ILLINOIS POLLUTION CONTROL BOARD
May 2, 1996

IN THE MATTER OF:	)	
	)	
PETITION OF ILLINOIS POWER COMPANY	)	AS 96-1
(BALDWIN POWER PLANT) FOR ADJUSTED	)	(Adjusted Standard-Water)
STANDARD FROM 35 ILL. ADM. CODE	)	
302.208 AND 35 ILL. ADM. CODE 304.105	)	
REGARDING THE PARAMETER BORON[1]	)	

OPINION AND ORDER OF THE BOARD (by R.C. Flemal):

This matter comes before the Board upon a "Petition for Adjusted Standard" (Pet.) filed on July 28, 1995 by Illinois Power Company (Illinois Power). Illinois Power requests an adjusted standard from 35 Ill. Adm. Code 302.208 and 304.105, as those sections apply to the discharge of boron from the ash pond of Illinois Power's Baldwin Power Plant (Plant) into the Kaskaskia River.

The Board's responsibility in this matter arises from the Environmental Protection Act (Act) (415 ILCS 5/1 et seq. (1994)). The Board is charged therein to "determine, define and implement the environmental control standards applicable in the State of Illinois" (Act at Section 5(b)) and to "grant . . . an adjusted standard for persons who can justify such an adjustment" (Act at Section 28.1(a)). More generally, the Board's responsibility in this matter is based on the system of checks and balances integral to Illinois environmental governance: the Board is charged with the rulemaking and principal adjudicatory functions, and the Illinois Environmental Protection Agency (Agency) is responsible for carrying out the principal administrative duties.

The Act also provides that "the Agency shall participate in [adjusted standard] proceedings". (415 ILCS 28.1(d)(3) (1994).) As part of that responsibility, the Agency on February 27, 1996 filed a response (Res.) to Illinois Power's petition in which the Agency recommends that the requested adjusted standard be granted with modifications. The Agency believes that Illinois Power's proposed adjusted standard is very well supported by the State Water Survey's excellent study and recommends that the Board adopt the proposed language. (Res. at 11-12.) On February 29, 1996 Illinois Power filed a reply to and acceptance of the modifications recommended by the Agency.

Illinois Power has waived hearing in this matter. (Pet. at 25.) No other person has requested a hearing, and accordingly none has been held.

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[1] For purposes of better characterizing this action, the Board today adds to the caption the phrase: "regarding the parameter boron".

Based upon the record before it and upon review of the factors involved in the consideration of adjusted standards, the Board finds that Illinois Power has demonstrated that grant of an adjusted standard in the instant matter is warranted. The adjusted standard accordingly will be granted subject to the modifications set out by the Agency.

NATURE OF THE FACILITY AND DISCHARGE

Illinois Power's Baldwin Plant is a coal-fired power plant located near Baldwin, Illinois. The Plant, including its cooling lake and ash pond facilities, occupies parts of Township 4S, Range 7W in Randolph County and Township 3S, Range 7W in St. Clair County. The Plant employs 241 people and is constantly staffed. The Plant generates electricity with three 560 megawatt (MW) coal-fired steam electric generators, with a net generating capacity of 1680 MW. The three units were constructed in 1940, 1973 and 1975. (Pet. at 4.) Units 1 and 2 have wet bottom cyclone boilers and Unit 3 has a pulverized coal dry bottom boiler, with each unit consuming 290 tons of coal per hour at rated capacity. (Id.)

The Plant discharges bottom ash and fly ash transport water, and miscellaneous low-volume process wastewater, to an on-site ash pond system for solids removal and wastewater clarification. (Pet. at 2.) The specific workings of the ash transport and sedimentation systems are as follows. Water is removed from the Kaskaskia River at the river intake point and thence pumped to the Baldwin Cooling Pond (Pond). A portion[2] of the water from the Pond is used as sluice water for transporting bottom ash and fly ash to the ash pond system. (Pet. at 5.) The ash pond system consists of three ponds occupying approximately 145 acres (Pet. at 5.) Fly and bottom ash are sluiced respectively to the Primary Fly Ash and Bottom Ash Ponds. (Pet. Exh. 1 at 5 and 7.) Clarified waters from these two ponds are then combined in the Tertiary Pond for further clarification before being discharged via Outfall 001[3] to the Kaskaskia River. Outfall 001 is located approximately 1,300 feet downstream from the river intake point and has been continuously discharging since 1970.

