

ILLINOIS POLLUTION CONTROL BOARD

February 6, 1975

VILLAGE OF CARY	)	
	)	
Petitioner	)	
	)	
v.	)	PCB 74-429
	)	
ENVIRONMENTAL PROTECTION	)	
AGENCY	)	
Respondent	)	

OPINION AND ORDER OF THE BOARD (by Mr. Zeitlin):

In a Petition filed November 19, 1974, the Village of Cary (hereinafter "Petitioner") seeks the following alternative forms of relief from the phosphorus discharge limitation of Rule 407(b) of Chapter 3, Water Pollution Regulations, and from Rule 1002(b)(i) which requires an implementation plan to be filed prior to July 1, 1972, as follows:

1. A one-year Variance from Rule 407(b), which sets an effluent limit for Phosphorus discharges within the Fox River Basin of 1.0 mg/l by December 31, 1974. (as amended by Rule 409 for those eligible for a construction grant under Section 201(g) of the Federal Water Pollution Control Act Amendments of 1972. 33 USC 1251 et. seq.);

2. A one-year Variance from Rule 407, but granted in such a way as to allow commencement of construction of the treatment facilities required to achieve compliance with that rule, upon the expiration of such variance; (this is in effect a Variance for one year plus the construction time);

3. A Variance for one year as to the Implementation Plan requirements of Rule 1002(b)(1), as applicable (if at all) to completion of the required treatment facilities for compliance with Rule 407(b);

4. A five-year Variance from Rule 407(b) should the Board determine that Petitioner's treatment facility is subject to the NPDES Permit requirements of Section 39 of the Illinois Environmental Protection Act, (the Act), such five-year period being permitted under Section 36(b) of the Act; or,

5. A Variance to the extent that the Board shall determine that the Village of Cary should not be required to remove phosphorus from its effluent, and should be given an exemption from the compliance standards of Rules 407(b) and 1002(b)(1). This is, in effect, a request for a permanent Variance.

Petitioner is an Illinois Municipal Corporation located in McHenry County, along the Fox River. The Village has approximately 1,400 occupied living units, with a population of about 4,800. Domestic and industrial sources in the village generate an average daily flow of 705,000 gallons of raw sewage, treated at a modern facility. (The maximum flow is approximately 886,000 g.p.d.) Petitioner's sewage treatment plant does not currently treat the raw sewage influent to remove phosphorus, which tests have shown to be as high as 10 mg/l. The effluent concentration of phosphorus is about 8.0 mg/l. This is eight times greater than the allowable concentration of 1.0 mg/l under Rule 407(b) for the Fox River Basin.

Petitioner claims that it would constitute an arbitrary and unreasonable hardship to require that it comply with the limits of Rule 407(b). The crux of Petitioner's hardship argument is that to require compliance would place a financial burden upon the small population of Cary, and would in addition be ineffective as a cleanup measure for the Fox River.

The low bid for a treatment plant addition to eliminate phosphorus in Petitioner's treatment plant effluent is alleged to be \$84,000, with an annual cost of chemicals to operate the system of \$20,000. Petitioner estimates that these costs would run to \$60.00 per household for capital costs, and \$14.20 per year in operating costs for each household thereafter.

The agency, in a Recommendation filed December 23, 1974, contends that these figures do not lead to a finding of hardship. The Agency states that such costs are not excessive, and in addition would not be borne by the current population exclusively. The Agency alleges that Cary is "... an attractive growing community in an area of significant development. The fact that the treatment plant has capacity more than twice present needs, indicates the expectations of Petitioner." The sewerage treatment facility has a design population equivalent capacity of 10,500 persons, a far-sighted and commendable growth objective, considering the present population of Cary is 4,800 persons.

The Agency then assumes that by using long term financing, Petitioner could distribute the costs of compliance among the present and future residents of the area having the most to gain from improved water quality in the area.

More importantly, the Agency also notes that Petitioner has not sought state or federal grant funding to carry out a compliance plan for phosphorus. The Agency states that such grant funding is available for treatment plant construction, and could significantly reduce the burden of Petitioner's residents.

