BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

PRAIRIE RIVERS NETWORK and SIERRA CLUB	)	
Petitioners	)	
v.	)	PCB 06 - 124
	)	(NPDES Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and PRAIRIE STATE GENERATING COMPANY, LLC	)	
Respondents	)	

NOTICE OF FILING

PLEASE TAKE NOTICE that Prairie Rivers Network and Sierra Club have filed the attached PETITION FOR REVIEW OF A DECISION BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and NOTICE OF APPEARANCE.

Albert F. Ettinger
(Reg. No. 3125045)
Counsel for Prairie Rivers Network and Sierra Club

DATED: January 6, 2006

Environmental Law and Policy Center
35 E. Wacker Drive, Suite 1300
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

PRAIRIE RIVERS NETWORK and SIERRA CLUB Petitioners v. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and PRAIRIE STATE GENERATING COMPANY, LLC Respondents	)	PCB 06 - 124 (NPDES Permit Appeal)

NOTICE OF APPEARANCE

Pursuant to Section 101.400 of the Board's Procedural Rules, Albert F. Ettinger and Richard H. Acker hereby give notice of their appearance as counsel for petitioners in the above-captioned matter.

Albert F. Ettinger
(Reg. No. 3125045)

Richard H. Acker
(Reg. No. 6271838)

DATED: January 6, 2006

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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Petitioners	)	
v.	)	PCB 06 - 124 (NPDES Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and PRAIRIE STATE GENERATING COMPANY, LLC	)	
Respondents	)	

PETITION FOR REVIEW OF A DECISION BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Pursuant to 415 ILCS § 5/40(e)(1) and 35 Ill. Adm. Code § 105, Prairie Rivers Network and the Sierra Club (collectively, "Petitioners") hereby petition for review of the December 5, 2005 decision of the Illinois Environmental Protection Agency ("IEPA") to grant a National Pollutant Discharge Elimination System ("NPDES") permit (Permit No. IL0076996) to Prairie State Generating Company to discharge pollutants into the Kaskaskia River, Mud Creek, and unnamed tributaries to Mud Creek.

In support of their petition, Petitioners state:

Petitioners

1. Prairie Rivers Network is an Illinois not-for-profit corporation concerned with river conservation and water quality issues in Illinois. It works with concerned citizens throughout the state to address those issues that impact Illinois streams. Prairie Rivers Network members live in the Kaskaskia River and Mud Creek watersheds and are concerned with pollution that would affect their ability to safely drink water in the area and enjoy recreational

activities dependent on the ecological health of the Kaskaskia River and Mud Creek including fishing, boating, canoeing, nature study and hiking. Prairie Rivers Network members are adversely affected by pollution discharged into the Kaskaskia River and Mud Creek and other downstream waters. (See Ex. A, Tr. 32-39 and Ex. C, Post-Hearing Comments of Prairie Rivers Network, June 10, 2005)

2. The Sierra Club is a California not-for-profit corporation, which has among its purposes to protect and restore the quality of the natural and human environment. The Sierra Club has over 20,000 members residing in the State of Illinois. Sierra Club members live in the Kaskaskia River and Mud Creek watersheds and many Sierra Club members are concerned with pollution that would affect their ability to safely drink water in the area and enjoy recreation activities dependent on the ecological health of the Kaskaskia River and Mud Creek including fishing, boating, canoeing, nature study and hiking. Sierra Club members are adversely affected by pollution discharged into the Kaskaskia River and Mud Creek and other downstream waters. (See Ex. B Tr. 60-69, 88-93, 105-07 and Ex. D, Post-Hearing Comments of Sierra Club, June 10, 2005)

3. Members of the Petitioners, including Kathy Andria, Bruce Nilles, Jack Norman, Verena Owen, Cynthia Skrukrud, Ph.D, Beth Wentzel, and Dale Wojtkowski appeared at the hearing held in this proceeding and/or submitted comments in opposition to the permit. They and other members of Petitioners are so situated as to be affected by pollution in the Kaskaskia River and Mud Creek. (Exhibits A - D).

The Prairie State Plant and the Kaskaskia River

4. The Prairie State Generating Company (Peabody Energy Company) plant will discharge an average of 1.7 million gallons per day (mgd) of wastewater to the Kaskaskia River.

In addition, overflow discharges during 10-year 24-hour storm events will occur into Mud Creek and unnamed tributaries to Mud Creek. The Kaskaskia River and Mud Creek are general use waters of the state.

5. Public drinking water supplies for the towns of Sparta and Evansville draw water from the Kaskaskia River downstream from the proposed discharge. Numerous recreational activities, including canoeing, swimming, and other activities that could bring people in contact with water from the Kaskaskia River occur downstream of the proposed discharge. Parks and other public places are located downstream of the proposed discharge, such as portions of the Kaskaskia River State Fish & Wildlife Area.

Statement of Issues Raised

6. On March 25, 2005, IEPA gave notice that it had made a tentative decision to grant an NPDES permit to the Prairie State Generation Company to discharge into the Kaskaskia River, Mud Creek, and unnamed tributaries to Mud Creek. After reviewing a copy of the draft permit, Petitioners commented through testimony given at a public hearing held on the draft permit on May 11, 2005 in Marissa, Illinois. (See Exs. A and B) Petitioners further commented on the permit with written comments. (See Exs. C and D)

7. In those comments and that testimony, Petitioners raised legal and scientific issues regarding flaws in the draft permit and in IEPA's consideration of the draft permit including that:

a. The draft permit allowed discharges of harmful chlorinated organics that will impair existing and designated uses of the Kaskaskia River and lead to concentrations of contaminants hazardous to human health. The draft permit also failed to monitor these chemicals adequately.

b. The draft permit allowed stormwater discharges before a stormwater pollution prevention plan (SWPPP) is even prepared, much less implemented.

c. The tentative determination, fact sheet, and draft permit did not contain or give notice of necessary effluent limitations for the proposed discharge of stormwater. The draft permit allowed a proposed discharge pursuant to a SWPPP that had not been reviewed by IEPA and on which the public was not given an opportunity to comment.

d. In setting effluent limits, the draft permit relied on assumptions related to minimum flows of the Kaskaskia River that failed to consider water withdrawals between the Venedy station gauge and outfall 001.

8. On December 5, 2005, Illinois EPA issued the permit that is subject to the current appeal. (Ex. E) The final permit, while addressing some problems raised during the comment period, did not remedy the flaws discussed above that were raised by Petitioners in oral comments at the hearing and written comments made after the hearing.

9. There is reasonable potential that discharge of harmful chlorinated organics from the proposed facility will impair existing and designated uses of the Kaskaskia River as a public water supply and a waterbody that provides primary contact and recreational uses. There is also a reasonable potential that discharge of harmful chlorinated organics from the proposed facility will lead to concentrations of contaminants hazardous to human health.

10. The applicant proposes to use chlorine as a biocide in the cooling water to control slime growth. Chlorine combines with natural organic matter to produce disinfection byproducts, including numerous Total Organic Halogens (TOX), some of which are carcinogenic and have been shown to cause other harmful health effects. Emerging evidence shows that chlorination byproducts in tap water cause bladder cancer and are also linked to miscarriages, birth defects,

rectal and colon cancer, kidney and spleen disorders, and immune and neural system problems. (U.S. Public Interest Research Group Environmental Working Group, 2001)

11. The rate of formation of TOX is affected by the concentration of natural organic compounds, concentration of chlorine, contact time or retention time, temperature, pH, and concentration of bromide. Amy, et al. (1998) developed the following empirical formulas for formation of total trihalomethanes (TTHM) and haloacetic acids (HAA6) based on chlorine doses applied to raw water:

$$TTHM_{raw}(\mu g/L) = 0.0412(TOC_{raw})^{1.098}(Cl_2)^{0.152}(Br_{raw})^{0.068}(T)^{0.609}(pH_{raw})^{1.601}(t)^{0.263}$$

$$HAA6_{raw}(\mu g/L) = 9.98(TOC_{raw})^{0.935}(Cl_2)^{0.443}(Br_{raw})^{-0.031}(T)^{0.387}(pH_{raw})^{-0.655}(t)^{0.178}$$

Where: TOC_{raw} = total organic carbon (mg/L)

Cl_2 = applied chlorine dose (mg/L)

Br_{raw} = raw water bromide concentration (μg/L)

T = temperature (C)

t = reaction time (hours)

(Amy, G., Siddiqui, M., Ozekin, K., Zhu, H.W., Wang, C. Empirically Based Models for Predicting Chlorination and Ozonation By-product: Haloacetic Acids, Chloral Hydrate, and Bromate. EPA Report CX 819579. USEPA Office of Groundwater and Drinking Water: Cincinnati, OH, 1998.)

12. These equations were developed based on data collected using lower TOC, slightly higher Cl_2, and slightly lower temperature than the conditions projected for the cooling towers at the Prairie State Generating Station. However, because there have not been alternative models specifically for cooling towers and because most parameters are close to the range tested, these formulas provide the best available estimate of potential for disinfection byproduct

formation.

13. Ranges of parameters expected in the cooling towers were obtained from the applicant, either in the permit application or through correspondence with IEPA. Bromide concentrations were not available in the STORET database for Illinois streams, so a value on the low end of the range tested was used in the development of the equations (7 – 600 µg/L). Use of these equations yields the following results for the following parameters:

Scenario	Average conditions	Maximum within range	Minimum within range
TOC (mg/L)	25	30	20*
Cl_2 (mg/L)	0.5	1.0	0.1
Br (µg/L)	100	100	100
T (C)	26	32	21
pH	8.0	8.1	7.9
t (hours)	60	90	30
TTHM (µg/L)	1036	1811	455
HAA6 (µg/L)	242	450	79

* This number is an estimate based on the TOC maximum and average values given in the application

14. Because public water supplies are withdrawn from the Kaskaskia River downstream of outfall 001 and recreational and primary contact activities also occur downstream from outfall 001, these chlorinated organics should be monitored. Specific TOX compounds for which the U.S. EPA has set limits in public water supplies should also be limited. These include trihalomethanes or THMs (annual average limit = 80 µg/L) and haloacetic acids or HAAs (annual average limit = 60 µg/L). (U.S. EPA, *Stage 1 Disinfectants and Disinfection Byproducts Rule*, http://www.epa.gov/OGWDW/mdbp/dbp1.html) Although the discharge will be mixed with river water prior to withdrawal by downstream public water suppliers, there is no data available on instream concentrations of THMs or HAAs. Therefore, IEPA cannot assume that

dilution will be significant. Dechlorination will not remove these by-products if they have already been formed. Limits at least as strict as 80 µg/L and 60 µg/L for THMs and HAAs respectively should be placed in the permit.

15. While THMs and HAAs are among the best understood and regulated of the harmful chlorinated organics, there are numerous other chlorinated organics that likely have negative health effects as indicated in epidemiological studies reported by Dr. David Reckhow in a presentation at the Michigan American Water Works Association 2005 Research and Technical Practices Seminar. These studies and their implications are due to be published in the near future. Therefore, in addition to limits for THMs and HAAs, the facility should be required to monitor and limit total organic halogens (TOX) in the effluent. THMs and HAAs may not be good enough surrogates to eliminate risks from all disinfection byproducts, particularly because THMs are volatile and may be lost from the cooling tower through evaporation.

16. In the post-hearing responsiveness summary, Illinois EPA stated that "chlorine will not be added to the raw river water. Water . . . will be provided pretreatment to remove organic and suspended material . . . As a result the pretreated water will contain relatively little organic material and further the chlorine dosage necessary to provide the anti-scaling and fouling control will be much less." (Ex. F, p. 15) IEPA's dismissal of this evidence was mistaken because the numbers in the above table used for determining expected levels of THMs and HAAs were based on information provided by the applicant and/or IEPA and represent the water quality conditions within the cooling towers - not raw river water. Since the TOX are most likely to be formed within the cooling towers, these are the most relevant data. According to Prairie State Generating Company's NPDES application, the level of TOC entering the cooling tower is much higher (average of 25 mg/L, maximum of 30 mg/L) than typical raw water used for

drinking water supplies. In addition, naturally occurring constituents of the river water withdrawn for cooling usage will concentrate to some extent due to the evaporative loss of a portion of the cooling water. Furthermore, the amount of organic material in the water to be used in the cooling towers will likely be greater if or when water is drawn from Carlyle Lake as compared to that drawn from the Kaskaskia River system.

17. The permit should not have been issued before the applicant had identified how it will ensure that the stormwater will be controlled and local waterways are protected. This provision reduces the SWPPP portion of the permit to a mere promise to comply with the law in the future rather than the present.

18. According to Special Condition 21(B) of the final permit, the stormwater pollution prevention plan is required to be completed within 180 days of the effective date of the permit and shall provide for compliance with the terms of the plan within 365 days of the effective permit date. IEPA issued the permit on December 5, 2005 - long before the applicant has identified potential sources of pollution, how to reduce these pollutants in stormwater discharges, and assured compliance with the terms and conditions of this permit.

19. Many harmful materials will be stored on site. The SWPPP is the fundamental component of the permit designed to ensure that these harmful materials are not washed into local streams. Emergency discharges from eight outfalls will subject Mud Creek to new and increased pollutants. Mud Creek is on the state's 303(d) list due to impairments caused by manganese, siltation, low dissolved oxygen, and phosphorous. IEPA should not have issued this permit until a Stormwater Pollution Prevention Plan had been completed and reviewed by the agency and by the public.

20. In the responsiveness summary, IEPA gives the following reason for the delayed

development of the plan: "Since the site is currently undeveloped, there is no industrial activity occurring. The plan cannot be drafted and implemented until the site is developed and industrial activity is initiated." (Ex. F, p. 8) According to the American Heritage Dictionary, a plan is a "scheme, program, or method worked out beforehand for the accomplishment of an objective." (*American Heritage Dictionary of the English Language*, Fourth Edition, 2000 (emphasis added)) IEPA's premise that a plan cannot be developed until the activity to be planned has already begun makes no sense. Prairie State Generating will doubtless prepare site development and industrial operation plans before those activities are initiated. The SWPPP should be developed in conjunction with those plans. Moreover, the SWPPP will be more effective if it is incorporated early in the design of the facility.

21. IEPA also states that "[i]n the interim, PSGC will be required to obtain coverage under the general NPDES permit for storm water associated with construction site activities to control runoff from the site." According to the General NPDES Permit No. ILR10, a stormwater pollution prevention plan must be prepared for each construction site covered under the permit. The plan must identify potential sources of pollution which may affect the quality of stormwater discharges, describe and ensure implementation of practices which will be used to reduce pollutants in storm water discharges, and assure compliance with the terms and conditions of the permit. This plan must be completed prior to the start of construction. As of December 23, 2005, neither a Notice of Intent to be covered under General NPDES Permit No. ILR10 had been filed with IEPA, nor had a SWPPP been prepared for construction activities by Prairie State Generating Co.