Boron is naturally present in both ashes, from which it is leached during the transport and sedimentation processes. (Pet. at 5.) Bottom ash transport water is slightly acidic and small amounts of minerals, including boron, are leached from it; fly ash transport water is alkaline and larger amounts of minerals, including boron, are leached from it. (Id.).

Additional wastestreams discharging from Outfall 001 include effluent from the Plant's sewage treatment facility; nonchemical and chemical metal cleaning wastes; effluent from a

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[2] Pond water is also used as cooling water in a once-through system to cool the main condenser of each electric generating unit. (Pet. at 5.)

[3] Outfall 001 is one of four outfalls at the Plant. Only outfall 001 is relevant to the instant action.

fuel spill cleanup activated carbon treatment system, demineralizer regenerate wastes, Plant boiler sump and lowpoint drainage, water treatment system wastes; Plant oil/water separator effluents; and dredged materials. (Pet. at 6.)

Outfall 001 is regulated by NPDES Permit IL0000043, effective October 22, 1993, which, among other matters, establishes a boron effluent limitation of 1.0 mg/L to be met by December 1, 1997. (Pet. at 6, Res. at 3.) 1.0 mg/L is equal to the General Use Water Quality Standard for boron, which is the standard applicable in the Kaskaskia River. The 1.0 mg/L NPDES limit is in part determined by the prohibition against "causing or allowing" violation of any water quality standard found in the Board's regulations at 35 Ill. Adm. 304.105[4].

Illinois Power seeks to be able to discharge boron in concentrations greater than 1.0 mg/L. Illinois Power accordingly seeks adjustment of the prohibition against causing or contributing to water quality concentrations greater than 1.0 mg/L.

ADJUSTED STANDARD PROCEDURE

The Illinois Environmental Protection Act at Section 28.1 (415 ILCS 5/28.1 (1994)) provides that a petitioner may request, and the Board may impose, an environmental standard that is different from the standard that would otherwise apply to the petitioner as the consequence of the operation of a rule of general applicability. Such a standard is called an adjusted standard. The general procedures that govern an adjusted standard proceeding are found at Section 28.1 of the Act and within the Board's procedural rules at 35 Ill. Adm. Code Part 106.

The Board's general effluent regulations do not include specific limitations for boron. However, they do prohibit any discharge that would cause or contribute to a violation of any water quality standard. (35 Ill. Adm. Code 304.105.)

The water quality standard for boron is given in the Board's General Use Water Quality Standards found at 35 Ill. Adm. Code 302.208. The General Use Water Quality Standard for boron is 1.0 mg/L.

Because neither 35 Ill. Adm. Code 302.208 nor 304.105 specify a level of justification or other requirement for an adjusted standard for this matter, Sections 28.1(c)(1) through (c)(4) of the Act are relevant in this proceeding. Consequently, petitioner has the burden of proving the following for an adjusted standard from a rule of general applicability:

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[4] In pertinent part, Section 304.105 reads: "no effluent shall, alone or in combination with other sources, cause a violation of any applicable water quality standard".

1. factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to the petitioner;

2. the existence of those factors justifies an adjusted standard;

3. the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and

4. the adjusted standard is consistent with any applicable federal law.

DISCUSSION

Justification

Illinois Power claims that the 1.0 mg/L boron effluent limitation was established without the use of a mixing zone calculation. (Pet. at 3.) Illinois Power believes that if the NPDES permit was changed to reflect a mixing zone calculation for boron, the permit would allow an effluent limitation of 1.61 mg/L. (Id.) Data of boron concentrations in the ash pond discharge collected by different groups show a range from 1.2 mg/L to 6.9 mg/L, with a mean concentration of 4.16 mg/L (Illinois Power samples), 0.30 mg/L to 10.0 mg/L with a mean concentration of 5.66 mg/L (Agency samples), and 3.71 mg/L to 7.88 mg/L with a mean concentration of 5.60 mg/L (Illinois State Water Survey samples). (Pet. at 6-7.) Illinois Power asserts that given the variation in historical data, frequent exceedences of the NPDES 1.0 mg/L permit effluent limitation for boron, and even a 1.6 mg/L limitation, will occur after the December 1, 1997 effective date for the 1.0 mg/L limit.