As to effectiveness, Petitioner claims that for it to comply with the limits of Rule 407(b) would not reduce the problem of algae in the Fox River Basin. Petitioner apparently commenced this Variance action upon learning of the evidence and testimony presented in hearings before the Board in Aurora Sanitary District v. EPA, PCB 72-276, January 16, 1975. Testimony in that case to the effect that the treatment of Illinois sewage treatment effluent to eliminate phosphorus would have no effect on algae in the Fox River system was incorporated by reference into the instant Petition. Although the incorporation of this testimony by Petitioner was vague and inexact, the intent of that testimony was correctly carried over. The testimony of Dr. Clarence Sawyer at the June 10, 1974 hearing in the Aurora matter was to the effect that other sources of phosphorus, particularly from the Chain of Lakes upstream from Cary and various impoundments of the Fox River between Aurora and Cary, and from phosphorus contamination originating in Wisconsin, are of such magnitude that control of Illinois sewage treatment plant effluent phosphorus concentrations (as it relates to the Fox River) would have no significant effect on the algae problem. PCB 72-276, R-64, 75-77. (We may properly assume that since Petitioner has incorporated the testimony in Aurora into its Petition, it will not object to the incorporation of the entire record of that proceeding.) Aurora's ban on phosphate detergents has resulted in their phosphorus discharge to be 4.7 mg/l whereas Cary's discharge is 8.0 mg/l.

The Agency contends in its Recommendation that the testimony received in Aurora is inapplicable to the problem faced in this matter. While Petitioner in this case is, like the Aurora Sanitary District, discharging its effluent into the Fox River System, the two municipalities are separated by more than thirty miles; that interval is highly developed, and contains such municipalities as Elgin, Carpentersville, and St. Charles. The Agency further feels that the problems of eutrophication are more serious between Cary and Aurora than those downstream of Aurora. The Agency states that the interval contains six dams and impoundment areas, exacerbating the build-up of algae.

The problem of eutrophication has been before the Board many times. The Board recognized the need for phosphorus limitations to control algae as early as January 6, 1971, when it reduced by one-third the prior standards as to

phosphorus in Lake Michigan. Phosphorus Regulations, PCB R70-6, January 6, 1971, 1 PCB 163, 169. The implication of phosphorus control and algae in eutrophication is more fully discussed in the Board's opinion on the matter. In Re Phosphorus Water Standards, PCB R70-6, April 28, 1971, 1 PCB 515, 517. That Opinion fully explores the relationships between various forms of phosphorus contamination and the resultant algae blooms, and discusses the proper levels of control to prevent the premature ageing of Illinois waters. Id. at 520-21, 527; See G. Fitzgerald, Nutrient Sources For Algae and Their Control, 63, U.S. EPA Project #16010 EHR, August, 1971; in the matter of proposed Regulation Banning Phosphates in Detergents, PCB R71-10, Mar 14, 1972, 4 PCB 71,83; but see, Phosphate Water Standards, PCB R70-6, April 14, 1971, 1 PCB 475 (Supplemental Opinion of Mr. Aldrich).

The application of that reasoning to the Fox River Basin is specifically explored by the Board in its later Opinion adopting Rule 407 itself. The Board in that case stated that "[t]he River and its tributary lakes are clogged with nuisance blooms of algae, and it is time to activate the requirements of SWB-11." Effluent Criteria, etc., PCB R70-8, 71-14, 71-20, January 6, 1972, 3 PCB 401, 407. Further, the need for phosphorus control in the Fox River Basin was the subject of a special Board meeting in November, 1970. Id. In that Opinion, the Board also noted that there was "no doubt of its [treatment technology's] practicability today" for phosphorus removal. Id.

The testimony in Aurora, referred to by Petitioner in this case, does not indicate that the problem in the Fox River has become less severe. If anything, that testimony states that the problem may be worse, and is practically uncontrollable.

The Agency in its Recommendation argued against the grant of this Variance, as was also the case in Aurora. The Agency states, correctly, that a currently degraded condition in the environment cannot justify further degradation. Illinois Power Co. v. EPA, PCB 72-190, Oct. 24, 1972, 6 PCB 17, 27. That case is not controlling here, however. In the Illinois Power Co. decision, the Board specifically pointed out that controls "would on the evidence in this case have a highly significant favorable impact on the undesirable air quality in the area." Id. at 29. That is not the true of the problem now before us.

Since the filings in this matter the Board has decided the Aurora case. PCB 72-276, January 9, 1975. The Board found that the expenditures required for Aurora to meet the phosphorus effluent limits would not be matched by equivalent

water quality improvements in the Fox River. Based on the evidence in that case, the Board found that it would be an arbitrary and unreasonable hardship on the Petitioner in that case to require phosphorus removal until other problems had been solved. The Board found that even if the phosphorus discharge limits were met by Aurora, sufficient phosphorus would be present to nourish the algae, and to cause noxious algae blooms. See also, Village of Grayslake v. EPA, PCB 74-409, January 23, 1975, Opinion at p. 2 (Algae problems in Third Lake, tributary to Des Plaines River; the Agency recommended that the Variance be granted.)