22. The effect of delaying the completion of these SWPPPs is to prevent public scrutiny and participation in their preparation. The federal Clean Water Act requires state

NPDES programs to "insure that the public . . . receive[s] notice of each application for a permit and . . . an opportunity for public hearing before a ruling on each such application." 33 U.S.C. § 1342(b)(3). IEPA instead held the public hearing at a time when no substantive provisions of the SWPPP were available for the public to examine or comment on and approved the application for a stormwater discharge permit without having before it any of that information.

23. Once the SWPPPs (both for construction activities covered under the general permit and for industrial activities covered under the individual permit) have been completed by Prairie State Generating Co., the permit should be re-noticed so the public has an opportunity to review and comment on the elements of the SWPPP.

24. IEPA relies on 7Q10 flow data in setting effluent limits to ensure adequate dilution and mixing zones during low flows. IEPA, in explaining why it included Special Condition 1 to attempt to maintain a sufficient 7Q10 flow, states "Illinois EPA was intent on preventing flows from artificially dropping below 7Q10 levels due to the operation of the PSGC plant because of a mixing zone and adjusted standard granted to a downstream discharge." (Ex. F, p. 5) Sufficient 7Q10 levels are therefore necessary to prevent water quality violations at downstream discharges in addition to being necessary to prevent violations at the proposed Prairie State Generating plant. While IEPA has taken a step in the right direction by including Special Condition 1 in the permit, Special Condition 1 is based on flow levels at the Venedy Station gauge. The calculations in Special Condition 1 do not account for water withdrawals by other parties between the Venedy Station gauge and outfall 001 that could lower the river flow below 7Q10 levels at outfall 001. This omission may result in violations of the permit limits at outfall 001 as well as violations of permit limits for downstream discharges.

25. By allowing discharges that may cause or contribute to violations of state water

quality standards or impair existing and designated uses, the permit violates 35 Ill. Adm. Code § 302.105(c)(2)(B)(i), 35 Ill. Adm. Code § 304.105, and 35 Ill. Adm. Code §§ 309.141(d), 309.142, and 309.143. By allowing discharges that may lead to concentrations of contaminants hazardous to human health, the permit violates 35 Ill. Adm. Code § 302.205. By failing to require adequate monitoring of certain pollutants, the permit violates 35 Ill. Adm. Code § 309.146. See also 33 U.S.C. § 1342. By allowing stormwater discharges before a SWPPP is implemented, the permit violates 33 U.S.C. § 1311 and 415 ILCS § 5/12. The procedures used in the issuance of the permit prevent meaningful public participation in the review of the SWPPP, and fail to give notice of proposed effluent limits in violation of 35 Ill. Adm. Code §§ 309.108(b) and 309.113. Further, by failing to contain an adequate SWPPP, the permit fails to contain necessary effluent limits and monitoring in violation of 35 Ill. Adm. Code §§ 309.141(d) and 309.146. See also 33 U.S.C. § 1342.

26. Members of Petitioners will be affected adversely when pollution that may be discharged under the permit causes or contributes to pollution of the Kaskaskia River, Mud Creek, and the unnamed tributaries of Mud Creek as a result of IEPA's failure to require protective effluent limits, monitoring, and a proper stormwater pollution prevention plan.

WHEREFORE, the Sierra Club and Prairie Rivers Network ask that the Pollution Control Board set aside the NPDES permit (No. IL0076996) issued to the Prairie State Generating Company, LLC on December 5, 2005 as not sufficiently protective of the environment and not in accord with law, and direct the Agency to reconsider the permit in order to establish conditions and limits necessary to protect Illinois waters, assure protection of Illinois water quality

standards, and comply with the Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq., and Illinois law and regulations.

Albert F. Ettinger
(Reg. No. 3125045)

Richard H. Acker
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DATED: January 6, 2006

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EXHIBIT A

quality standards and we make the review for each and every discharge.

MS. WENTZEL: Good evening, my name is Beth Wentzel and I am the watershed scientist with Prairie Rivers Network, we are a statewide river conservation organization and the Illinois affiliate of National Wildlife Federation. Mark told me the secret for not burning your ears out so we see how I do with this mike. I do want to thank the agency for holding this public hearing tonight and providing this opportunity to share our concerns and questions. I do have a number of water quality related concerns that I will just summarize here this evening, I do have a couple questions but I will follow up with more detailed written comments as well.

First I am concerned that the applicant has not considered alternatives that would avoid or minimize the increased discharge of pollutants from this facility specifically phosphorus. The applicant is proposing to use phosphorus as a pipe corrosion inhibitor and to discharge phosphorus at levels that are over 10 times the average level in the Kaskaskia River. These discharges may

contribute to nuisance alga growth and degrade the river.

The State antidegradation regulations require that all reasonable measures be taken to avoid or minimize increased pollutant loading, therefore alternatives that would minimize the phosphorus loading increase must be analyzed and incorporated into the design of this facility if they are reasonable. Such alternatives might include use of an alternative corrosion inhibitor that does not contain phosphorus or other harmful compounds. Another alternative that could be considered would be the use of treatment technologies that reduce phosphorus prior to the discharge of that wastewater.

As Kathy mentioned, many municipalities have incorporated technologies to do just that and it seems that if it's reasonable for those communities to remove phosphorus, it should be reasonable for this large corporation as well. I would also encourage further consideration of alternatives that would minimize the discharge of other pollutants. Kathy suggested alternatives that might be successful at eliminating discharge

all together and that would certainly be an important alternative to consider.

As I was reviewing the file for this permit, I was also concerned about the potential for cancer causing chlorinated organic chemicals to be formed and discharged from this facility and I want to ask the agency was there any analysis of the potential for the formation of disinfection by-products and the effect that such chemicals would have on the downstream water intake, is that something that has been analyzed?

MR. MOSHER: Well, I can speak to that the power plant has requested the use of chlorine as a biocide in the cooling towers. All cooling towers for power plants or anything that uses cooling towers has to use a biocide. In this case they are going to be using a dechlorinated additive to remove that chlorine. This is a process used not only in power plants but also in municipal wastewater treatment plants. Up and down the river treatment plants are chlorinating sewage effluents, treated sewage effluents, and dechlorinating to remove that harmful chlorine. The dechlorinating substance should reduce the

chance of formation of the chlorinated organics which I think you are referring to as possible harmful substances for drinking water sources. There isn't a potential generally we believe at the agency, it's been a long standing policy to allow chlorination, it's been known for many years that you have to watch out for this sort of thing to happen but generally I am not aware of problems in intakes for public water supplies from chlorinated organics that you are speaking of.

MS. WENTZEL: Just to clarify, I do understand that they are proposing to dechlorinate prior to discharge into the river, my concern is the contact time at the high temperatures in association with high organic carbon within the cooling tower itself and whether or not there will be any monitoring or if there is any information out there where this type of situation has been studied to determine whether or not those harmful disinfection by-products may occur in this type of facility. My understanding is that dechlorination would not remove the by-products if they have already been formed, it will remove the residual chlorine. I guess this is something maybe I can

talk with you further about, not to hold everybody up here this evening but it is a serious concern that I do hope that we'll be able to get some analysis done.

A third concern that I have with the permit as written is that the permit would be issued before the applicant as identified how it will ensure that storm water will be controlled. There will be harmful materials kept on site, we are all aware of that and the storm water pollution prevention plan is the primary component of the permit designed to ensure that these harmful materials are not washed into local streams during active rain events. Therefore we feel that Illinois EPA should not issue this permit until the storm water pollution prevention plan has been completed and reviewed by the agency and reviewed by the public as well. As Kathy suggested, I don't know if you have any kind of home builders or developers in this audience here tonight, if you wanted to build a residential housing development, you would have to have your storm water pollution prevention plan developed and approved before you broke ground on the site,

I don't see why it would be impossible to have that pollution prevention plan available at this time prior to finalization of this permit.

The fourth concern is that this facility will likely contribute to violations of water quality standards for public water supply and one more question for the agency tonight, when I was reviewing the file, I did not see analysis of compliance or potential noncompliance with the State's public water supply criteria from manganese, is that something you looked at?

MR. MOSHER: Yes, we did, we looked at that in a lot of detail. I personally went to our Division of Public Water Supplies and talked to engineers and scientists there and asked them about the manganese issue, they assured me that the two downstream public water supplies on the Kaskaskia which would be Sparta and Evansville do not currently have a problem with manganese even though the river currently does not often meet the public water supply intake water quality standard for total manganese and that's because those facilities remove the manganese along with the silt and other things from the river water before

they supply it to their customers as finished drinking water.

The manganese loading to the river won't increase because of this plant. Concentration will increase very slightly, very, very slightly and it is just to not a significant amount and it is not a problem for those public water supplies to deal with that very slight increase in amount so our conclusion was that there was no conflict and there was no increased risk or danger from the manganese in the effluent.

MS. WENTZEL: The water quality criteria for public water supply use waters for manganese as you mentioned is quite low, has there been any site specific standards changed for this section of the river?

MR. MOSHER: No, there hasn't been.

MS. WENTZEL: I will go into more detail in my written comments on that. My fifth concern is that the discharges that will be designed to stay on site, I should say there is no evidence in the permit file that I reviewed that there will be no potential for groundwater contamination from those holding ponds, just wanted to encourage the

agency and the applicant to make that demonstration, I didn't see much information on the liners that will be used in those holding basins. I did not see any proposal for groundwater monitoring to detect any seepage that might occur at those basins. In this part of the country rain fall rates tend to exceed operation rates so that the water has to be going somewhere, we just want to ensure that it's not getting into groundwater potentially contaminating that water.

The last point I want to make, the last concern I want to mention is the concern that was already mentioned regarding the withdrawal of large quantities of water, I have seen that the analysis that shows is one percent of the annual average but certainly during most critical times of the year when the river is low, during ten percent of the time this facility will be withdrawing at least 25 percent of the river and that is significant when you think of it in those terms and with that I will conclude my comments and thank you again.

MR. BRITTON: Next is Kate or Kath Logan.

EXHIBIT B

MR. KINSLEY: One of the things that the agency has elected to do with those type of permits is to post on our web site people who apply for those permits and give an opportunity for people to know who is being covered, where their location is at.

MS. OWEN: I know what you are going to say, Mr. Day, I have one last thing to say, when you said you will answer questions, I make a formal request that you answer questions before the final permit is issued. Some of these questions we need to have answered in order to make meaningful comments on the draft permit. It is not helpful for us to read the answers in the questions in the responsiveness summary for a final permit, again I thank you for coming and listening to us.

HEARING OFFICER DAY: Thank you for your comments.

MR. NILLES: Thank you. My name is Bruce Nilles, I am the Senior Midwest Representative for the Sierra Club. Mr. Day and the rest of the IEPA thank you very much for holding this hearing tonight. As a couple of

follow up points regarding this project and underscore some of the major concerns we at the Sierra Club with our 28,000 members around the state have for this project, turning specifically to the Kaskaskia River, was there any analysis and this is a question I'd like to see if we could get an answer to before going on to the next point, was there any consideration of avoiding impacts on Kaskaskia all together by using dry cooling which is something you may know is the equivalent of large air cool condensers which avoid basically any water whatsoever, it's some type of cooling they use regularly out west where water is a serious issue, given the testimony we heard tonight about the existing use of water already stretching the resource to a very serious point, was there any consideration of using technology that would avoid the impacts on the Kaskaskia River all together?

MR. MOSHER: It might be helpful at this point in answer to your question to point out that it's the Illinois Department of Natural Resources that has the authority to permit water withdrawal from waters of the state. That agency issued that

permit well over a year ago, it's a done deal, they allow the Kaskaskia River water to be used by the plant, they also allow Lake Carlyle water to be bought by the plant for its use so that's not something our agency does and that permit was issued before I began analysis of water quality standards for this project. Specifically you asked about the dry cooling, no, we didn't -- that wasn't presented to us as an option and in my experience with power plants in Illinois I've not heard about that type of cooling.

MR. NILLES: How many new power plants are being permitted in the last 20 years, coal fired power plants?

MR. MOSHER: We've certainly done an analysis on several other coal fired power plants but I don't believe any of them have been permitted yet. Blaine Kinsley might --

MR. KINSLEY: I don't have that information for you, it would just be a guess, we can get that information for you and provide it.

MR. NILLES: It was just a response to the point that you have experience and you never seen dry cooling, my point is you have never

permitted another coal plant so of course you have never considered dry cooling in the last 20 years. I would urge us to consider very seriously it is water quality issue not just a water quantity issue. All the pollution we are talking about whether it's phosphorus, whether it's manganese, whether it's chlorine or some of the cancer causing agents you heard about earlier, all of those would be avoided if we use dry cooling so from the agengy's obligation to effectively eliminate pollution when it's at all reasonable, one of the ways to do that would be to use dry cooling.

The other issue you talked about is mercury, do we not have a fish consumption advisory on every single lake, river, stream in Illinois including the Kaskaskia River urging women and children not to eat the fish because of elevated levels of mercury?

MR. MOSHER: You are right, a lot of Illinois lakes and streams have mercury advisories, I need to add in answer to that question, the discharges that we are talking about in this permit have no known sources of mercury

that are being added by the plant other than a very small chance that there would be some very low amounts of mercury in these in the intermittent storm water discharge so there has been a lot of talk about mercury tonight but in our analysis, we have found that the quantities of mercury discharged would be just extremely, extremely low.

MR. NILLES: Do you agree they already have so much mercury in our rivers and the mercury doesn't break down?

MR. MOSHER: That's true but it would be hard to imagine any human activity resulting in a discharge that would have the low potential for mercury that we're talking about so it becomes just kind of a thing that we look at but it just isn't there that we know about. We've analyzed, we didn't find.

MR. NILLES: Did you consider any of the deposition from the smoke stacks on the waters including the Kaskaskia River?

MR. MOSHER: That is not our NPDES tasks. We are looking at the NPDES discharges in this permit.

MR. NILLES: So you don't consider the 280 pounds of mercury that they are going to put out of the smoke stack?

MR. MOSHER: I would guess that is something our air pollution permit would be looking at.

MR. NILLES: I have a question, they're proposing to use what is known as wet scrubbers to address some of the sulfur dioxide emissions from using high sulfur coal. In the capturing of sulfur you also capture a tremendous amount of mercury, where is that mercury going to end up from the wet scrubber? What is the plan for making sure that doesn't end up in the environment? I am familiar with a coal plant in Wisconsin that we entered as a proposal, their mercury from their wet scrubber is being discharged into Lake Michigan, it's supposed to be discharged in Lake Michigan? What is different about this proposal to keep the mercury from the wet scrubber out of the Kaskaskia River and any other waterways around the power plant?

