



Planning Commissions's (NIPC) approval or disapproval of the sewage treatment plant expansion; and cost data using waste pickle liquor from steel mills to remove phosphorus.

Some 16 months later a second hearing was held on June 21, 1974 in Oswego Township in Kane County. The cost of phosphorus removal was placed at 7 cents per 100 gallons compared to 5.5 cents in 1972 (R. 6) by the consulting engineering. Using this figure for the estimated 25 MGD flow (R. 7) results in a daily cost of \$1,750 or \$638,750 per year (Ex. 3). A letter of March 23, 1973 was introduced from NIPC and it was stated that no change had since occurred in the status of the District's sewage treatment plant expansion project.

On cross-examination, the witness, Mr. Carl C. Hauser, testified that pickle liquor was recognized as a means of treatment and that he had not contacted any steel mill as to its availability (R. 16). His letter (Ex. 4) gives a potential savings if pickle liquor is used of from 1 to 1.5 cents per 1000 gallons less than other methods.

The next witness, Mr. Ralph L. Evans, head of the water quality section of the Illinois Water Survey, testified that the algae observed in the Fox River was blue-green algae -- a type found frequently in lakes (R. 21). He further testified that phosphorus removal from Fox River sewage treatment plants would have no significant benefit on the River until the phosphorus coming from the Chain-of-Lakes (upstream from Aurora), and in turn from Wisconsin, is reduced (R. 27).

Mr. Evans also testified that Rule 407(b) as relates to phosphorus might "be premature" and that conforming to it would not make a detectable difference in algae bloom level concentrations of phosphorus.

Dr. Clair Sawyer, a retired consulting chemist, who has appeared before the Board in other proceedings, testified that:

"the waters leaving the Chain of Lakes are so rich with phosphorus that there is no -- there could never be any benefit from the reduction of -- of phosphorus in the treatment plant effluents tributary to that stream;"... (R. 60)

In further testimony, Dr. Sawyer gave an algae bloom "level" of 0.02 mg/l soluble phosphorus for rivers. He pointed out that even with all Fox River sewage plants at 1.0 mg/l phosphorus the resulting water quality would be about 0.5 mg/l phosphorus because of dilution from non-sewage plant sources and even this would be too high a level (R. 64).

His recommendation was to keep the algae in the Chain of Lakes (R. 69). He pointed out that in a lake the algae form heterocysts which survive in the bottom. These heterocysts don't survive in rivers because the bottoms get scoured in times of flood or the organism gets covered with silt (R. 73-4).

Photographs were introduced showing subdivisions believed to be on septic tanks and implicitly, a source of phosphorus to the Fox River. A cattle feedlot at the edge of the stream was shown that probably also added nutrients (Ex. 9).

The Board, then, has before it Rule 407(b) that would require the annual expenditure of perhaps \$501,875 (at 5.5 cents per 1000 gallons of pickle liquor is used) and expert testimony that such expenditures would have little or no effect upon the admitted algae problem on the Fox River. The solution seems to be (a) either restraining algae from leaving the Chain of Lakes or (b) using chemical controls to poison the algae in those lakes (Ex. 7, p. 8).

We feel that until these headwater solutions are applied it would be an arbitrary and unreasonable hardship to require phosphorus removal. We would ask and encourage the Institute for Environmental Quality to complete its study of the Fox River - Chain of Lakes as soon as possible.

The Board has pending before it R74-17 which would change the deadline date presently existing to meet effluent standards (December 31, 1974) to July 1, 1977. This proceeding would affect the District if adopted.

Variance is granted from January 1, 1975 until December 31, 1975 from Rule 407(b) and from July 1, 1972 until September 1, 1975 from Rule 1002 (b)(i) pursuant to Section 35 of the Environmental Protection Act.

This Opinion constitutes the Board's findings of fact and conclusions of law.

#### ORDER

1. Variance is granted from January 1, 1975 until December 31, 1975 from Rule 407(b) and from July 1, 1972 until September 1, 1975 from Rule 1002(b)(i) both of Chapter 3, Water Pollution Regulations as regards phosphorus removal.

2. A compliance program shall be filed by September 1, 1975.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 9<sup>th</sup> day of January, 1975 by a vote of 5-0.

  
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Christan L. Moffett, Clerk  
Illinois Pollution Control Board