Illinois Power claims, and the Agency agrees, the General Use Water Quality Standard for boron was set at a level to protect irrigated crops. Illinois Power asserts that since there are no authorized withdrawals for irrigation from the Kaskaskia River, compliance is not necessary and would not affect the uses of the river. (Pet. at 15-18.)

Uses of the Kaskaskia River include support of aquatic life, protection of wildlife, commercial fishing, commercial boat traffic, public and food processing water supply, and recreation. (Pet. at 16.) In addition, the Kaskaskia River has been channelized and is used primarily for boat traffic. It is therefore contended that compliance with the General Use Water Quality Standard for boron would not improve the degree of aquatic life support. (Pet. at 17.) According to Illinois Power it is this channelization, coupled with water level control, and disturbances of habitat and organisms by the barge traffic, that limits biological diversity in the River. (Id.)

The Agency agrees that the factors relating to the Kaskaskia River in the vicinity of Illinois Power's discharge are substantially and significantly different from the "sole factor-

irrigation" which was relied upon by the Board in adopting the General Use Water Quality Standard for boron. (Res. at 18.)

The Board originally adopted the present boron General Use Water Quality Standard in 1972 (see March 7, 1972 order consolidated R70-8, R71-14, and R71-20). The Board reasoned that the adopted level of 1.0 mg/L was based on evidence that higher levels can harm irrigated crops and although 100% irrigation is unlikely in Illinois, the uncontrolled discharge of large quantities of boron was clearly undesirable. The 1.0 mg/L numerical value for the boron General Use Water Quality Standard has not changed since its adoption.

The Board has previously granted relief from the boron water quality standard for discharges from the ash ponds at other power plants[5]. In each case the Agency observed that boron concentrations in excess of the 1.0 mg/L water quality standard are inherent to ash ponds at power plants and other facilities that burn Illinois coal. (Res. at 1.) As a result, the Agency was persuaded, as it is here, that (1) the conditions under which the boron would have an adverse impact on the environment were not present and (2) the methods available to achieve the water quality standard are neither technically feasible or economically reasonable. (Res. at 2.)

Compliance Alternatives

Illinois Power evaluated five alternative approaches to achieve compliance with the boron water quality standard and effluent limitation. These are detailed in a study prepared by Sargent & Lundy entitled "Alternatives for Complying with Reissued NPDES Permit; Ash Pond Boron Effluent Limitations Baldwin Station" (Pet. Exhibit 2) which addresses the technical and economic effects of each of the proposed compliance techniques, and makes a recommendation. Specifically, Illinois Power evaluated the following alternatives: treatment by activated carbon adsorption; treatment by selective ion exchange; six options for conversion to dry fly ash; fly ash recalculation; and an adjusted standard from the Board.

First, Illinois Power investigated activated carbon adsorption which could reduce the boron by as much as 90% when concentrations are less than 5 mg/L. However, it rejected this alternative due to the accompanying long detention times to remove the boron (i.e.: 10 hours),

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[5] See the Illinois Power Wood River Generating Station, In the Matter of : the Proposed Amendments to Rule 203.1 of the Water Pollution Regulations, R76-18, March 16, 1978; Jefferson Smurfit Corporation in Alton, In the Matter of : Petition of Jefferson Smurfit Corporation for an Adjusted Standard from 35 Ill. Adm. Code 304.105 and 302.208, AS 92-3, December 17, 1992; the Southern Illinois Power Company Marion Power Station, In the Matter of: Petition of Southern Illinois Power Cooperative (Marion Power) for Adjusted Standards from 35 Ill. Adm. Code 302.208(e), AS 92-10, July 1, 1993; and the City of Springfield's' Power Plant, In the Matter of : Petition of the City of Springfield, Office of Public Utilities for An Adjusted Standard from 35 Ill. Adm. Code 302.208(e), AS 94-9, December 1, 1994.

and uncertainty with regards to operation and maintenance requirements for carbon usage. (Pet. at 9.) Due to these uncertainties in design and carbon consumption, and general difficulty in estimating costs of an activated carbon adsorption system, Illinois Power did not evaluate the economics of developing an activated carbon adsorption system. (Id.)