MR. MOSHER: There's no link between that scrubber waste and the discharges that we are

permitting in this permit. Scrubber waste will be dealt with whereas the waste is taken off site probably to either a permitted facility or if it can be judged to be safe for other uses and that is yet to be determined but really a feature of this plant that is really good for the environment is that there is no wet connection to what you are referring to. There is no connection between that and the discharge that goes to the waters of the State.

MR. NILLES: Do you know what type -- how much the volume is that the wet scrubber waste can actually house to be managed, is that part of the analysis, are we sure it's going outside and can be handled safely?

MR. MOSHER: We are sure that it's not part of these discharges.

MR. NILLES: That's simply taking the company's application saying we are not going to discharge it and that is the end of the story? I guess I would just ask that there be a second look at this given the entities our neighbor to the north is proposing put some of that waste into Lake Michigan. If we can't protect that resource,

why not and what is Peabody proposing to do different?

I just want to turn to a couple points that the Peabody representive made at the start of his presentation, he got up and said this is the cleanest coal plant in 20 years, we haven't built any coal plants in 20 years, there is no -- nothing to compare it to except two counties over in Williamson County, the Aurora group is proposing what is known as a gas type coal plant, that would be the cleanest coal plant in Illinois. That will put out 20 percent of the pollution that Peabody wants to put out in the air around here, 1/5 of the pollution that Peabody says is necessary in order for them to burn high sulfur coal and to make a profit so in terms of the facts which I think is credibly important given that we already have elevated levels of mercury in every water in every state, if they can do it in Williamson County, don't we deserve that level of pollution control here in Washington County as well.

The other point is why is it the world's largest coal company wanting 1.7 billion dollars

State funding to build this project? Why at a time in extreme tight economic times is the world's largest coal company looking for state, local and federal handouts? What is going on here? The final point is you have put this draft permit out for public comment in one of the largest pieces that is in essence a black box, stone water permit, this is a large industrial site with large coal pilots, a tremendous amount of other industrial activity, when it rains we collect our stored water, where is it going and how is it going to be managed and how do we make sure that it doesn't further degrade Kaskaskia River or Mud Creek? How do we ensure that when there is no plan for the public to review?

We'd like to make a formal request that there be a draft store water plan available for the public to look at so we know where that pollution is going or how it's being managed before the agency issues the permit, we are being asked to comment on something, we don't know what it looks like. It is a black box that only Peabody knows about and in the spirit of full disclosure we should know where that water is

going, what kind of pollution is in there and what is Peabody going to be required to do in order to protect the water bodies around the plant site, thank you.

HEARING OFFICER DAY: Thank you for your comments, Mr. Nilles.

MR. BRITTON: Colin Kelly?

MR. KELLY: I already spoke, I already used up my ten minutes, maybe at the end I'll come back.

MR. BRITTON: Mayor Britehout?

MR. BRITEHOUT: My name is Dennis Britehout, I am the mayor of the Village of New Athens. I'd like to answer one question or one comment that this one gentlemen made, there was no support in the local area for this Prairie State generating project, that is incorrect. The Village of New Athens has issued a proclamation several months ago in favor of this project. All of the people in our -- I wouldn't say a hundred percent but 99 percent of the people in our area is needing this project to provide jobs, security for their families, a plant that will generate low cost electricity for many, many years and probably

coal but no doubt the Prairie State Energy Campus is a flag ship for us because it addresses all these things we look at and not just for the positive impact it has economically but also demonstrating that Illinois coal can be utilized in harmony with our environment and bring these mining jobs back to Illinois.

One thing too we'd like -- the IMI would like to convey is we'd like to thank Director Cipriano and the IEPA staff with countless hours and efforts put forth for a project of this magnitude. We are going to see this project become reality and it also ensures that the project adheres to the standard set forth to project the environment are safe in our future generations, thanks a lot.

HEARING OFFICER DAY: Thank you for your comments, Mr. Dennison.

MR. BRITTON: Next is Jack Norman.

MR. NORMAN: Good evening, my name is Jack Norman, I'm a resident of Monroe County, I'm a volunteer for the Sierra Club Kaskaskia Group which consists of members in St. Clair, Monroe, my own county, Randolph, Washington, Clinton and two

notice for this hearing and on necessity for the permit notice and then I asked for a further 30 days following this hearing for additional public comment and my understanding now that has already been arranged, am I correct in that? There is another 30 days comment opportunity?

HEARING OFFICER DAY: Yes.

MR. NORMAN: So I don't have to push that, thank for your attention. If there are any comments on any of that, fine, I don't need them right now.

MR. BRITTON: Does anyone wish to speak to that?

HEARING OFFICER DAY: Responses to the questions posed will be forthcoming in the responsiveness summary.

MR. BRITTON: Next is Tom Benner.

MR. BENNER: I will defer my comments.

MR. BRITTON: Guy Hunt?

MR. HUNT: My name is Guy Hunt, I'm a professional registered mining engineer here in the State of Illinois. I've been involved in mining all my life, my father's a miner, my grandfather and his father and all right here in

Knapp, he will tell you what he knows about that, he is the expert.

MS. ANDRIA: Thank you very much and thank you for coming down and thank you for your interest in our concern for this and I would encourage all you guys to start fighting that nuclear plant up north.

HEARING OFFICER DAY: Thank you again for your comments. Do we have any other folks who would like additional comments?

MR. NILLES: Again, my name is Bruce Nilles, two real quick questions, do we know how they are going to get the water from the river 14 miles to the power plant, what source of energy do they need, is it diesel pump, electric pump, what is the source of energy to pump that water?

MS. UNSER: I believe they're electrical pumps if I'm correct.

MR. NILLES: Peabody is confirming they are electric, okay. When we get to a Q710 situation, drought condition in the river, what happens to the downstream users, are they under the same Q710 so does Peabody get the first rights because they are upstream of downstream intakes,

how is it going to work? We heard the gentleman from the Kaskaskia River group say of course drinking water gets first priority, where is that spelled out? Where is the agreement to make sure that their interests are protected first before Peabody gets their water, how are you assuring that everyone gets their fair share?

MR. MOSHER: You will notice in the permit there is a formula that the power plant has to look at on a daily basis, special condition 1, and we think that is sufficient to ensure that 7Q10 flow does not get below the Illinois State Water Survey's value as a result of the operation of that power plant and what that means to me is that the river is dropping towards that low flow, the power plant either exercises an option that at least to my knowledge it has with Illinois Department of Natural Resources to buy water out of Lake Carlyle or they cut back operation of the plant. They have their back up water source on site --

MR. NILLES: My question is now Peabody, how are you divvying up water between the various users, that is -- I think you said earlier at

least two downstream communities, Sparta and Evansville; is that correct?

MR. MOSHER: Yes.

MR. NILLES: Do they have provisions in their permit saying you may not take out more water than when you get to -- you have to stop pumping water at the Q710 level?

MR. MOSHER: No, they don't have those provisions, of course they are very small water users.

MR. NILLES: So there's no restriction on when they can pull the water out?

MR. MOSHER: Not that I know of.

MR. NILLES: No one else has water restrictions, only Peabody?

MR. MOSHER: I am not aware of any other permit that our agency issues with a restriction of this nature.

MR. NILLES: Okay, thank you.

HEARING OFFICER DAY: Thank you again, Mr. Nilles. Do we have any other folks who have spoken previously that would like additional time?

MR. WOJTKOWSKI: My name is Dale

EXHIBIT C

Prairie Rivers Network

Protecting Illinois' Streams

June 10, 2005

Hearing Officer James Day #21
Illinois Environmental Protection Agency
P. O. Box 19276
Springfield, IL 62794-9276
Also submitted via email to: James.Day@epa.state.il.us

Re: Comments on NPDES Permit No. IL0076996, Notice No. BAU:04112201.dlk

Dear Sir or Madam:

On behalf of Prairie Rivers Network, American Bottomland Conservancy, and Kaskaskia Group of the Sierra Club, I appreciate this opportunity to submit comments on NPDES permit IL0076996, which would regulate new discharges from Prairie State Generating Station to the Kaskaskia River, Mud Creek, and tributaries to Mud Creek. Prairie Rivers Network, American Bottomland Conservancy, and Kaskaskia Group of the Sierra Club have members that live and recreate near and downstream from the proposed discharges, and have substantial interest in ensuring that discharges do not impair waters in the area. We object to issuance of the permit for the following reasons.

1) The applicant has failed to satisfy the antidegradation regulations.

The state antidegradation regulations at 35 IAC 302.105(c)(2) require that all reasonable measures be taken to avoid or minimize increased pollutant loading. The applicant has not considered alternatives that would avoid or minimize the increased discharge of phosphorus. The applicant is proposing to use phosphorus as a pipe corrosion inhibitor, and to discharge an average concentration of 3.7 mg/L according to the application. These discharges may contribute to nuisance algal growth and degrade the quality of the Kaskaskia River.

809 South Fifth Street
Champaign, IL
61820-6215
www.prairierivers.org
217-344-2371
Fax 217-344-2381

the Prairie State Generating Station. However, because there have not been alternative models specifically for cooling towers and because most parameters are close to the range tested, these formulas will provide the best available estimate of potential for disinfection byproduct formation.

Ranges of parameters expected in the cooling towers was obtained from the applicant, either in the application or through correspondence with IEPA. Bromide concentrations were not available in the STORET database for Illinois streams, so I used a value on the low end of the range tested in the development of the equations (7 – 600 (µg/L). Use of these equations yields the following results for the following parameters:

Scenario	-Average conditions	-Maximum within range	-Minimum within range
TOC (mg/L)	25	30	20 (guess)
Cl_2 (mg/L)	0.5	1.0	0.1
Br (µg/L)	100	100	100
T (C)	26	32	21
pH	8.0	8.1	7.9
t (hours)	60	90	30
TTHM (µg/L)	1036	1811	455
HAA6 (µg/L)	242	450	79

The drinking water standard for THMs is 80 µg/L , while that for HAAs is 60 µg/L. Although the discharge will be mixed with river water prior to withdrawal by downstream public water suppliers, there is no data available on instream concentrations of THMs or HAAs. Therefore, we cannot assume that dilution will be significant, and the proposed facility must reduce the load of these harmful pollutants. Limits of 80 µg/L and 60 µg/L for THMs and HAAs respectively should be placed in the permit.

While THMs and HAAs are among the best understood and regulated of the harmful chlorinated organics, there are numerous other chlorinated organics that likely have negative health effects as indicated in epidemiological studies reported by Dr. David Reckhow in a presentation at the MI AWWA 2005 RTP Seminar. These studies and their implications are due to be published in the near future. Therefore, in addition to limits for THMs and HAAs, the facility should be required to monitor and limit total organic halogens (TOX) in the effluent. THMs and HAAs may not be good enough surrogates to eliminate risks from all disinfection byproducts, particularly because THMs are volatile and may be lost from the cooling tower through evaporation.

6) IEPA should restrict the withdrawal of water further such that the water withdrawal does not violate standards by eliminating aquatic life uses.

Special Condition 1 of the permit limits the water withdrawal beyond the limitations placed by the IDNR. This is explained in the fact sheet as necessary to ensure that water quality standards are satisfied, even at low flows. However, the 7Q10 flow is not considered a protective flow for fish and wildlife in the river. Therefore, withdrawals that lower flow levels to that of the 7Q10 flow more frequently may impair the aquatic life use of the river, thereby violating water quality standards. According to the USGS flow data at Venedy from 1990 to 1994, the 7Q10 flow was observed only 0.2% of the days. If the proposed facility withdraws 30 MGD, as they have been granted by the DNR permit, this flow would be observed more than 5% of the time. Further, for flows between the 5 percentile and 10 percentile flows, the withdrawal of 30 MGD would be more than a quarter of the river flow. To ensure that this withdrawal does not contribute to violations of water quality standards, IEPA must further restrict withdrawals.

* * *

We appreciate your consideration of these comments and look forward to receiving your response.

Sincerely,

M Beth Wentzel

M. Beth Wentzel
Watershed Scientist
Prairie Rivers Network

Also for:
American Bottomlands Conservancy
Kaskaskia Group of the Sierra Club

EXHIBIT D

Sierra Club
Illinois Chapter
200 N. Michigan Ave., Suite 505, Chicago, IL 60601-5908
(312) 251-1680 • (312) 251-1780 (FAX)

June 10, 2005

Via regular mail and email to james.day@epa.state.il.us

Hearing Officer James Day #21
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P. O. Box 19276
Springfield, IL 62794-9276

Re: NPDES Permit No. IL0076996 Notice No. BAU:04112201.dlk, Prairie State Generating Station

Dear Mr. Day:

The Illinois Chapter of the Sierra Club thanks you for the opportunity to provide post-hearing comments on the proposal to issue a new NPDES permit to the proposed Prairie State Generating Station for the discharge of 1.7 million gallons of wastewater per day into the Kaskaskia River and to permit additional wet weather flows into the river and Mud Creek. Sierra Club has members who live within the Kaskaskia River watershed and use the river for activities including fishing and canoeing as well as bird and other wildlife watching activities. We object to the proposed permit in that we have not been assured that 1) all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity, 2) water quality standards will not be exceeded as a result of the proposed activity and 3) all existing uses will be fully protected. Such assurances are required under Illinois' antidegradation rule.

Our concerns with this proposal include both permit conditions and the opportunity afforded the public to comment on the proposal. Below we detail our concerns and make recommendations regarding the use of dry cooling technologies and on limits for the discharge of phosphorus, organic halogens and manganese from the plant. We also reiterate concerns we raised at the hearing about the opportunity for public input into the proposed project and specifically request that the public be given an opportunity to review the site's Stormwater Pollution Prevention Plan before any permit is issued.

Dry Cooling Technology should be explored

As Bruce Nilles, Sierra Club's Senior Midwest Representative, testified at the May 11, 2005 public hearing, alternative cooling technologies exist which would not require withdrawal and discharge of wastewater to and from the Kaskaskia River. Such technologies were not discussed in the Antidegradation Assessment for the proposed permit. As dry cooling techniques would offer opportunities to minimize pollutant discharges to the river and would assure that river flows would be protected for aquatic life and other uses, we request that this alternative be thoroughly explored.

