

ILLINOIS POLLUTION CONTROL BOARD  
June 3, 1976

ILLINOIS POWER COMPANY, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 76-74  
 )  
 ENVIRONMENTAL PROTECTION AGENCY, )  
 )  
 Respondent. )

OPINION AND ORDER OF THE BOARD (by Dr. Satchell):

This matter comes before the Pollution Control Board (Board) upon the petition of Illinois Power Company (Illinois) for variance from Rule 203(f) of the Water Regulations as it applies to boron. Illinois seeks its variance during the construction of a new lagoon and during the pendency of a proposed regulatory action which is estimated in Exhibit "B" titled "Compliance schedule" as being approximately two years. The facility for which the variance is sought is Petitioner's fossil-fueled electric power generating station, Wood River, East Alton, Madison County, Illinois. The petition was filed on March 16, 1976.

Illinois uses an ash lagoon system to treat its fly and bottom ash sluice waters. Water is withdrawn from the Mississippi River to sluice the ash to the lagoon where settling of suspended solids occurs. The water soluble boron is dissolved from the ash and is carried in the effluent waters into an unnamed tributary of Wood River Creek which flows into Wood River Creek which flows back into the Mississippi. Rule 203(f) sets a boron limitation of 1.0 mg/l. In a petition filed May 27, 1975 (PCB 75-221), the petitioner states that: "During the last 12 months, water samples taken from the ash lagoon outfall averaged 0.693 ppm (boron); however, 9 samples out of the 23 total samples analyzed were greater than the 1.0 ppm standard. The highest sample had 1.70 ppm boron."

In PCB 74-9 and PCB 74-423, the Board granted Petitioner variance while undertaking a research project on boron removal. The research project did not yield solutions which were deemed feasible by Petitioner. In PCB 75-221 Petitioner was granted a variance until March 15, 1976 subject to several conditions listed under No. 1 of the Order.

- a. That Petitioner provide a time schedule for bringing the facility into compliance and a detailed description of the corporate approved program to be undertaken to achieve compliance by March 15, 1976;

- b. That Petitioner prepare a feasibility report, including costs, of directing its effluent from the new ash lagoon directly to the Mississippi River;
- c. That the discharge not exceed 1.6 mg/l of boron in any 24 hour sample;
- d. That no effluent from the ash lagoons be allowed to enter the Shields' Branch impoundment area;
- e. That a feasibility report or alternative means of disposal of the fly ash including dry storage of all ash be submitted to the Agency within 90 days.

The only plan Petitioner provides with a time schedule and corporate approval is to route the effluent as is presently done to Wood River Creek or to the Shields' Branch impoundment area and through the twin culverts known as the Twin 60's which provide passage through the levee to the Mississippi River during normal river levels and which are closed during flood stages.

The Board in the consolidated cases PCB 74-51, 73-61 and 74-5 ruled that a discharge to Shields' Branch was not a direct discharge to the Mississippi River. In addition, condition 1(d) supra specifically forbids this alternative. The other alternative would not lead to compliance unless a regulatory change were to be made. Since this has not been done, Petitioner does not have a corporate approved program to achieve compliance for routing its effluent to the Mississippi River as required by the aforementioned Board Order.

Pursuant to condition 1(b) supra, Petitioner has submitted nine methods with costs involved for disposal of the ash. Methods A and B are the only ones with a time schedule and corporate approval and have been discussed above. The estimated costs are: A (Twin 60's) \$461,971; B (Wood River Creek) \$485,971. Alternatives C-1, C-2, D-1, D-2 and D-3 involve gravity flow to a pump house either near the new lagoon (D's) or the switch yard (C's) and then pump to the Mississippi in various ways. The costs vary from

a low of \$740,171 to a high of \$1,235,971. Either trucking (E) or blowing (F) the dry ash combined with sluicing the bottom ash to the new lagoon was expensive; \$1,178,000 and \$2,440,221, respectively.

Petitioner describes and provides a report (Exhibit D) from a consulting engineering firm and a letter (Exhibit E) from the President of the Wood River Drainage and Levee District both of which describe the improvements made to Shields' Branch and the impoundment area. The Agency was not convinced that adverse effects might not again occur when the impoundment area is flooded or with other seasonal effects. Because of the environmental uncertainty involved in this alternative, the Board reaffirms special condition 1(d) supra that no effluent from the ash lagoons be allowed to enter the Shields' Branch impoundment area.

We must deny Petitioner's claim that "boron is not known to have adverse effects except on citrus crops." Soluble borates are a major component of some nonselective herbicides and will kill all existing vegetation at high concentrations. Farm Chemicals Handbook 1976 states under Borax: ( $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10 \text{H}_2\text{O}$ ) "From ancient times used as a nonselective herbicide." The vegetation along the tributary and Wood River Creek in that short distance from Petitioner's effluent discharge point to the Mississippi River is likely to be grasses, sedges or small-seeded legumes and these are fairly tolerant to elevated boron levels. Thus the environmental effects would be expected to be minimal.


In order for the Board to grant a variance, Petitioner must submit a final, corporate approved compliance plan specifying the route to the Mississippi which Petitioner will utilize to comply with 203(f). Since this has not been done, the instant petition is denied.

This Opinion constitutes the findings of fact and conclusions of law of the Board in this matter.

#### ORDER

It is the Order of the Pollution Control Board that Illinois Power be and is, hereby, denied variance from Rule 203(f) of the Water Regulations as it applies to boron, without prejudice.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 3<sup>rd</sup> day of June, 1976 by a vote of 5-0.

  
Christan L. Moffett, Clerk  
Illinois Pollution Control Board