Second, a large scale selective ion exchange system was investigated. It required seven ion exchange vessels, each twelve-feet in diameter, which would produce approximately 20,000 gallons of regenerated waste per day with a high boron content. (Pet. at 10.) An additional evaporation and spray dryer system would be necessary to reduce this waste. In addition, acid and caustic storage tanks and chemical feed equipment, along with three classifiers and six media filters would be required. The cost of converting to selective ion exchange has an estimated present value revenue requirements (PVRR[6]) of $45,910,345.00. (Pet. at 12.)

Next, Illinois Power considered six different options for conversion to a dry fly ash system. Only one option would provide sufficient boron reduction to consistently meet the effluent limitation in the NPDES permit, and that method was to convert 100% of the three units to dry fly ash handling. (Pet. at 10-11.) The cost associated with converting all three units to dry fly ash, with the lowest PVRR, was $30,925,362. (Pet. at 12.)

Fly ash recirculation, which includes installing a system in Units 1 and 2 to recirculate fly ash to convert it to bottom ash by pelletizing and injecting it into the boilers, could eliminate fly ash from Units 1 and 2 into the ash ponds. (Pet. at 10-11.) However, the wet sluicing of fly ash from Unit 3 would not be eliminated. When combining the fly ash from Unit 3 with the increased bottom ash from Units 1 and 2, the estimated boron concentration at Outfall 001 would be 1.65 mg/L, still in excess of the 1.0 mg/L limitation. (Id.) Fly ash recirculation cannot achieve compliance with the present boron effluent limitation. (Pet. at 12.)

Two additional approaches, treatment by mechanical evaporation and treatment by mechanical evaporation plus reverse osmosis, were given only preliminary evaluations as they were found to be prohibitively expensive. (Pet. at 8.)

According to the Agency, "treatment to remove boron from Illinois Power's ash pond effluent or a changeover to a dry ash handling system at the Baldwin generating station are technically unfeasible and economically unreasonable"[7]. (Res. at 11.)

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[6] According to Illinois Power, given its status as a public utility, it must plan to provide the "least-cost" electrical service to its customers as determined by PVRR.

[7] The Board notes that the Agency's assertion that the statements in response to the City of Springfield's petition in AS 94-4 for adjusted standard "hold true for (sic) in this proceeding" (Res. at 11) will not be considered with regard to Illinois Power's petition for adjusted standard as the record in AS 94-4 has not been incorporated into the record in the instant proceeding.

Environmental Impacts

Illinois Power assures the Board that if the requested adjusted standard is granted, no change will be made from present operations at the Plant, and therefore no change in the present water quality in the Kaskaskia River will occur. (Pet. at 15.) It claims that ecological benefits are not expected if the boron General Use Water Quality Standard is achieved. Likewise, no adverse environmental impacts are expected to occur if the adjusted standard is granted because none presently occur or would be expected in the future. (Id.)

Illinois Power's petition includes a comprehensive evaluation entitled "An Assessment of an Adjusted Boron Water Quality Standard for the Kaskaskia River Randolph County, Illinois". (Pet. at Exhibit 1.) This assessment analyzed, among other things, the natural resources in and around the Kaskaskia River, uses of the river, and surrounding areas and toxicological effects of the boron discharges.

Illinois Power interprets the toxicological studies to indicate that there should be no impact on humans at levels of boron in water exceeding 1.0 mg/L. (Pet. at 18.) Additionally, toxicological studies demonstrate that at the highest instream boron concentration requested, 9.9 mg/L, there would be no adverse effect on the aquatic community. (Pet. at 20.) Studies also show no adverse impact on terrestrial animals at the requested instream boron levels. (Id.)

The Agency agrees, based on data supplied by Illinois Power, as well as its own studies of the lower Kaskaskia Basin, that no adverse environmental impacts would occur as a result of the grant of the requested adjusted standard. (Res. at 12.) The Agency has performed ecological assessments of the water quality of the lower Kaskaskia River in the vicinity of Outfall 001 and found that the use-impairment that has occurred is "entirely independent of Illinois Power's discharge and that the proposed boron adjusted water quality will have no adverse impact on any of the designated uses or other uses to which the Kaskaskia River is put in the vicinity of Illinois Poser's discharge" (Res. at 18)[8].