Such an alternative is an air-cooled condenser (ACC) which has no water demand. ACCs have been used on large coal-fired power plants for over 25 years. The 330 MW Wyodak coal-fired power plant in Wyoming has successfully operated with an ACC for over 25 years. The largest ACC-equipped coal fired power plant in the world, the 4,000 MW Matimba facility in South Africa, has been operating successfully for over 10 years. A number of new coal-fired power plants have been proposed in New Mexico over the last three years. In all cases the project proponents have voluntarily incorporated ACC into the plant design to minimize plant water use. A 36 MW pulverized coal unit in Iowa, Cedar Falls (Utilities Streeter Station Unit 7) was retrofitted with dry cooling in 1995. The use of dry cooling on pulverized coal fired power plants is well established.

Phosphorus discharge should be limited to 1 mg/L

The facility proposes to use phosphorus as a pipe corrosion inhibitor so this pollutant will be present in the cooling tower blowdown effluent. If the facility will use water as a coolant, we request that the generating station be required to install phosphorus removal technologies and that a condition be added to the permit requiring that effluent from Outfall 001 meet a monthly average phosphorus limit of 1 mg/L. This is consistent with the interim phosphorus effluent standard which the Illinois EPA has proposed to the Illinois Pollution Control Board. Many municipal wastewater discharges already have a phosphorus limit of 1 mg/L in their permits so this request is both technically and economically feasible.

Total Organic Halogens should be measured

Conditions within the cooling tower at the proposed generating station are such that the production of disinfection byproducts such as Total Organic Halogens (TOX) is likely. Emerging evidence shows that chlorination byproducts in tap water cause bladder cancer and are linked also to miscarriages, birth defects, rectal and colon cancer, kidney and spleen disorders, immune and neural system problems. (See attached *Consider the Source*, a 2001 report by the State PIRGS and the Environmental Working Group.)

Because public water supplies are withdrawn downstream from the Kaskaskia River, TOX should be monitored in the cooling tower blowdown effluent. Specific TOX compounds for which the USEPA has set limits for in public water supplies should also be monitored and limited. These include trihalomethanes (annual average limit = 0.08 mg/L) and haloacetic acids (annual average limit = 0.06 mg/L). (See the attached USEPA factsheet- *Stage 1 Disinfectants and Disinfection Byproducts Rule* found at http://www.epa.gov/OGWDW/mdbp/dbp1.html)

The Public should have an opportunity to review Stormwater Plan

The proposed permit allows discharges from 8 outfalls to Mud Creek in the event of a 10 y/24 h (or greater) storm event. Mud Creek is found on the state's 303(d) list due to impairments caused by manganese, siltation, dissolved oxygen and phosphorus. Yet the permit does not require the applicant to prepare a Stormwater Pollution Prevention Plan (SWPPP) until 6 months after the permit is issued. Given the importance of good stormwater management for the health of Mud Creek, we request that permit be revised to require that the SWPPP be in place before the permit is granted. The permit should be renoticed so the public has an opportunity to review and comment on the elements of the SWPPP. A

truly effective SWPPP should be part of the site design process so this request poses no hardship to the applicant. A more effective SWPPP can be achieved by incorporating it early in the design of the facility.

Manganese discharges must meet water quality standards

The permit should limit manganese in discharges to the Kaskaskia River and Mud Creek such that water quality standards are met in stream. A mixing zone can be used to meet the standard. It appears from the Antidegradation Assessment that it is anticipated that water quality standards will be met in Mud Creek. It is unclear how the Agency plans to ensure that water quality standards are met in the Kaskaskia River.

Thank you again for the opportunity to provide comments on this draft permit. We are looking forward to seeing a new permit on public notice which has incorporated our suggestions for improvement.

Sincerely,

Cynthia L. Skrukrud, Ph.D.
Clean Water Advocate

phone/fax: 815-675-2594
email: cynthia.skrukrud@sierraclub.org
mail: 4209 W. Solon Rd., Richmond, IL 60071

Attachments:

ConsiderTheSource.pdf (via email only)
Stage 1 Disinfectants and Disinfection Byproducts Rule

EXHIBIT E

NPDES Permit No. IL0076996

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

New (NPDES) Permit

Expiration Date: November 30, 2010

Issue Date: December 5, 2005
Effective Date: December 5, 2005

Name and Address of Permittee:

Prairie State Generating Company, LLC
701 Market Street, Suite 781
St. Louis, Missouri 63101

Facility Name and Address:

Prairie State Generating Station
Marigold Road & Highway 12
Marissa, Illinois 62257
(Washington County)

Discharge Number and Name:	Receiving Waters:
001 Cooling Tower Blowdown	Kaskaskia River
002 Cooling Tower Sedimentation Basin Emergency Overflow	Mud Creek via drainage ditch
003 River Water Sedimentation Basin Emergency Overflow	Mud Creek via drainage ditch
004 Recycle Basin Overflow	Mud Creek via drainage ditch
A04 Coal Combustion Waste Area Sedimentation Basin Effluent	Mud Creek via Outfall 004
B04 Coal/Limestone Sedimentation Basin Effluent	Mud Creek via Outfall 004
C04 Cooling Tower Sedimentation Basin Effluent	Mud Creek via Outfall 004
D04 Bottom Ash Quench Water	Mud Creek via Outfall 004
E04 Treated Sanitary Wastewater	Mud Creek via Outfall 004
005 Coal/Limestone Sedimentation Basin Emergency Overflow	Mud Creek via drainage ditch
006 Coal Combustion Waste Area Sedimentation Basin Emergency Overflow	Mud Creek via drainage ditch
007 Power Block Runoff Sedimentation Basin Emergency Overflow	Mud Creek via drainage ditch
008, 009 Stormwater Runoff	Mud Creek via drainage ditch

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

SAK:BAU:04112201.dlk

NPDES Permit No. IL0076996

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:

	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
Outfall: 001 - Cooling Tower Blowdown						
Flow (MGD)	See Special Condition 3				Daily	Continuous
pH	See Special Condition 4				1/Week	Grab
Temperature	See Special Condition 5				Daily	Continuous
Total Residual Chlorine			0.011*	0.019*	1/Week	Grab
Manganese			****	****	1/Week	Grab
Mercury				**	1/Year	Grab
Sulfate				**	1/Year	Grab
Fluoride				**	1/Year	Grab
Chloride				**	1/Year	Grab
Ammonia				**	1/Year	Grab
Cadmium				**	1/Year	Grab
Chromium (total)				**	1/Year	Grab
Copper				**	1/Year	Grab
Lead				**	1/Year	Grab
Nickel				**	1/Year	Grab
Silver				**	1/Year	Grab
Zinc				**	1/Year	Grab
Total Dissolved Solids				**	1/Year	Grab
126 Priority Pollutants***				**	1/Year	Grab

*See Special Condition 11
**Monitor only
***See Special Condition 12
****See Special Condition 22

NPDES Permit No. IL0076996

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:

	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
Outfall: 002 - Cooling Tower Sedimentation Basin Emergency Overflow						
Flow (MGD)	See Special Conditions 3 & 17				Measure When Monitoring	
pH	See Special Condition 4				Daily**	Grab
Temperature	See Special Condition 5				Daily**	Single Reading
Total Residual Chlorine			0.011*	0.019*	Daily**	Grab
BOD_5			10	20	Daily**	Grab
Total Suspended Solids			12	24	Daily**	Grab
Fluoride				***	Daily**	Grab
Sulfate				***	Daily**	Grab
Mercury				***	Daily**	Grab
Chloride				***	Daily**	Grab
Ammonia				***	Daily**	Grab
Cadmium				***	Daily**	Grab
Chromium (total)				***	Daily**	Grab
Copper				***	Daily**	Grab
Lead				***	Daily**	Grab
Manganese				***	Daily**	Grab
Nickel				***	Daily**	Grab
Silver				***	Daily**	Grab
Total Dissolved Solids				***	Daily**	Grab
Zinc				***	Daily**	Grab
126 Priority Pollutants****				***	1/Year	Grab

*See Special Condition 11
**Daily when discharging
***Monitor only
****See Special Condition 12

NPDES Permit No. IL0076996

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:

	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
Outfall: 003 - Raw Water Sedimentation Basin Emergency Overflow						
Flow (MGD)	See Special Conditions 3 & 17				Measure When Monitoring	
pH	See Special Condition 4				Daily*	Grab
Total Suspended Solids			15	30	Daily*	Grab
Iron (dissolved)				**	Daily*	Grab
Iron (total)			2.0	4.0	Daily*	Grab
Manganese				**	Daily*	Grab

*Daily when discharging
**Monitor only

NPDES Permit No. IL0076996

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:

	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
Outfall: 004 - Recycle Basin Overflow						
This discharge consists of:						
1. Plant equipment & floor drains						
2. Runoff from developed plant areas						
3. Neutralization tank effluent						
a) Ion exchange/reverse osmosis regenerant wastewater						
b) Chemical area secondary containment drains						
c) Chemical area floor drains						
d) Chemical equipment drains						
e) Battery room floor drains						
f) Lab floor & sink drains						
g) Water treatment plant floor drains						
4. Oil/water separator effluent						
a) Equipment maintenance area secondary containment drains						
b) Ammonia storage area secondary containment drains						
5. Cooling Tower Blowdown						
6. Coal combustion waste area sedimentation basin effluent (A04)						
7. Coal/Limestone sedimentation basin effluent (B04)						
8. Cooling Tower sedimentation basin effluent (C04)						
9. Bottom Ash Quench Water (D04)						
10. Power block runoff basin effluent						
11. Treated Sanitary Wastewater (E04)						
Flow (MGD)	See Special Conditions 3 & 17				Daily*	Continuous
pH	See Special Condition 4				Daily*	Grab
Temperature	See Special Condition 5				Daily*	Single Reading
Total Suspended Solids			15	30	Daily*	Grab
Oil & Grease			15	20	Daily*	Grab
Ammonia				**	Daily*	Grab
Total Dissolved Solids				**	Daily*	Grab
Manganese				**	Daily*	Grab
Boron				**	Daily*	Grab
Sulfate				**	Daily*	Grab
Mercury***				**	Daily*	Grab

*Daily when discharging
**Monitor only
***See See Special Condition 18

Effluent Limitations and Monitoring

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

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall: A04 - Coal Combustion Waste Area Sedimenation Basin Effluent						
Flow (MGD)	See Special Condition 3				Measure When Monitoring	
pH	See Special Condition 4				Daily*	Grab
Total Suspended Solids			15	30	Daily*	Grab
Oil & Grease			15	20	Daily*	Grab

*See Special Condition 6

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall: B04 - Coal/Limestone Sedimentatin Basin Effluent						
Flow (MGD)	See Special Condition 3				Measure When Monitoring	
pH	See Special Condition 4				Daily*	Grab
Total Suspended Solids			15	30	Daily*	Grab

*See Special Condition 6

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall: C04 - Cooling Tower Sedimentation Basin Effluent						
Flow (MGD)	See Special Condition 3				Measure When Monitoring	
pH	See Special Condition 4				Daily*	Grab
Total Residual Chlorine			0.2	0.5	Daily*	Grab
126 Priority Polutants**				***	1/Year	Grab

*See Special Condition 6
**See Special Condition 12
***Monitor Only

NPDES Permit No. IL0076996

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:

	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
Outfall: D04 - Bottom Ash Quench Water						
Flow (MGD)	See Special Condition 3				Measure When Monitoring	
PH	See Special Condition 4				Daily*	Grab
Total Suspended Solids			15	30	Daily*	Grab
Oil & Grease			15	20	Daily*	Grab

*See Special Condition 6

Outfall: E04 - Treated Sanitary Wastewater						
Flow (MGD)	See Special Condition 3				1/Week	24-Hour Total
pH	See Special Condition 4				1/Week	Grab
BOD_5			30	60	1/Week	24-Hour Composite
Total Suspended Solids			30	60	1/Week	24-Hour Composite

Outfall: 005 - Coal/Limestone Sedimentation Basin Emergency Overflow						
Flow	See Special Conditions 3 & 17				Measure When Monitoring	
pH	See Special Condition 4				Daily*	Grab
Total Suspended Solids			15	30	Daily*	Grab
Boron				**	Daily*	Grab
Manganese				**	Daily*	Grab
Sulfate				**	Daily*	Grab
Total Dissolved Solids				**	Daily*	Grab

*Daily when discharging
**Monitor only

NPDES Permit No. IL0076996

Effluent Limitations and Monitoring

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

PARAMETER	LOAD LIMITS lbs/day DAF (DMF) 30 DAY AVERAGE	LOAD LIMITS lbs/day DAF (DMF) DAILY MAXIMUM	CONCENTRATION LIMITS mg/l 30 DAY AVERAGE	CONCENTRATION LIMITS mg/l DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall: 006 - Coal Combustion Waste Area Sedimentation Basin Emergency Overflow						
Flow	See Special Conditions 3 & 17				Measure When Monitoring	
pH	See Special Condition 4				Daily*	Grab
Total Suspended Solids			15	30	Daily*	Grab
Oil & Grease			15	20	Daily*	Grab
Boron				**	Daily*	Grab
Manganese				**	Daily*	Grab
Sulfate				**	Daily*	Grab
Mercury***				**	Daily*	Grab
Total Dissolved Solids				**	Daily*	Grab

*Daily when discharging
**Monitor Only
***See See Special Condition 18

Outfall: 007* - Power Block Runoff Sedimentation Basin Emergency Overflow

*See Special Conditions 16, 17 & 21

Outfall: 008*, 009* - Stormwater Runoff

*See Special Conditions 16, 17 & 21

NPDES Permit No. IL0076996

Special Conditions

SPECIAL CONDITION 1. The permittee is limited to the following Kaskaskia River water withdrawal conditions in addition to the conditions specified under IDNR Permit No. DS2002134:

a) When the river flow measured at the USGS gage No. 05594100 on the Kaskaskia River at Venedy Station is 120 cfs or less, the permittee will record the gage reading, the total amount of water withdrawn and the amount of water discharged to Outfall 001. This information shall be recorded for each day that river flow conditions of 120 cfs or less exist, and shall be reported as an attachment to the monthly Discharge Monitoring Report.

b) The permittee shall not withdraw river water such that the river flow drops below the 7Q10 flow value as established by the Illinois State Water Survey for any single day. This will be calculated based on the river flow at the Venedy Station USGS gage where the 7Q10 flow is 74 cfs. The allowable daily water withdrawal rate is to be determined by the following formula:

Allowed maximum daily water withdrawal amount = Daily flow value at USGS gage 05594100 - 74 cfs + daily flow value of water discharged back to the river on the previous day.

