water pumps. The circulating water for the condensers at the Coffeen Power Station is obtained from Coffeen Lake through a crib house and discharged back into the lake via a 17-foot diameter discharge pipe which empties into an open flume.

8. Condenser cooling water travels back through a 0.6 mile flume which discharges over a spillway back into Coffeen Lake. The total length of the cooling water path from the discharge spillway structure to the intake crib house is 4.1 miles. The circulation pattern for the cooling water in Coffeen Lake is in a clockwise direction and takes 7-10 days to complete, depending on the number of pumps in operation and the lake level.

9. The station has the capability to direct the circulating water flow to the basin, the cooling towers, the mix zone or a combination of the three. In the current piping configuration,

the cooling basin and cooling towers can draw up to 90% of the maximum plant discharge.

10. Ameren has enhanced heat dissipation capability through the addition of a supplemental cooling basin and packaged helper cooling towers. Ameren installed the 70-acre supplemental cooling basin in 2000. That project was completed at a cost of $20,734,000. In the spring of 2002, Ameren installed the package helper cooling towers. That project was completed at a cost of $6,833,000. Both the supplemental cooling basin and the cooling towers are located upstream of the mix zone in order to condition the circulating water outlet flume temperature to meet the mix zone limits.

11. In 2007, Ameren began experimenting with solar-powered aerators which stimulate circulation of water from lower depths to the surface. The capital outlay for this initiative was $120,000.

12. Coffeen Station employs a variety of operational practices to maintain compliance with the restrictions of its thermal limit in Special Condition 5 of its NPDES Permit. For example, the Company has scheduled planned outages during May and October and de-rated during evening hours and on weekends.

13. The costs associated with de-rating of the units at Coffeen Station has been $5,584,477.17 since 1999. During that period, de-rating to comply with thermal limits has occurred in May and October 64 times including: 10% percent of the time at Coffeen Unit 1 in May; 14% of the time at Coffeen Unit 2 in May; and 4% of the time at Coffeen Units 1 and 2 in October.

14. Ameren expects that continuing demand growth, along with potentially reduced supply, will likely increase the capacity utilization of the Coffeen Station toward 90% by 2011. This forecasted capacity factor anticipates the installation of pollution controls that will effect the net generation of the plant. By 2010, to reduce NO_x, SO_2, and PM emissions, Ameren expects that it will have installed and be operating pollution control equipment known as Selective Catalytic Reduction (SCR) and Flue Gas Desulfurization (FGD). The SCRs on both units at Coffeen Generating Station are already installed and operating. Such equipment will be operated on a continual basis and consume significant amounts of energy from the facility and effectively reduce the net output of the plant by an estimated 22.6 MWh.

15. Unless relief is granted by the Illinois Pollution Control Board, Coffeen Station will be required to shut down or significantly de-rate its generating units in order to comply with the monthly average requirements of the permit. Although operational practices instituted by Ameren at Coffeen Station have helped with compliance efforts to date, such efforts are not enough to address the consequences of extreme weather conditions that are out of the control of Ameren and the Agency.

16. Ameren hired consultant Sargent & Lundy to perform a study comparing various cooling technologies that might allow Ameren to meet its thermal discharge limits for Coffeen

Lake with forecasted increases in electrical output and capacity factor at Coffeen Station. Only two of the six options Sargent & Lundy evaluated, utilizing the existing system (Option 1) and installing additional cooling towers (Option 2A), were deemed technically feasible to implement at Coffeen Station. S&L studied three versions of an additional helper tower, each having a different capacity. These options include: (1) a 175,000 gallon per minute (gpm) cooling capacity helper tower (Option 2A), (2) a130k gpm helper tower (Option 2B); and (3) a 100k gpm helper tower (Option 2C). Considering capital and O&M costs, the payback period for Options 2A and 2B would be 11.5 years from commissioning, or 2022. The payback period for Option 2C would be 9 years. Option 2C would still require Ameren to derate to meet thermal limits and would require the existing towers to remain in service and operate for the longest period annually. This reliance on the existing towers imposes higher operating and maintenance expenditures. It is clear from S&L's economic evaluation that installing helper cooling towers is not economically reasonable for Ameren. The high capital and maintenance costs and long payback periods are not reasonable even despite the added generating capacity.

17. All the Company's generating plants, including Coffeen, compete to sell energy and capacity in the wholesale electricity markets. The Midwest Independent System Operator ("MISO") exercises functional control of electric transmission facilities, administers wholesale electricity markets, and acts as the reliability coordinator, within its footprint in all or parts of 11 states in the upper Midwest, including most of Illinois.

18. MISO administers day-ahead and hourly energy markets in its footprint by receiving bids from wholesale electric generators to supply electricity and matching these bids against the needs of wholesale purchasers in the region. MISO accepts suppliers' bids as needed to meet the demands of buyers based on "security-constrained economic dispatch", meaning that MISO selects the lowest bid prices consistent with the need to have generators operating throughout the region to maintain reliability of the grid.

19. Owners of generating stations such as Coffeen can commit (some or all of) the output of their plants to particular wholesale buyers through contracts, or bid (some or all of) the output of their plants into the MISO wholesale markets, or both. In either event, the amount of electric capacity and energy a plant like Coffeen is able to deliver impacts the market prices for electricity in Illinois. Coffeen is a baseload plant with low variable costs per MWh generated; its power generation is among the most inexpensive power available in Illinois. Therefore, to the extent Coffeen's generating capability is reduced, higher-cost generating resources must be operated to serve the total electricity demand in Illinois and the Midwest, thereby increasing the wholesale market prices of electricity in the region. Additionally, the principle of security-constrained economic dispatch means that to the extent Coffeen's availability to supply electricity is reduced, electricity may need to be imported into the Central Illinois area from more distant generators, at higher costs.

20. The unavailability or reduced availability of a lower-cost generator like Coffeen will increase the daily and hourly market prices. Further, on unseasonably warm days, demand for electricity will be higher, thereby exacerbating the impact on prices and costs

to consumers of the reduced availability of a baseload generator like Coffeen. In the longer term, higher wholesale prices for electricity in Illinois and the Midwest will compel wholesale suppliers to bid higher prices to supply the needs of electric utilities such as CIPS, Illinois Power and ComEd under contract, and thereby ultimately increase the prices paid by retail consumers for electricity.

21. Ameren also ensures minimal impacts to the environment by instituting good management practices at the Coffeen Power Station. In accordance with Ameren's NPDES permit, Ameren takes extensive measures to control storm water runoff and minimize the potential for any pollutants to enter the storm water conveyance system. Specifically with regard to thermal discharges, good management, through scheduled maintenance, de-rating, and the implementation of various cooling system enhancements, has allowed Ameren to maintain compliance with the thermal limits and ensure that Coffeen Lake is more than capable of supporting shellfish, fish and wildlife and a wide range of recreational uses.

FURTHER, Affiant sayeth not.

DATED: 12-10-08

James Williams
James Williams

CH2\ 2242047.6

STATE OF MISSOURI)
) SS
CITY OF ST LOUIS)

Subscribed and sworn to before me, a Notary Public, this 10th day of December 2008.

Debra K. Patterson
Debra K. Patterson

My Commission Expires:

Debra K. Patterson - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #08482293
My Commission Expires 10/31/2012