[8] The Agency also claims that Illinois Power's adjusted standard is supported by a macroinvertebrate survey performed in the Kaskaskia River in the vicinity of Outfall 001, and by a whole effluent acute toxicity test performed on a sample of the ash pond effluent from Outfall 001. (Res. at 15.)

Surrounding Areas

According to the Agency, the makeup of the land surrounding Illinois Power's Plant is as follows: much of the riparian land upstream and downstream is owned by the State of Illinois and managed as a fish and wildlife resource area; and the Cooling Pond and area south, including the ash ponds, is leased by Illinois Power to the Illinois Department of Conservation. (Res. at 6.)

According to a 1994 Illinois State Water Survey (ISWS) report, boron concentrations in the Kaskaskia River were greatest within 310 feet in either direction from Outfall 001. (Pet. at 7.) According to Illinois Power, complete mixing occurred within 2000 feet downstream, and within that area concentrations ranged from between 1.2 mg/L at 2000 feet to 9.9 mg/L at the point of discharge (Outfall 001). (Id.)

The closest public water supply intakes, for the municipalities of Sparta and Evansville, are located on the Kaskaskia River downstream of Illinois Power's Outfall 001. The Sparta intake is located on the first cutoff meander, or oxbow, downstream from Outfall 001, where the opening of the meander is 2,200 feet downstream, and the actual water supply intake is 2,300 feet back up the meander. (Res. at 6.) In other words, the Sparta intake is 4,500 feet downstream of Outfall 001- 2,200 feet downstream on the main river channel and then 2,300 feet back up an oxbow. Sparta's principal water supply is a reservoir, this intake is only a supplement. (Res. at 14.)

The 1994 ISWS sampling done at the Sparta intake showed boron concentrations below the general use standard, ranging from .10 mg/L to .63 mg/L, with an average concentration of .49 mg/L. (Res. at 14.) The 1.0 mg/L standard would probably not be exceeded more than two days a year at the mouth of the cutoff meander (as calculated from risk assessment and Monte Carlo simulation). (Id.) Although absolute concentrations cannot be predicted, given the ISWS data and the cutoff meander of the River, the Agency asserts that the data "very strongly suggests that the proposed adjusted standard will have no effect at all on the boron concentrations in the Sparta water supply" (Res. at 14).

The Evansville intake is located 6.6 river miles downstream on the main channel. (Res. at 14.) The ISWS boron water quality samples indicate that on October 19 and November 2, 1994, during 7Q10[9] conditions, the boron concentrations were .61 mg/L and .47 mg/L, respectively. (Id.) Based on these samples and ISWS risk analyses, "the Agency is confident that the proposed adjusted standard will have no impact on the Evansville water supply" (Res. at 15).

Illinois Power asserts that at these intakes the proposed adjusted water quality standard is 1.2 mg/L, and no adverse impact to humans from boron consumption at this level has been demonstrated. (Pet. at 21.) It states that no adverse health effects have been observed in Sparta or Evansville; toxicological studies indicate no toxicity to humans exists when water

[9] 7Q10 is the average minimum seven-day low-flow that occurs once in ten years.

containing boron at 1.2 mg/L is ingested; and the 1.2 mg/L boron concentration in the raw water supply in these two areas will occur less than two days per year during a normal year. (Id.)

Agency Recommended Modification

Analyzing the ISWS mixing study, the Agency determined that under certain river flow and wind conditions, Illinois Power's discharge plume migrated upstream. (Res. at 8.) This upstream flow is also evident when Illinois Power is pumping from the river to its cooling lake. Therefore the Agency does not believe that the adjusted standard as originally requested by Illinois Power extends far enough upstream of Outfall 001. (Res. at 10.)

The Agency takes issue with Illinois Power's cross-sectional average calculations which are based upon mixing components. According to the Agency, the ISWS measured exceedences of the 1.0 mg/L boron limit at the Cooling Lake water intake, located 1300 feet upstream of Outfall 001. Measurements also showed boron concentrations of 1.77 mg/L 310 feet upstream of Outfall 001. (Res. at 10.) Given Illinois Power's contention that it will continue to operate as it currently does, the Agency believes these exceedences can be expected to occur on a regular basis.