SPECIAL CONDITION 2. Cooling Water Intake Structure Monitoring

A. Biological Monitoring

1. The permittee shall collect monthly samples over a 24 hour period to determine impingement rates for each species identified in the Source Water Baseline Biological Characterization provided as part of the application for this permit. If sampling is to be conducted by a diver and unsafe diving conditions preclude sample collection for an entire monitoring period, monitoring for that month shall be waived. All such monitoring periods shall be identified and an explanation included in the annual report required under Item D of this special condition.

2. The permittee shall collect biweekly samples over a 24 hour period to determine entrainment rates during the primary period of reproduction, larval recruitment and peak abundance for each species identified in the Source Water Baseline Biological Characterization provided as part of the application for this permit. For the purpose of this permit, the primary period for reproduction, larval recruitment and peak abundance will be the months of March through June.

3. In the event that the intake structure does not operate during an entire monitoring period (one month for impingement, two weeks for entrainment), no sampling is required for that monitoring period. All such monitoring periods shall be identified in the annual report required under Item D of this special condition.

B. Velocity Monitoring

Head loss across the intake screen shall be utilized to determine average daily through screen velocity. A maximum through screen velocity shall be determined on a daily basis.

C. Visual or Remote Inspections

Visual inspections or remote monitoring devices shall be utilized as part of an operation and maintenance program to ensure that the cooling water intake structure screens are functioning as designed. Remote inspections can include alarm systems on the head loss measuring device for the screen and pressure monitoring of the air sparging system used to clean the screen. Visual inspection of the screening device shall be conducted should alarm conditions persist. Visual inspection or remote monitoring shall be performed weekly at a minimum.

D. Reporting

From the effective date of this permit, the Permittee shall prepare a report on an annual basis containing the following information and submit the report by December 31 to the address identified in Special Condition 18:

1. The results of biological monitoring for impingement sampling and entrainment sampling shall be tabulated by species for each sampling event.

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Special Conditions

2. Through screen velocity monitoring shall be tabulated on a daily basis for each month. A daily average velocity shall be provided. The daily maximum velocity value and the time lapse that occurred for each event resulting in the daily maximum value shall be provided.

3. The permittee shall identify the results of any visual or remote inspection. If remote inspection is utilized to satisfy the requirement of Special Condition 2(C), the method of remote inspection utilized shall be identified. Should visual inspection be necessary because of persistent alarm conditions, the Permittee shall report the result of any visual inspection and the corrective action needed.

SPECIAL CONDITION 3. Flow shall be reported, in Amillion gallons per day@ (MGD), as a daily maximum and monthly average. In the event that no discharge occurs during a given month, a statement of ANo discharge@ shall be reported on the DMR submitted for that month.

SPECIAL CONDITION 4. 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 5. Discharge of wastewater from this facility must not alone or in combination with other sources cause the receiving stream to violate the following thermal limitations at the edge of the mixing zone which is defined by Section 302.211, Illinois Administration Code, Title 35, Chapter 1, Subtitle C, as amended:

A. Maximum temperature rise above natural temperature must not exceed 5EF (2.8EC).

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

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
EF	60	60	60	90	90	90	90	90	90	90	90	60
EC	16	16	16	32	32	32	32	32	32	32	32	16

C. The monthly maximum value shall be reported on the DMR form.

SPECIAL CONDITION 6. Monitoring at the internal Outfalls (A04, B04, C04 and D04) is only required during periods when Outfall 004 is discharging. When the flow from Outfall 004 is zero, no monitoring of the internal Outfalls is required. If no discharge occurs at Outfall 004 during an entire month, a statement of ANo monitoring required, no discharge at 004" shall be reported in the comment section of the DMR submitted for each internal Outfall for that month.

SPECIAL CONDITION 7. There shall be no discharge of wastewater pollutants from fly ash transport water.

SPECIAL CONDITION 8. There shall be no discharge of polychlorinated biphenyl compounds (PCB=s).

SPECIAL CONDITION 9. There shall be no discharge of complexed metal bearing wastestreams and associated rinses from chemical metal cleaning unless this permit has been modified, subject to public notice and opportunity for hearing, to allow the new discharge.

SPECIAL CONDITION 10. There shall be no discharge of collected debris from the raw water intake.

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Special Conditions

SPECIAL CONDITION 11. For Outfalls 002 and 004, all samples for total residual chlorine (TRC) shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to the low-level amperometric titration method.

The water quality standard for TRC (0.011 mg/l ave. and 0.019 mg/l max.) is below the method detection level (0.05 mg/l) as described in 40 CFR 136. Therefore, for the purpose of this permit, the method detection level will be utilized to determine compliance with the permit limit for TRC. A measurement of <0.05 mg/l reported on the DMR shall not be considered a violation of the water quality based effluent limit. This reporting threshold is being established to determine compliance and does not authorize the discharge of TRC in excess of the water quality based effluent limit.

SPECIAL CONDITION 12. The permittee shall sample the discharge from Outfalls 001, C04 and 002 once per year for the 126 Priority Pollutants listed in Attachment A. Sampling shall be conducted when the cooling water additives are present in the discharge.

a) If all parameters analyzed produce a result of Anondetect@ during two consecutive sampling events, monitoring for the 126 Priority Pollutants may be discontinued, upon written notification to the Agency.

b) If both Outfalls C04 and 002 are discharging at the same time, and the effluents are substantially identical, the permittee may sample one of the outfalls for the Priority Pollutants and report the quantitative data as representative of both. A note should be included in the comment section of the DMR indicating which outfall the sample was collected at.

SPECIAL CONDITION 13. 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 14. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

SPECIAL CONDITION 15. For the purpose of this permit, the discharge from Outfalls 001 and 002 is limited to noncontact cooling water, free from process and other wastewater discharges. In the event that the permittee shall require the use of water treatment additives other than those listed in the permit application, the permittee must request a change in this permit in accordance with the Standard Conditions. Changes in the additive treatment scheme may not be initiated until authorization is granted by the Agency.

SPECIAL CONDITION 16. For the purpose of this permit, the discharge from Outfalls 007, 008 and 009 is limited to storm water, free from process and other wastewater discharges.

SPECIAL CONDITION 17. Discharge from outfalls 002, 003, 004, 005, 006, 007, 008 and 009 shall only occur in the event of a 10 yr./24 hr. (or greater) storm event. In the event a discharge does occur, storm event data (date, duration, total rainfall, last measurable rainfall event) shall be submitted to the Agency with the Discharge Monitoring Report containing the required monitoring data for the discharge event.

SPECIAL CONDITION 18. All samples for monitoring mercury shall be collected and analyzed in accordance with EPA Method 1631 (detection limit: 1 nanogram per liter) or an approved equivalent method.

SPECIAL CONDITION 19. Samples taken in compliance with the effluent monitoring requirements shall be taken:

a) For Outfalls 001, 002, 003, 004, 005 and 006 - at a point representative of the discharge, but prior to mixing with any other wastestreams and prior to entry into the drainage ditch tributary to the receiving stream.

b) For Outfalls A04, B04, C04, D04 and E04 - at a point representative of the discharge, but prior to mixing with any other wastestreams and prior to entry into the recycle basin.

SPECIAL CONDITION 20. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

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

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

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Special Conditions

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

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

Attention: Compliance Assurance Section, Mail Code # 19

SPECIAL CONDITION 21.

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 water discharges;

Special Conditions

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

iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.

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

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

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

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

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

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

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

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

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

Construction Authorization

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

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 acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA

regarding the required permit(s).

REPORTING

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

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

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

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

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

SPECIAL CONDITION 22. Effluent limits for manganese at Outfall 001 are as follows: A limit of 0.15 mg/l shall be applied as a daily maximum when the flow in the Kaskaskia River is at or below 500 cubic feet per second. Limits of 1.0 mg/l (applied as a monthly average) and 2.0 mg/l (applied as a daily maximum) must be met at the discharge point when flow in the Kaskaskia River is greater than 500 cubic feet per second. River flows shall be taken from the Venedy USGS gauging station.

EXHIBIT F

Prairie State Generating Company NPDES Permit

Responsiveness Summary

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	)	
	)	
PRAIRIE STATE GENERATING COMPANY (PSGC)	)	
APPLICATION FOR NEW NPDES PERMIT	)	FILE #80-05
PERMIT NUMBER IL0076996	)	

AGENCY DECISION

On December 5, 2005, the Illinois Environmental Protection Agency (Illinois EPA or Agency) approved the Prairie State Generation Company, LLC, National Pollutant Discharge Elimination System (NPDES) permit.

The following changes were made to the draft permit:

- Manganese permit limits added for outfall 001.
- All discharges to Mud Creek will be monitored for manganese.

PRE-HEARING PUBLIC OUTREACH

Beginning March 23, 2005, the entire public hearing notice was published thrice (March 23, 30 and April 6) in the *Nashville News* and thrice (March 24, 31 and April 7) in the *New Athens Journal-Messenger*. The public hearing notice was mailed on March 23, 2005, to persons on a service list maintained by the Illinois EPA. The notice was mailed to local legislators, county, township and municipal officials, environmental organizations and interested citizens. The public hearing notice was also posted electronically on the Illinois EPA website, http://www.epa.state.il.us and in the Illinois EPA Collinsville and Marion regional offices. *Prairie Rivers Network* carried the public hearing notice on their listserv. The hearing notice was sent to 26 newspapers who had published articles about the facility and/or who were in geographic proximity to the site. Information about the hearing was published in the newsletters of the Washington County Farm Bureau (1,979 members), the Randolph County Farm Bureau (1,500 members) and the St. Claire-Madison County Farm Bureau (20,800 members). The American Bottom Conservancy distributed informational fliers prior to the hearing. The public hearing was announced in the St. Louis Post Dispatch (5-9-05) and Southern Illinoisan (5-9-05).

May 11, 2005, PUBLIC HEARING

Illinois EPA Hearing Officer James Day opened the hearing May 11, 2005, at 6:35 p.m. in the Marissa High School gym, 300 School View Drive in Marissa.

Illinois EPA Permit Engineer Beth Unser explained the NPDES permit.

PSGC President Collin Kelly provided an overview of the project.

Comments and questions were received from the audience.

Hearing Officer James Day closed the hearing at 9:35 p.m. on May 11, 2005.

Illinois EPA personnel were available before, during and after the hearing to meet with elected officials, news media and concerned citizens.

Eighty persons representing local governmental officials, businesses, labor/trade unions, Southwestern Illinois College, residents, news media, consultants, interested citizens and watershed/environmental interests attended the hearing. A court reporter prepared a transcript of the public hearing which was posted on the Illinois EPA website. Newspaper articles about the hearing were printed in the St. Louis Post Dispatch (5-12-05), the Southern Illinoisan (5-12-05), Breese Journal (5-12-05, 5-25-05) and Centralia Sentinel (5-12-05).

BACKGROUND OF PERMIT

The Prairie State Generating Company, LLC (PSGC) (Peabody Energy Company), plans to build a 1,500-megawatt coal-fired power plant (Prairie State Energy Campus, Prairie State Generating Station) in Lively Grove Township, Washington County, approximately four miles east, northeast of Marissa, Illinois. The proposed plant would be a mine-mouth project and the new mine, which would be located east of the power plant, would be named the Lively Grove Mine. Water withdrawn from the Kaskaskia River will be used in the coal fired boiler units and recycled within the plant for other operational purposes. Plant operation will result in the average discharge of 1,700,000 gallons of wastewater per day into the Kaskaskia River. In addition, emergency overflow discharges during extreme wet weather events are permitted to Mud Creek. The Kaskaskia River and Mud Creek are classified as general use waterways.

The Illinois EPA issued this five-year NPDES permit for discharge into waters of the state in accordance with 35 Illinois Administrative Code Subtitle C (*Water Pollution)* and the federal Clean Water Act.

Responses to Comments, Questions and Concerns

Questions, comments and recommendations received by the Agency regarding the draft permit during the full comment period including the initial public notice and comment period, the May 11, 2005 public hearing, and the post hearing comment period that extended to midnight, June 1, 2005 have been assembled into nine (9) topical categories. Those questions, comments and recommendations are documented along with Agency responses (in **bold**) by those topical categories as follows:

I. Water Withdrawal And Utilization Issues

Protection of aquatic life, potable and industrial water supply are officially recognized as legitimate beneficial uses within the Illinois Environmental Protection Act. The Kaskaskia River basin is more fortunate than other sectors of the state due to the two large (Lake Shelbyville and Carlyle Lake) multi-purpose reservoirs that were developed by the United States Army Corps of Engineers and Illinois Division of Water Resources (IDWR, a division of the Department of Natural Resources) to address such issues. Water storage for both industrial and public supply was one of the primary purposes for development of Carlyle Lake. Under state law, the IDWR is responsible for management and operation of those reservoirs, including allocation of water quantity in support of those uses for which the reservoirs were built.

Numerous questions and comments were received during the comment period for this discharge permit relative to the water allocation to Prairie State Generating by IDWR to support the industrial water supply needs related to operation of the facility. In addition to this overview of the IDWR allocation process, this section includes specific questions and responses relative to the water withdrawal issue.

1. PSGC will be allowed to withdraw up to 30 MGD (million gallons per day) from the Kaskaskia River and up to 18 MGD from Carlyle Lake. These water withdrawals could adversely impact both the water quality and quantity above and below the withdrawal and discharge points. When the river is low, PSGC will be withdrawing at least 25 percent of the river. Does the state have a right to limit withdrawals from the Kaskaskia River?

   Special Condition 1 in the NPDES permit is designed to protect the Kaskaskia River during low flow conditions. If the Kaskaskia River drops to a low flow condition, PSGC will not be allowed to withdraw water and must use water stored in an on-site water impoundment. PSGC has a 40-year contract with IDNR to purchase water stored in Carlyle and Shelbyville lakes. Water in these lakes will be discharged into the Kaskaskia River where it can be withdrawn by PSGC. The U.S. Army Corps of Engineers (Corps) regulates the discharge of water from Carlyle Lake to the Kaskaskia River. The IDNR has authority to allocate distribution of this water. The permit for PSGC to build a water withdrawal intake structure at the Kaskaskia River was issued by the Illinois Department of Natural Resources Office of Water

Resources (IDNR) in 2002 and revised in 2005. The amount of water that can be withdrawn from the river is limited by river flow as specified in Special Condition #1 and by pump and pipe capacity.