The same underlying rationale applies here. Were the Board to require Petitioner in this case to undergo the expense of treating its effluent for phosphorus in compliance with Rule 407(b), the algae problem in the Fox River would remain unabated. However, though we may temper the implementation of a long-range environmental objective because of a number of unknowns, we should not lose sight of the fact that Petitioner in treating its phosphorus effluent, by whatever means are feasible and economical, would not then add to the severity of the algae problem as it exists.

While we do not repudiate or revoke the language of the Board which accompanied the adoption of Rule 407(b), we find that it would be unreasonable to require immediate compliance of this Petitioner. We note that the Illinois Institute for Environmental Quality is currently conducting a comprehensive study of the Fox River - Chain of Lakes system, the initial phase of which is expected to be completed by June 1975. As the Board stated in the Aurora opinion, the Institute is encouraged to complete its study as soon as possible, PCB 72-276, Opinion at p. 3.

Insofar as that study remains incomplete, and as the record in this case is far from complete even with the adoption of the Aurora record, there are insufficient facts before the Board to allow serious consideration of Petitioner's alternative request for a five-year variance period. For that reason, we will not approach the question of the applicability of Sections 36(b) and 39 of the Act to this Petition. This reasoning applies similarly to Petitioner's indefinite request for a Variance of one year plus the time required for construction.

Should extension of these Variances be necessary, Petitioner will undoubtedly be prepared after a period of one year to better address the troublesome issues presented here.

Such actions would be of assistance to Petitioner in showing good faith; it is difficult to determine such good faith in the instant case, based on so scanty a record. It can be assumed that were it not for the Aurora case, Petitioner would have taken the first step to comply with the implementation plan requirements of Rule 1002(b)(1), from which it also seeks a Variance. Petitioner had applied for a construction permit from the Agency for phosphorus treatment modification to its present plant, which permit (No. 1974-AB-1684) was allegedly issued on October 31, 1974. The Village Engineer for Petitioner had also allegedly prepared plans and specifications for an Alum and Polymer feed system for phosphorus removal, and had received bids for the construction of such a system. But strict compliance has not been shown as to the requirements of Rule 1002(b)(i), which compliance will be expected in keeping with the other portions of this Opinion. The timetables required under that Rule shall remain in keeping with the period of this variance. This should not constitute any hardship for Petitioner, insofar as it has already made plans for compliance with Rule 407(b).

No discussion will be given to Petitioner's request for a permanent Variance, or a Board finding that Rule 407(b) should not be applied as against it.

The grant of this variance similarly does not relieve petitioner from attempting to alleviate the hardship found in this case. Petitioner shall inquire into the availability of federal and state grant funding for phosphorus control, and shall apply if eligible.

The Board has pending before it R74-17 which would extend the deadline date presently existing to meet effluent standards, from December 31, 1974 to July 1, 1977; this regulation proceeding would affect Petitioner if adopted by the Board.

No hearing was held in this matter.

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

#### ORDER

IT IS THE ORDER of the Pollution Control Board that:

1. Petitioner is granted a variance from the phosphorus effluent discharge limits of Rule 407(b) of Chapter 3, Water Pollution Regulations, from January 1, 1975 until December 31, 1975, subject to the conditions stated below.

2. Petitioner is granted a variance from the Implementation Plan requirements of Rule 1002(b)(i) of Chapter 3, Water Pollution Regulations, to the extent consistent with this Opinion and Order, from July 1, 1972 until September 1, 1975, pursuant to Section 35 of the Environmental Protection Act.

The above Variances are subject to the following:


a. Petitioner's discharge of phosphorus into the Fox River shall not exceed concentrations of 8 mg/l.

b. Petitioner shall explore alternate means of treatment to reach discharge concentration levels in compliance with the limitations of Rule 407(b), and report on the same to the Agency on a bimonthly basis, such reports to be submitted on the 15th of the month and commencing in April, 1975.

c. Petitioner shall apply for all applicable state or federal grant funding available to Petitioner for the removal of phosphorus from its treatment plant effluent and shall submit by September 1, 1975 a report to the Agency as to availability of funding.

3. Petitioner shall file with the Agency a project completion schedule by September 1, 1975, pursuant to Rule 409 of Chapter 3 of the Water Pollution Regulations.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 6<sup>th</sup> day of February, 1975 by a vote of 4-0.

  
Christan L. Moffett, Clerk  
Illinois Pollution Control Board