In recognition of the boron exceedences more than 310 feet upstream of Outfall 001, the Agency believes that the ISWS survey and upstream plume migration justify extending the relief from the 1.0 mg/L boron water quality standard upstream. (Res. at 12.) The Agency proposes a modification to the proposed adjusted standard to include a maximum boron limitation of 2.7 mg/L from 310 feet upstream to 1300 feet upstream of Outfall 001.

Consistency with Federal Law

The Agency and Illinois Power agree that the Board may grant the requested adjusted standard consistent with Federal Law. According to Illinois Power the Clean Water Act grants states the authority to promulgate water quality standards and to revise those standards, i.e.: to include the state's policies affecting the application or implementation of those standards as in mixing zones, low flows or variances. (Pet. at 24-25.)

The Agency states that it will submit any adjusted standard granted to Illinois Power by the Board to the USEPA for approval. (Res. at 19.)

CONCLUSION

In sum, the Board finds that Illinois Power has demonstrated that grant of adjusted standard is warranted. The Board has also reviewed the justification provided by Illinois Power to the Agency, and the Illinois State Water Survey's study and recommendation, and finds that Illinois Power has made all the demonstrations required pursuant to the adjusted standard regulations at Section 28.1 of the Act. Illinois Power and the Agency have provided

evidence that the Kaskaskia River, into which Outfall 001 discharges, will not be adversely affected by the adjusted standard for boron at the requested concentrations. Therefore the Board finds that the adjusted standard will not result in health or environmental effects substantially or significantly more adverse than the effects considered by the Board when promulgating the rule of general applicability.

Illinois Power has demonstrated that there are no authorized irrigation uses of the Kaskaskia River in the vicinity of the Plant. Additionally it has shown that granting of the adjusted standard will not adversely effect the water supply of the two intakes closest to Outfall 001, those being the Sparta and Evansville municipalities.

The Board further finds that the conditions imposed by the Agency are necessary requirements for a grant of this adjusted standard given the probability that the boron plume will travel upstream. Accordingly, the adjusted standard will be granted subject to those conditions.

This opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

Illinois Power Corporation (Illinois Power) is hereby granted an adjusted standard from the requirements of 35 Ill. Adm. Code 302.208 and 35 Ill. Adm. Code 304.105 at its Baldwin Power Plant. This adjusted standard is subject to the following conditions:

a) This rule applies only to discharges to the Kaskaskia River from Outfall 001 of an existing facility owned and operated, as of July 28, 1995, by Illinois Power Company and located in Randolph and St. Clair Counties, P.O. Box 146, Baldwin, Illinois 62217.

b) Such discharges are not subject to the water quality standard for boron set forth in 35 Ill. Adm. Code 302.208 and also are not subject to 35 Ill. Adm. Code 304.105 as it applies to the water quality standard for boron set forth in 35 Ill. Adm. Code 302.208.

c) Instead of the water quality standard for boron set forth in 35 Ill. Adm. Code 302.208, the discharge from Outfall 001 may not cause the boron concentration in the Kaskaskia River to exceed the following concentrations:

    1) 2.7 mg/L for boron from 310 feet upstream of Outfall 001 to the Kaskaskia River to the Illinois Power Baldwin Plant water intake structure located 1,300 feet upstream of Outfall 001 in the Kaskaskia River;

2) 9.9 mg/L for boron from 310 feet upstream of Outfall 001 in the Kaskaskia River to 300 feet downstream of Outfall 001 in the Kaskaskia River;

3) 2.7 mg/L for boron from 300 feet downstream of Outfall 001 in the Kaskaskia River to 2000 feet downstream of Outfall 001 in the Kaskaskia River;

4) 1.2 mg/L for boron from 2000 feet downstream of Outfall 001 in the Kaskaskia River to the confluence of the Kaskaskia River with the Mississippi River.

IT IS SO ORDERED.

Board Member Marili McFawn abstained.

Section 41 of the Environmental Protection Act, 415 ILCS 5/41 (1994), provides for appeal of final orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements. (See also 35 Ill. Adm. Code 101.246, Motions for Reconsideration.)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the _____ day of _____, 1996 by a vote of _____.

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Dorothy M. Gunn, Clerk
Illinois Pollution Control Board