2. Special Condition 1 of the permit limits the water withdrawal beyond the limitations placed by the IDNR. This is explained in the fact sheet as necessary to ensure that water quality standards are satisfied, even at low flows. However, the 7Q10 flow is not considered a protective flow for fish and wildlife in the river. Therefore, withdrawals that lower flow levels to that of the 7Q10 flow more frequently may impair the aquatic life use of the river, thereby violating water quality standards. According to the USGS flow data at Venedy from 1990 to 1994, the 7Q10 flow was observed only 0.2 percent of the days. If the proposed facility withdraws 30 MGD, as they have been granted by the DNR permit, this flow would be observed more than 5 percent of the time. Further, for flows between the 5 percentile and 10 percentile flows, the withdrawal of 30 MGD would be more than a quarter of the river flow. To ensure that this withdrawal does not contribute to violations of water quality standards, Illinois EPA must further restrict withdrawals.

   Illinois EPA respectfully disagrees with the premise that "7Q10 flow is not considered a protective flow for fish and wildlife in the river." Illinois EPA is not aware of evidence indicating that 7Q10 flows lead to river impairment. Flows periodically and naturally drop to 7Q10 flow levels, or even below, during drought conditions. Illinois EPA was intent on preventing flows from artificially dropping below 7Q10 levels due to the operation of the PSGC plant because of a mixing zone and adjusted standard granted to a downstream discharge. The discharger depends on 7Q10 flows to assure that water quality standards are met outside the mixing zone.

3. Withdrawal of water from the Kaskaskia River by PSGC will lessen the amount of water in the river. When the river reaches low flow conditions, will there be enough water for downstream users? Is there an agreement to protect downstream interests? How do you assure that everyone gets their fair share?

   NPDES permits and drinking water permits are based upon consideration of low flow in the river.

   Special Condition 1 ensures that PSGC will not cause the river to drop below 7Q10 flows. This means that the Baldwin Station downstream will have sufficient river flow (barring any natural reduction in river flow) to meet water quality standards below its effluent outfall. Public water supplies should not be impacted since 7Q10 river flows are planned on when designing river intake structures. Fish and wildlife historically have experienced low flow events on the river and also should not be affected.

4. A report prepared a couple of years ago for the Corps and the IDNR concluded that there were more requests for water allocation than there was water available in the Kaskaskia River.

By statute the IDNR regulates water allocation in the Kaskaskia River. IDNR granted the PSGC request. The Illinois EPA is not aware of other requests to IDNR for Kaskaskia River water allocation.

5. Will withdrawal of water impact fishing, swimming and boating on the Kaskaskia River and Carlyle Lake?

The Kaskaskia Regional Port District reported that they had reviewed the plans and that the water withdrawal from the river will have no significant impact on commercial navigation, sediment buildup or recreational boating.

6. There is concern about the impact on Lake Carlyle if during a drought, additional waters would be released to maintain the levels in the Kaskaskia River from which PSGC could be removing up to 30 MGD. When there is a drought, Lake Carlyle will already be stressed. A dry spring followed by a summer drought would adversely affect the recreational resources of the lake such as swimming and boating.

The IDNR regulates water allocation and the contractual additional release of water from Lake Carlyle. Water demand and extended drought conditions are factors considered by IDNR in determining acceptable allocations.

7. Rate of water release from Carlyle Lake is a complex subject with numerous stakeholders with contrary interests in agriculture, water supply and recreation. How are other interests affected?

The IDNR regulates water allocation and it was their decision to grant PSGC's request.

8. What is the role of the Illinois EPA regarding the IDNR permit for building a structure for withdrawing water from the Kaskaskia River?

On September 10, 2003, the Illinois EPA issued a Section 401 of the Clean Water Act (33 USC §1341, Section 401) certification that the federal permit activities would not cause a violation of the Illinois Water quality standards. The Section 401 Certification was provided because a Section 404 permit was required from the U.S. Army Corps of Engineers. IDNR is a participant in the 404 permitting process in

addition to any state permitting functions overseen by that agency stemming from the intake structure.

9. When the river is low, this facility will be withdrawing at least 25 percent of the river.

Existing 7Q10 river flow values will be preserved due to Special Condition #1. PSGC may have to purchase water from Lakes Carlyle and Shelbyville through IDNR during periods of relatively low flow to maintain river flows above 7Q10. It is true that at times the facility will be withdrawing approximately 25 percent of the river's water.

10. Page 5 of the public notice/fact sheet states that when the Kaskaskia River flow at the Venedy Station is at or below 120 cfs (cubic feet per second), PSGC must record the amount of water withdrawn from the river and the amount of water discharged at 001. It is unclear if this monitoring trigger is for any time during the day or for the entire day.

PSGC will access the US Geological Survey website http://waterdata.usgs.gov/il/nwis/rt once per day and obtain the latest available instantaneous flow value for the Venedy Station gauge. A daily average flow will obviously not be available for the current day. The instantaneous value will approximate the daily average flow value, however, and will be sufficiently accurate to apply to the calculation found in Special Condition #1 (i.e. flow is at or below 120 cfs). The amount of discharge from the previous day will be the entire daily discharge. These values will be used to determine the amount of water the facility may withdraw during the current day.

11. Page 5. PSGC is to report occurrence of the trigger rate. No verification by the agency is expected. Why?

The daily flow of the river can be verified by the Agency at any time since the data collected at the Venedy Station gauge is readily available from the US Geological Survey.

12. Page 5. How the 120 cfs rate at the Venedy Station was determined is not explained. Downstream of the Venedy Station, the Kaskaskia River is joined by Jackson Slough, Silver Creek, Elkhorn Creek and Mud Creek. Their flows may be substantial at times but its unclear how that has been figured into the trigger calculation. Outfall 001 discharges downstream of the withdrawal structure.

The Venedy Station gauge is the nearest upstream USGS continuously monitored gauge. The 7Q10 flow at that gauge is 74 cfs. The facility has pumps capable of withdrawing 30 million gallons per day (equals 46.4 cfs) from the river. One

hundred twenty cfs minus 46.4 cfs equals 73.6 cfs. The value of 120 cfs in Special Condition #1 therefore guarantees that a maximum daily water withdrawal will not cause the river to drop below 7Q10 flow at the nearest measured river location. A river flow value between 120 and 74 cfs will allow water intakes between 30 million gallons and zero gallons as calculated by the equation. The flows from the tributary streams downstream of the Venedy station gauge will make up the difference in 7Q10 flow in the Kaskaskia River at the plant intake and discharge site. If these streams are flowing at least at 7Q10 flows, the 7Q10 of the Kaskaskia River will be maintained downstream.

II. Specific NPDES Permit Conditions

13. Why doesn't PSGC have to prepare a stormwater pollution prevention plan (SWPPP) until six months after the NPDES permit is issued? Many materials will be stored on site and the stormwater pollution prevention plan should be designed to protect local waterways. Emergency discharges from eight outfalls will subject Mud Creek to pollutants that have never been introduced into this environment. Mud Creek is on the state's 303(d) list due to impairments caused by manganese, siltation, dissolved oxygen and phosphorous. The Agency should not issue this NPDES permit until both the Illinois EPA and the public have had an opportunity to review and comment on the SWPPP. How can this NPDES permit be submitted for public comment when a major component is lacking? What assumptions were made relating to the storm water plan and the stormwater outfalls?

The requirements for the Storm Water Pollution Prevention Plan (SWPPP) are outlined in detail in Special Condition 21. The plan must be developed for the discharge of storm water associated with industrial activity, as defined in 40 CFR 122.26(b)(14). Since the site is currently undeveloped, there is no industrial activity occurring. The plan cannot be drafted and implemented until the site is developed and industrial activity is initiated. In the interim, PSGC will be required to obtain coverage under the general NPDES permit for storm water associated with construction site activities to control runoff from the site.

14. Why isn't PSGC required to have a comprehensive water permit that includes the proposed mine?

The operation of electric generating station is a distinct and separate function from the coal mining activity. The nature of the two operations is different, the environmental issues are distinctly different, they are subject to different state and federal regulations, and while within relative proximity to each other, are located on separate and distinct parcels of land.

15. What is the justification for omitting manganese and phosphate from the contaminants listed by the permit given that the Kaskaskia River and Mud Creek are impaired by manganese? Also, why is PSGC being allowed to discharge phosphorous at a level four times greater than what is allowed for sewage treatment plants?

Manganese limits have been incorporated into the final permit. Please refer to the Manganese Section of this Responsiveness Summary (Comment #38, page 18) for additional discussion.

Illinois EPA respectfully disagrees with the statement "PSGC is being allowed to discharge phosphorus at a level four times greater than what is being allowed for sewage treatment plants". A discharge model based on raw water concentrations and removal of phosphorus in the clarifying process PSGC intends to use to prepare river water for use in the plant indicates that the final effluent concentration discharged to the Kaskaskia River will be 1.7 mg/L total phosphorus on an average basis. A typical sewage treatment plant effluent in Illinois contains approximately 3.5 mg/L total phosphorus. PSGC will discharge phosphorus concentrations that are significantly lower that those found in sewage treatment plant effluents, not higher. Moreover, after the public hearing, PSGC was asked to re-evaluate their proposed use of a phosphorous-containing treatment additive that functions to prevent corrosion in cooling tower piping. On June 10, 2005, PSGC proposed the use of a different product (GE Betz AEC3107) that would prevent corrosion and not add additional phosphorous to the effluent. In a July 11, 2005 review memo, the Agency approved the use of the substitute product. No significant amount of phosphorous is now added to the river by the proposed power plant. The proposed amount of phosphorous in the effluent was present in the Kaskaskia River water withdrawn for cooling. Given the 1.6 million gallon per day average discharge from PSGC, 22.7 pounds per day of phosphorous will be discharged. This is less than the amount (25 ppd) (pounds per day) covered by a proposed effluent phosphorous standard currently before the Illinois Pollution Control Board as of this writing.

16. Special condition 12 requires PSGC to annually test for 126 specified priority pollutants. "If all parameters analyzed produce a result of 'nondetect' during two consecutive sampling events, monitoring for the 126 priority pollutants may be discontinued upon written notification to the Agency." Why not require testing every year since these are substances we are trying to keep out of the water. If we don't look for it, we are not going to find it.

Based on the information provided in the permit application, there is no reason to believe that any pollutants other than those limited in the permit will be present at levels exceeding the applicable water quality standards and/or effluent standards. The sampling requirements contained in Special Condition 12 are intended to provide verification of the expectation that these substances are not present in environmentally significant concentrations. This condition is consistent with federal effluent standards developed for the Steam Electric Power Generating Industry.

However, while the federal effluent standards developed for the Steam Electric Power Generating industry include a requirement for information regarding all 126 priority pollutants, the federal regulations allow the permittee to submit engineering calculations to demonstrate that the pollutants are not detectable in the discharge in lieu of actual monitoring. Instead of calculations, the permit requires PSGC to conduct at least two sampling events to show that the pollutants are not present. Priority pollutant monitoring required in this permit goes beyond federal requirement.

17. What are the contaminants of concern in the discharge of bottom ash quench water from outfall 004 into Mud Creek?

Bottom ash is a relatively inert material and the Agency expects little or no contaminants associated with it. Since the bottom ash quench water is combined with other plant wastewater streams, prior to discharge through Outfall 004, the permit requires monitoring of total suspended solids, oil and grease, and pH.

18. Some pollutants listed for other NPDES permits are absent from this permit. Why?

Each discharge to be covered under an NPDES permit is reviewed on an individual basis. Not all facilities within an industrial category generate identical wastestreams. Operations within power plants can vary greatly. The PSGC facility has been designed to recycle many wastestreams that similar power generation facilities discharge to surface waters. Pollutant concentrations in each wastestream tributary to waters of the state are examined, and then limits and/or monitoring are imposed as necessary based on the level of pollutants present.

19. Is the Illinois EPA hurrying with this permit so that a decision can be made before any new regulations take affect?

The Agency is committed to professional, accurate and timely disposition of our duties including administration of its permitting program. Also, Special Condition 13 allows the Illinois EPA to open these permits at any time to update requirements based on changes in regulations.

20. How does issuing a permit at the same time or before distributing a response to comments meet Illinois EPA's public participation goals?

Upon completion of the pubic participation phase of this permitting process, the Agency will evaluate public comments and recommendations received, finalize the Agency review, modify or adjust the draft permit, if appropriate, and issue the Agency's final determination on the permit application, concurrent with a summary

of comments received and responses to those comments. We believe this is the best approach to using input from the public.

21. How does the Agency determine compliance of Special Condition 15?

Special Condition 15 limits the discharges from outfalls 001 and 002 to noncontact cooling water. Outfall 001 discharges to the Kaskaskia River. Outfall 002 discharges to Mud Creek via a drainage ditch.

The Illinois EPA's Field Operations Section (FOS) performs inspections at permitted facilities on a periodic basis to review compliance with the terms and conditions of the facility's permit(s). Inspections at this facility will include verification that the discharges from outfalls 001 and 002 are limited to noncontact cooling water.

III. Application of IPCB Antidegradation Regulation

In addition to discharge limitations and water quality standards, Illinois Pollution Control Board (IPCB) regulations include an "antidegradation" provision that applies to new and expanding activities subject to NPDES permitting. The development of this facility with the provision for newly permitted discharges to waters of the state necessitate that an antidegradation evaluation be completed by the Agency and its final action be consistent with determinations emanating from that evaluation. The Agency completed an initial antidegradation assessment and provided a summary of that assessment for public review and comment. This section contains the comments and responses received relative to antidegradation assessment.

22. The first paragraph of the antidegradation assessment refers to the monetary exchange between PSGC and IDNR for water releases from Carlyle Lake. Why isn't this monetary exchange explained in the NPDES permit?

Fees charged for water allocation are directly mandated under state law, *The Kaskaskia River and Basin Act of 1965.* This law specifies that only fees related to Carlyle Lake operation and maintenance expenses of the Army Corps of Engineers can be assessed to users. The state receives no money from these allocations. IDNR serves merely as a pass through administrator to recover expenses that the Corps of Engineers incurs in Lake operations. IDNR notifies each party that has an allocation of the fees associated with that allocation; however payment is made directly to the federal government.

23. In the antidegradation assessment, it states that certain state water quality standards presently under development may be applied to future NPDES permits for this facility. No explanation is given for these not being applicable whenever established.

The reference to development of future standards refers to the current assessment of nutrients (nitrogen and phosphorus). The only component of the operation authorized under this permit that may constitute a source of nutrients is the treated sanitary waste from the operating staff at the facility. This is a relatively small nutrient source constituting a near negligible increment to the receiving stream that will occur only after periods of high rainfall when a discharge from the recycle pond (Outfall 004) is possible. Should future regulations require a different regulatory response, there is ample opportunity to modify operating requirements in the future. However, proposed new phosphorus limits currently under Illinois Pollution Control Board consideration for adoption would not require phosphorus removal at facilities of this size due to the unfavorable cost effectiveness and impractibility of applying supplemental phosphorus control technologies to such small sources.

24. In the antidegradation assessment, paragraph 13 states that "these outfalls will on average occur once every ten years." Should the word outfalls be replaced with overflows?

The wording in the antidegradation assessment is the result of a typographical error. The word "Outfalls" should be replaced by "discharges."

25. Paragraph 18 states that the power plant plans "are consistent with appropriate technology for this size and type of project." This is an issue that should be decided by the USEPA Environmental Appeals Board and should not be presented here as facts or opinion.

Pursuant to Section 39(a) of the Act, the Agency is authorized to make permitting decisions. It is the Agency's duty to issue a permit upon proof by the applicant that the facility will not cause a violation of this Act or the Pollution Control Board regulations. In this case, the Agency has made the determination that the technology proposed by the applicant has met the burden of proof required under Section 39(a), and also that the design and operation of the facility as permitted would not cause a violation of the Act or the regulations. The Act allows any person to appeal the Agency's final decision.

26. The endangered species comment was reported to have been received by IDNR on April 14, 2005, well past the public notice beginning date of March 3, 2005. The public has not had 30 days in which to examine and comment on the IDNR report.

Please refer to the second to last paragraph of Antidegradation Assessment: "A copy of the application was sent to IDNR on October 28, 2003. IDNR responded on April 14, 2004 that no threatened or endangered species are found in the vicinity of the outfalls and therefore consultation is terminated." When the correct date of the IDNR response is considered, it is apparent that this response was available when the permit was public noticed. The commenter has a 2005 date for the response when the date was actually in 2004.

27. The area of the proposed PSGC plant is home to the Eastern Narrow Mouth Toad – a state endangered species. PSGC might impact this endangered species' habitat by using approximately one million tons of limestone per year that will be sourced from the immediate area.

The comment is premised upon the belief that mining of limestone constitutes a threat to the Eastern Narrow Mouth Toad. This permit does not authorize or regulate the mining activity the commenter speculates will occur. Should limestone mining at this location be necessary the entity conducting the mining activity will need separate authorization from the Illinois Department of Natural Resources Office of Mines and Minerals. The Illinois EPA takes notice of this concern and requests that they consider in this any permitting application they may receive for the site for a State mining permit issued by this Agency.

28. What other alternatives have they considered to minimize other pollutants?

Pollutants added to the Kaskaskia River and Mud Creek from the PSGC facility are extremely minimal. This is because methods of coal ash and scrubber waste handling do not contact water that will be discharged to the environment. Additionally, coal pile runoff, bottom ash handling and other potential wastewater sources discharge to a recycle pond so that these waters are reused, often in consumptive uses, at the facility. Compared to a traditional wet ash/scrubber waste handling system, this system discharges only a very small fraction of pollutants related to coal combustion. The facility has minimized all pollutants to a large degree and will meet all water quality standards applicable in the receiving waters.

IV. Power Plant Operations

The PSGC plant is designed to minimize discharge of pollutants to waters of the state. Several outfalls will discharge to waters of the state; a cooling water discharge to the Kaskaskia River, a recycle pond wet weather discharge to Mud Creek and several other minor wet weather discharges to Mud Creek. Coal combustion byproducts, i.e. ash and scrubber sludge, are handled by a dry system that allows almost no discharge of water contacting these materials. Cooling water is withdrawn from the Kaskaskia River, is treated to make the water acceptable for use in cooling towers and then is discharged back to the river after several cycles of evaporation in the

towers. The cooling water treatment process removes some constituents found in the river water. Those that remain are concentrated through the evaporation process. Several constituents will have a mixing zone in the river thereby allowing water quality standards to be met although loading of these substances to the river will not increase because these substances were naturally present in the river water. The plant uses water for many functions besides cooling. A recycle pond will be employed to re-use this water rather than to use it for only one function and then discharge it. The recycle pond will enable wastewater to be held until it is eventually used for some consumptive use. Because of these consumptive uses, make-up water will be periodically added to the recycle pond from the Kaskaskia River. The recycle pond will only discharge to Mud Creek after periods of heavy rainfall when runoff from the property will enter the recycle pond faster than the water in the pond is used. The recycle pond acts as a combined storage and equalization basin for stormwater. Discharge of recycle pond water will only occur when Mud Creek is at a very high flow stage from the heavy rains that caused the overflow. Water quality standards will be met in Mud Creek and the Kaskaskia River at all times.

29. Why must there be piles of coal storage if this is a mine-mouth operation?

Storage of coal is a normal part of operations. For example, there may be times that the mine is shut down for maintenance. Coal in storage would then be needed to operate the generation plant.

30. PSGC is proposing to use phosphorous as a pipe corrosion inhibitor and to discharge phosphorous at levels that are over 10 times the average level in the Kaskaskia River. These phosphorous discharges may contribute to alga growth, degrade the river and cause problems for Sparta's public water supply. The state antidegradation regulations require that all reasonable measures be taken to avoid or minimize increased pollutant loading. Therefore, alternatives that would minimize the phosphorous loading must be analyzed and incorporated into the design of this facility if reasonable. Such alternatives might include the use of a different corrosion inhibitor or removing the phosphorous prior to discharge. The phosphorous discharge should be limited to 1 mg/L.

PSGC is no longer planning to use the phosphorous-based corrosion inhibitor.

31. Concern was expressed about the potential for cancer causing chlorinated organic chemicals to be formed and discharged from this facility. Has the Agency analyzed these disinfection by-products and the effect they might have on the downstream waters and for anyone using these waters?

PSGC plans to use chlorine as a biocide in the cooling water to control slime growth. Conditions within the cooling tower at the proposed generating station are such that the production of disinfection byproducts such as Total Organic Halogens (TOX) is likely. Because downstream public water supplies are withdrawing Kaskaskia River water, TOX should be monitored in the cooling tower blowdown effluent. Specific TOX compounds

for which the USEPA has set limits for in public water supplies should also be monitored and limited. These include trihalomethanes and haloacetic acids. Dechlorination will not remove these by-products if they have already been formed.

Chlorine added to the raw water intake, to the holding basin and at the cooling towers could form disinfection by-products that could potentially cause the city of Sparta water supply to encounter problems complying with the Stage 1 and Stage 2 disinfectants/disinfection by-products rules. We recommend that PSGC consider utilizing potassium permanganate as an oxidant at the raw water intake and copper sulfate at the holding basin.

Contrary to the assertion of the comment, chlorine will not be added to the raw river water. Water withdrawn from the Kaskaskia River will be provided pretreatment to remove organic and suspended material inherently contained in the river water prior to the chlorination step. As a result the pretreated water will contain relatively little organic material and further the chlorine dosage necessary to provide the anti-scaling and fouling control will be much less. As a result, it is extremely unlikely that the cooling operations at this facility will create significant amounts of chlorinated organics. It is even less likely that trace levels of chlorinated organics, if present in the cooling water discharge, would create any detrimental environmental effect in the Kaskaskia River or persist in the river to downstream public water supply intakes. Furthermore, any trace chlorinated organics that may be produced will be subjected to natural attenuation through photolysis, volatilization, bacterial degradation and other destruction mechanisms, and would not persist in the receiving stream.

32. Can PSGC operate the power plant without the proposed mine?

Yes. PSGC could bring in coal from other mines.

33. Why can't PSGC use alternative cooling methods to avoid depletion of the water supplies and contributing to a violation of water quality standards? Were any alternatives considered and were cost benefit analyses prepared? Western plants use dry cooling. Did the Bureau of Air permit consider dry cooling? Such an alternative is an air-cooled condenser (ACC) which has no water demand.

PSGC evaluated alternative cooling methods in its cooling selection process. PSGC selected wet cooling tower technology because it represented an efficient cost effective cooling method. The cooling tower technology to be employed by PSGC meets or exceeds Best Technology Available (BTA) standards set forth in federal regulations regarding cooling water intake structures to reduce impingement and entrainment. In developing its BTA standards USEPA considered specifying dry cooling technology as BTA, but ultimately rejected dry cooling based on factors

such as reduced energy efficiency of steam turbines, cost and increased air emissions because of dry cooling energy requirements. Once-through cooling water technology would use less water than cooling towers (because of reduced evaporative losses).

The Illinois EPA has reviewed PSGC's application for discharge of cooling tower blowdown and finds that the proposed discharge will not violate any applicable state or federal water quality criteria. The Illinois EPA, Bureau of Air, also considered the dry cooling alternative and concluded that it was not warranted for the PSGC facility. For more detail please see the Bureau of Air Responsiveness Summary.

34. Please list the permits that PSGC will need for this operation.

Permits required by the Illinois EPA include:

1. **Air permit for generation station – issued April 28, 2005;**
2. **NPDES permit for generation station – discussed in this responsiveness summary;**
3. **General NPDES permit for stormwater discharge from construction site activities at generation station; and**
4. **NPDES permit modification for Randolph Preparation Plant Site to receive coal combustion waste.**

Additionally, reliance on coal from the Lively Grove mine will require an NPDES permit for that mining operation and required mining permits from IDNR Office of Mines and Minerals.

PSGC would be the best source of information for other required permits.

35. Were public water supplies downstream on the Kaskaskia River informed on how the discharges might affect pollution levels in the Kaskaskia River? Will the phosphorous and organic chemicals affect their operation and cost? How will this affect water quality? Have the public water supplies downstream of the discharge approved of this permit?

Agency NPDES staff assessed the potential for this facility to affect downstream water supplies in consultation with their Division of Public Water Supply colleagues. Special condition # 1 was incorporated in the permit to assure sufficient downstream flow to meet downstream users needs. Discharge quality required through effluent limitations on individual outfalls and other permit conditions are sufficient to maintain the integrity of water quality in Kaskaskia River and affected tributaries. The full terms and conditions of the permit and a fact sheet explaining the technical assessments conducted by the Agency were made available to all interested parties through public notice, comment and hearing phases of the

permitting process; however no separate and specific communication was provided to water supply providers.

36. Much of the water taken from the river will be evaporated in the cooling towers. Contaminants in the river water will be concentrated in the discharge water. Added to this will be biocides and anti-corrosion chemicals. What calculations were used to determine these concentrations in the effluent outfall 001? What evaluation was conducted to determine the validity of this model?

The most recent proposed water treatment chemicals for corrosion control were evaluated in a July 11, 2005 memo. The additives will not pose an aquatic life toxicity threat at the concentrations at which they will be used. This conclusion was based on the listed laboratory aquatic life toxicity data for the product or from an analysis of the ingredients of the product. This type of analysis is conducted on treatment additives for all dischargers. The additives approved for use at PSGC would be suitable for use in many other plants and for a wide variety of receiving waters. Chlorine will be used as a biocide at PSGC, however, dechlorination is required prior to discharge back into the river. Naturally occurring constituents of the river water withdrawn for cooling usage will concentrate to some extent due to the evaporative loss of a portion of the cooling water, however most constituents will still be within acceptable standards at the point of discharge. Only four substances (nickel, manganese, sulfate and fluoride) will require utilization of allowable mixing and dilution to assure attainment of acceptable concentrations within the Kaskaskia River. The analysis and calculations relied upon to support these findings are presented in the fact sheet accompanying the draft permit and public notice.

37. No assurance has been provided that discharges that are intended to stay on site will not contaminate ground water. The permit indicates that the facility will be designed to hold most of the wastewater on site, except during very heavy rains. There will be holding ponds onsite that potentially might contain substances that could contaminate the groundwater. Because precipitation exceeds evaporation rates for this area, the water has to go somewhere. Therefore, demonstration must be made that these waters will not contaminate groundwater. The holding basins should be designed with impervious liners and monitoring wells to ensure that wastewater does not seep out and to ensure that if water does seep into ground, it will be detected. Will the Agency require monitoring of the pond water and the groundwater?

The recycle basin will be lined with an impervious synthetic liner. All other basins, with the exception of the raw water impoundment ponds, will have compacted soil liners. The clay liners will prevent the pond contents from impacting the groundwater below the site. Since the raw water impoundment ponds will only contain river water withdrawn from the Kaskaskia River, liners are not necessary.

V. Manganese

Manganese is a naturally occurring constituent of surface water and is especially prevalent in rivers and streams in this area of the state. A water quality standard of 1.0 mg/L exists for General Use waters, which includes the Kaskaskia River and Mud Creek. Public water supply intakes are protected by a more stringent standard for manganese, 0.15 mg/L. The reason for the more stringent standard for protection of drinking water sources is because manganese will cause staining. No federal Maximum Contaminant Level (MCL) exists for manganese, indicating that no health-based concerns require regulation. Currently, the General Use standard is met, but at public water supply intakes at Sparta and Evansville downstream of the proposed PSGC plant, the standard is not always met. Questions concerning manganese at the public hearing prompted a complete re-evaluation of the anticipated manganese discharges at PSGC. It was concluded that a permit limit for manganese is necessary and has been added to the permit as issued.

38. There is concern that PSGC discharges will increase the level of manganese in the Kaskaskia River, which could contribute to noncompliance of public water supply criteria.

The Illinois EPA re-evaluated the manganese discharge from PSGC in response to this comment. Based upon the manganese data collected at the Agency's Ambient Water Quality Monitoring Network Station on the Kaskaskia River at Venedy Station, (O-20) collected over the past five years, a permit limit for manganese is warranted for Outfall 001. Data supplied by the applicant indicated that a significant portion of the manganese in the river was in the suspended rather than dissolved form. This caused the Agency to initially conclude that most of the manganese in the withdrawn river water would be removed with the clarification treatment that PSGC will apply and that no permit limit for manganese was therefore necessary. However, examination of the Illinois EPA collected data shows that during low river flows, most of the manganese in the river is dissolved and therefore will not be removed by simple clarification.

Supplemental Illinois EPA analysis found that while low river flows have higher concentrations of total manganese with dissolved manganese comprising the majority present, at river flows higher than 500 cfs, the relationship between dissolved and suspended manganese is dominated by suspended manganese and the overall concentration is much lower. The low flow characteristic of manganese in the Kaskaskia River is very unusual and appears to be a natural phenomenon. Since the plant will potentially withdraw and evaporate up to one-fourth of the river volume at 7Q10 low flow, an unregulated discharge of manganese from the cooling tower blowdown may cause concentrations of manganese to increase in the river and thereby increase the burden of downstream public water supplies to remove the manganese and meet drinking water standards. For river samples collected at river flows of less than 500 cfs at the Venedy Station USGS gauge, an average of 0.49 mg/L total manganese was found in 44 Illinois EPA samples collected from 1999 to January, 2004. In order that the Outfall 001 effluent does not cause this

concentration to increase, a daily maximum permit limit of 0.5 mg/L will be applied when river flows are less than 500 cfs. During higher river flows, the concentration of manganese in the river is lower and also more dilution will be present. During these flows, the state effluent standard of 1.0 mg/L will be applied as a monthly average with a 2.0 mg/L daily maximum limit as dictated by the 35 Ill. Admin. Code Part 304 averaging rule.

The permit limits for manganese will ensure that no additional burden is placed on downstream public water supplies using the Kaskaskia River. PSGC will have to apply additional treatment to remove manganese at least when the river is at lower flows and manganese is at higher ambient concentrations.

39. Based on available water quality data, the Kaskaskia River already has high concentrations of total manganese that exceed the Public Water Supply criterion of 0.15 mg/L. The data obtained from the online STORET database from 1990 through 1998 indicate that 80 percent of the samples exceed this criterion. According to the application, the discharge from this facility would discharge concentrations of manganese at 0.703 mg/L, more than 4 times the criterion. Because this discharge would contribute to the violation of the standard, water quality based limits must be determined and incorporated into the permit, such that manganese discharges are reduced.

At the hearing, Bob Mosher indicated that he had consulted with downstream water users, which allegedly assured Illinois EPA that they do not have a problem removing manganese to acceptable levels at their treatment facilities. However, Illinois EPA also indicated that they had not adopted an adjusted standard for the Kaskaskia River based on this information from the downstream users. There is no provision in the state's regulations that allows violations of water quality standards based on informal discussions with downstream users. If an adjusted standard is appropriate for this river, Illinois EPA must go through a formal process subject to public review and comment to adopt such a standard. Until an alternative standard is adopted, Illinois EPA must enforce the standards that currently apply.

The PSGC Outfall 001 cooling tower blowdown discharge to the Kaskaskia River will return water constituents, i.e., dissolved and suspended substances inherent to the river water, including manganese, back to the river where they came from. No significant amounts of manganese are added from plant processes. In fact, some manganese, as well as other substances, will be removed from the river water when PSGC treats the water to prepare it for use in the cooling tower. With the inclusion of the manganese permit limits of 0.5 mg/L during river flows of less than 500 cfs and an average of 1.0 mg/L when river flows are 500 cfs or greater, PSGC will be required to reduce manganese concentrations even further. The limits mean that concentrations of manganese in the river will not increase even though PSGC reduces flows in the river due to evaporation in the cooling towers. Therefore, downstream public water supplies will not incur additional burdens of manganese that must be removed to meet the drinking water standard. The PSGC effluent will

not cause or contribute to a manganese water quality standard violation nor will an increase in manganese loading occur in the river.

40. In paragraph 13 it states "It is extremely unlikely that the rare discharge of the proposed effluents will comprise a significant source of the manganese in the stream system." In the following paragraph "Increases to Mud Creek will be extremely small..." It is not explained how a rare event must be small although the yearly average concentration may be small nor why it is unreasonable to expect significant impacts from a surge of pollutants however rare.

This discharge is storm related and will occur only under extreme precipitation events. Furthermore, during such weather conditions, stream flows will be elevated, ground water base flow will be a smaller portion of total stream flow and manganese concentrations will be less problematic.

41. Why does the permit limit monitoring of manganese to only once per year?

The NPDES permit now requires daily monitoring of manganese from outfalls 002, 003, 004, 005, and 006 when discharging. In addition, limits and weekly monitoring have been included for outfall 001.

42. How is manganese getting into Mud Creek at this time?

Manganese is already present in the Mud Creek system. It is thought to originate in the local soils and is transported to the stream during storm events.

43. What is the likelihood that coal dust in the stormwater will contribute to manganese levels?

In addition to carbon, coal dust contains small amounts of many other elements including manganese. The real question here is how significant the contribution of manganese will be to the creek. A discharge from this source is predicted to occur only once every ten years. Manganese will be discharged to Mud Creek from the plant during these intense but rare storm events. The storm that causes the overflow will deposit rainwater on the remainder of the Mud Creek watershed during one of these events just as it will on the grounds of the plant. Manganese in the agricultural soil in the watershed will enter Mud Creek through runoff and the creek will fill and possibly even overflow its channel during this exceptional rainfall event. The manganese contribution from the soil particles will far exceed the coal-sourced manganese from the plant discharge. Relatively speaking, the manganese contribution from the plant is insignificant to the total amount entering the creek.

44. How did Illinois EPA determine that "there is no increase [in MN] that would exacerbate the existing conditions is the river?

Upon further investigation of the manganese concern, the permit as issued has been modified from the public notice draft to incorporate additional discharge limitations on manganese to assure no exacerbation of ambient conditions. The different characteristics of manganese in the river water at lower and higher flows were taken into consideration in establishing this permit limit. At relatively low flows (<500 cfs), average flow is approximately 3700 cfs, a permit limit of 0.5 mg/L as a daily maximum will ensure that no increase in river concentration will occur. This value is essentially the average concentration of manganese now found in the river at these flows. As river flows get higher, manganese concentrations decrease while dilution potential for the effluent increases. Therefore, the more stringent limit of 0.5 mg/L is unnecessary at higher flows and the state effluent standard for manganese replaces it in the permit. The mass balance calculations for river flows of 500 and 120 (7Q10) cfs flows attached to this responsiveness summary display how manganese limits were determined.

45. The permit should limit manganese in discharges to the Kaskaskia River and Mud Creek such that water quality limits are met.

Manganese is limited in Outfall 001. No limits are necessary for the other outfalls because no reasonable potential exists to exceed water quality standards in Mud Creek.

VI. Mercury

46. The runoff from coal carries mercury. The permit states that mercury will be monitored in outfalls 001, 002, 004 and 006. When will monitoring occur? How will Illinois EPA enforce monitoring? Why are there no limits in the permit for mercury?

PSGC is required to monitor its discharge for mercury. Monitoring is required "daily when discharging" at outfalls 002, 004 and 006. Annual monitoring is required at outfall 001. In our review of the proposed discharge as regulated by the water quality standards, we determined that the standards would not be exceeded for mercury. Intermittent discharges of stormwater may contain mercury but at levels so low that water quality standards for Mud Creek and the Kaskaskia River would still be met. For verification purposes, PSGC is required to monitor its discharges down to one part per trillion. The human health water quality standard stands at twelve parts per trillion.

47. Many of the waterways in Illinois including the Kaskaskia River have advisories urging women and children to limit their intake of fish because of elevated levels of mercury. This power plant is expected to yearly discharge 280 pounds of mercury into the air. Some of this mercury may be deposited in local waterways such as the Kaskaskia River. Did the Agency consider this mercury deposition? How was the likelihood of air deposition of mercury from the plant included in the calculations relating to water quality?

The mercury emission aspects of this operation are regulated through the Clean Air Act emissions permitting program. Application of current state and federal mercury emission limits and other requirements have been dealt with in that permitting activity. The air emission permit issued for this facility requires mercury reduction to a 95% efficiency level.

48. PSGC is proposing to use wet scrubbers to control sulfur dioxide emissions. In the capturing of sulfur you also capture mercury. What is the plan for keeping the mercury out of the environment? How are you going to protect the Kaskaskia River?

Coal combustion waste includes scrubber sludge, fly ash and bottom ash. PSGC proposes to dispose of the coal combustion waste offsite at the Peabody Randolph Preparation Plant Site.

49. Why doesn't Illinois EPA expect to find much mercury in the effluent?

The Illinois EPA review of the proposed wastewater discharges at PSGC found no significant source of mercury that might enter those wastewaters. All effluents are expected to meet water quality standards for mercury. Mercury will be captured in air emission scrubber sludge and handled in a dry manner, separate from these permitted effluent outfalls.

VII. Weather Related Concerns

50. Historically, what is the longest drought period experienced in this area?

According to the Illinois State Water Survey, the worst drought on record over the past 90 years in this area occurred during the mid 1950s.

The headwaters of the Kaskaskia River begin in Champaign County, 130 miles to the north. A drought in and around St. Clair-Washington counties may affect smaller watersheds such as Mud Creek but the general condition of the Kaskaskia River may be governed by precipitation events far from this area. Releasing or withholding water in Carlyle and Shelbyville lakes can also be used to regulate water levels in the Kaskaskia River.

As published by the Illinois State Water Survey:

Drought is a complex physical and social phenomenon of widespread significance, and despite all the problems droughts have caused, drought has been difficult to define. There is no universally accepted definition because: 1) drought, unlike flood, is not a distinct event, and 2) drought is often the result of many complex factors acting on and interacting within the environment.

For additional information:

www.sws.uiuc.edu/atmos/statecli/general/drought_def.html

51. What date and method was used to determine the 10-year 24-hour rain event?

Retention basins at the facility have been designed with the capacity to retain runoff from a 10-year/24-hour rain event. The design was based on storm event information obtained from "Urban Hydrology for Small Watersheds, TR-55" published by the United States Department of Agriculture, Natural Resources Conservation Service, Conservation Engineering Division. The document utilized rainfall duration-frequency data from the National Weather Service.

52. In analyzing stream flow data over the past 10 years, has the Illinois EPA noticed any changes that might indicate a climate trend associated with global warming.

Ten years is a very short period when considering climate trends. The Illinois EPA commissioned the Illinois State Water Survey (ISWS) to update and produce 7Q10 maps periodically. There are differences in river flows each time the ISWS calculates that data but we see no discernible trends. We suggest you contact the ISWS for additional information.

VIII. General Issues

53. How many new coal-fired power plants has the Agency permitted over the past 20 years?

The Agency has not issued any NPDES permits to new coal-fired power plants in the past 20 years (1985-2005).

54. Mayor Dennis Britehout announced that the village of New Athens has issued a proclamation in support of this project.

The Agency thanks the mayor for sharing this information.

55. Explain why the sanitary waste from the plant will be sent to the adjacent coal mine for treatment.

Sanitary waste from the power plant and from the mine will enter a sewage treatment lagoon on the coal-mine site. The treated effluent from the lagoon will be pumped back to the recycle basin.

Manganese Mass Balance Results Under Two River Flow Scenarios

Scenario 1:

When Kaskaskia River flow is 500 cfs and the concentration is at the five year average for this flow condition: 0.49 mg/L total Mn.

The plant removes 46.4 cfs of water (30 Million Gallons per Day) from the river

The plant discharges 3.1 cfs (2 MGD) back to the river (the predicted high daily average) at a concentration of 2.0 mg/L (the daily maximum allowed by the permit)

453.6 cfs @ 0.49 mg/L remain in the river and the discharge adds 3.1 cfs @ 2.0.

453.6 X 0.49 = 222.26
3.1 X 2.0 = 6.2

Projected Kaskaskia River in-stream Manganese Concentrations below the Discharge will be at or below: 0.5 mg/L

222.26 + 6.2 = 228.46 / 453.6 + 3.1 = 0.50 mg/L (concentration downstream)

Scenario 2:

When Kaskaskia River flow is 120 cfs (the lowest flow where the permit allows a 46.4 cfs water withdrawal).

The manganese limit is 0.5 mg/L at this flow.

73.6 cfs @ 0.49 mg/L remains in the river and the discharge adds 3.1 cfs @ 0.5 mg/L

73.6 X 0.49 = 36.06
3.1 X 0.5 = 1.55

Projected Kaskaskia River in-stream Manganese Concentrations below the Discharge will be at or below: 0.49 mg/L

36.06 + 1.55 = 37.61 / 73.6 + 3.1 = 0.49 mg/L (concentration downstream)

ACRONYMS AND INITIALISMS

BOD	Biological Oxygen Demand
CBOD	Carbonaceous Biochemical Oxygen Demand
CFR	Code of Federal Regulations
cfs	Cubic feet per second
Corps	United States Corps of Engineers
DMRs	Discharge Monitoring Reports
DO	Dissolved Oxygen
IDNR	Illinois Department of Natural Resources
Illinois EPA	Illinois Environmental Protection Agency
MGD	Million Gallons per Day
mg/L	Milligrams per Liter
mL	Milliliter; one part per million; 100 mL is the normal sample size and equals about one-half cup.
NPDES	National Pollutant Discharge Elimination System
ppm	Parts per Million
PSGC	Prairie State Generating Company (Washington County)
STP	Sewage Treatment Plant
TSS	Total Suspended Solids
WWTP	Wastewater Treatment Plant
303(d)	Federal Clean Water Act, Section 303(d)
7Q10	The lowest stream flow for seven consecutive days that would be expected to occur once in ten years.

DISTRIBUTION OF RESPONSIVENESS SUMMARY

An announcement that the permit decision and accompanying responsiveness summary is available on the Agency website was mailed to all who registered at the hearing, to all who sent in written comments and other interested parties. A copy of the responsiveness summary is available for review at the Marissa Public Library, 212 N. Main, Marissa. Printed copies of this responsiveness summary are available from Bill Hammel, Illinois EPA Office of Community Relations, e-mail: <Bill.Hammel@epa.state.il.us> or phone 217-785-3924.

WHO CAN ANSWER YOUR QUESTIONS

Illinois EPA NPDES Permit for Prairie State Generating Company:

Illinois EPA NPDES technical decisions	Blaine Kinsley	217-782-0610
Legal questions	Sanjay Sofat	217-782-5544
Water quality issues	Bob Mosher	217-782-3362
Public hearing of May 11, 2005	James Day	217-782-5544

Prairie State Generating Station

Spokeswoman Beth Sutton 314-342-7798

The public hearing notice, the hearing transcript, the NPDES permit and the responsiveness summary are available on the Illinois EPA website: www.epa.state.il.us

Scroll down to Web Updates and click on:

***See also:* Public Notices**

Scroll down to NPDES Permit and Hearing Notices and click on:

NPDES Public Notices

Scroll down until you locate:

Prairie State Generating Company, LLC

- Public Comment Period Ends, April 25, 2005
  (note – public notices normally filed by date – scroll down dates to April 25, 2005).

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

PRAIRIE RIVERS NETWORK and SIERRA CLUB	)	
Petitioners	)	
v.	)	PCB 06 - (NPDES Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and PRAIRIE STATE GENERATING COMPANY, LLC	)	
Respondents	)	

CERTIFICATE OF SERVICE

I, Albert F. Ettinger, certify that on January 6, 2006, I filed the attached PETITION FOR REVIEW OF A DECISION BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and NOTICE OF APPEARANCE. An original and 9 copies was filed, on recycled paper, with the Illinois Pollution Control Board, James R. Thompson Center, 100 West Randolph, Suite 11-500, Chicago, IL 60601, and copies were served via United States Mail to those individuals on the included service list.

Albert F. Ettinger
(Reg. No. 3125045)
Counsel for Prairie Rivers Network and Sierra Club

DATED: January 6, 2006

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