

ILLINOIS POLLUTION CONTROL BOARD
March 2, 1978

MULBERRY GROVE SANITARY DISTRICT,)
)
) Petitioner,)
))
) v.) PCB 77-297
))
 ENVIRONMENTAL PROTECTION AGENCY,)
))
) Respondent.)

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

This matter comes before the Board on a Variance Petition filed on November 14, 1977 by the Mulberry Grove Sanitary District of Bond County, Illinois, requesting relief from Rules 203(c), 402 and 404(f) of the Board's Water Pollution Regulations for the Petitioner's sewage treatment plant. The Petitioner waived hearing on December 12, 1977. On January 20, 1978, the Agency filed a Recommendation in favor of granting a 5-year variance from Rule 203(c) and Rule 402.

The Mulberry Grove Sanitary District currently has a 3-stage lagoon system for treatment of sewage wastes. However, this lagoon system is presently overloaded and in need of upgrading in order to comply with the phosphorus water quality standard of Rule 203(c) which provides that "phosphorus as P shall not exceed 0.05 mg/l in any reservoir or lake, or in any stream at the point where it enters any reservoir or lake."

Moreover, any failure to meet the phosphorus water quality standard would concomitantly violate the effluent standard of Rule 402 which specifies that "no effluent shall, alone or in combination with other sources, cause a violation of any applicable water quality standard."

Accordingly, the Mulberry Grove Sanitary District is seeking a variance from Rule 203(c) pertaining to phosphorus limits and from Rule 402. Additionally, the District is seeking a variance from Rule 404(f) which states that all effluents containing deoxygenating wastes must not exceed the level of 4 mg/l of BOD₅ or 5 mg/l of suspended solids if the dilution ratio of the effluent is less than one to one. The District seeks a variance from Rule 404(f) so that it may discharge effluent containing levels of BOD₅ and suspended solids which exceed those specified limits while it upgrades its facilities.

With respect to the requested variance from Rule 404(f) (which sets limits re deoxygenating wastes in effluents), the Agency (on page 1 of its Recommendation) states that it "believes a variance from this Rule is not necessary and it should be dismissed."

As the Pollution Control Board has indicated in the opinion of Country Aire Mobile Home Park v. EPA, PCB 77-126:

"Granting of a variance from Rule 203(c) and Rule 402 as to phosphorus would permit Agency approval of the lagoon exemption. A variance from Rule 404(f) is not necessary, since a variance from 203(c) would negate the requirement of not having a violation, alone or in combination with other sources, of the phosphorus water quality standard, when applying for the lagoon exemption."

On page 3 of its variance petition, the District described its proposed equipment for control of discharge as follows:

"The proposed treatment facility consists of a three cell lagoon system, the first cell being aerated, the second cell being a conventional facultative lagoon and the third duplicate cells with submerged sand filters for algae control. These lagoons are followed by chlorination. The facilities are designed for a population of 1,040 people with an average design flow of 96,000 gpd. The proposed system is located southeast of the District and will be tributary to an unnamed ditch which discharges into Hurricane Creek approximately 10 miles upstream of Carlyle reservoir."

However, the funding for this project has been a major obstacle:

"In August of 1975, the Mulberry Grove Sanitary District received a Step I State Standard Priority Grant, under the Anti-Pollution Bond Act of 1970.... The District realized that the costs associated with the proposed improvements would be a significant economic burden, however, it was decided to proceed contingent upon the receipt of Step 2 and a Step 3 Grant participation (75% funding). It now appears, however, that if phosphorus removal is required at this time, even with the best practical technology available, the results would be an arbitrary and unreasonable hardship upon the District, and it is doubtful if they could afford the greatly increased operation and maintenance costs associated with phosphorus removal." (Pet., p.1).

The District goes on to say (on pages 4 and 5 of its petition) that:

"It is almost certain that if any phosphorus removal requirement were imposed upon the Village, at this time, the total proposed improvement program would be abandoned for economic reasons. The additional amount of phosphorus that will be discharged into the receiving stream from these proposed improvements, discounting that which is presently entering the stream through the present inadequate treatment facility is estimated at 5.5 lbs. per day. There is no flow data available on the receiving stream other than it is on intermittent stream. The fact that this stream has no flow much of the year and the ten mile distance from the Mulberry Grove Wastewater Treatment facility to the upper end of the Carlyle Reservoir makes it quite evident that most of the flow from this facility seldom reaches the reservoir due to infiltration into the stream bed and ultimate use of the nutrients by vegetation. Removal of phosphorus from the effluent of the treatment facility would have an insignificant effect on the water quality of the Hurricane Creek or Lake Carlyle."
(Emphasis supplied.)

The Illinois Environmental Protection Agency states in their recommendation (at page 4) that phosphorus from the Mulberry Grove Sanitary District's sewage treatment plant contributes about 0.3% to the total phosphorus load of Carlyle Reservoir.

Alternatives to phosphorus removal such as (1) effluent disposal by spray irrigation or infiltration and (2) effluent transport to an adjacent drainage basin (Beaver Creek) not tributary to Carlyle Lake were investigated by the District.

For example, a study by consulting engineers indicated that the possibility of eliminating any discharge from the treatment works by land irrigation methods would involve a capital cost of \$512,535.00. Moreover, for compliance with the 0.05 mg/l phosphorus limit, the present estimated average monthly user charge for the proposed improvement (assuming maximum State grants received) would be about \$9.60 (Pet., p.4).

In response to these projected alternatives, the Agency Recommendation states that:

"The Agency believes that requiring phosphorus removal to the 0.05 mg/l level is technically feasible but economically unreasonable, and to require Petitioner to meet this criteria at this time would impose an arbitrary and unreasonable hardship. (See: Caseyville Township West v. PCB, 77-14; City of Arcola v. PCB, 76-280; and Urbana and Champaign Sanitary District v. PCB, 76-295.)"
(Ag. Rec., p.4)

In similar cases, the Board has consistently recognized that it is "economically impractical for the petitioners to comply with the current phosphorus limitation of Chapter 3." Village of Raymond v. EPA, PCB 77-226; City of Hoopston, PCB 76-234, 24 PCB 441; Southern Illinois University at Edwardsville, PCB 77-111, 25 PCB 775; Valley Water Company, Inc., PCB 77-146, 25 PCB 289.

In fact, the Agency has petitioned the Pollution Control Board (in regulatory proposal R76-1) for the appropriate amendments to the Water Pollution Regulations which would modify the existing phosphorus effluent and water quality standards.

Thus, the Board finds that the Petitioner would suffer an arbitrary and unreasonable hardship if required to meet the existing 0.05 mg/l phosphorus standard. Petitioner will be granted a variance from Rule 203(c) and Rule 402 of the Board's Water Pollution Regulations for a period of 5 years, or until the Board adopts a regulation change under R76-1, whichever occurs first, subject to the conditions of the Order.

Parenthetically, on page 2 of the Agency's Recommendation, it was suggested that a condition (i.e., "condition 'a' ") be attached to the variance "that Petitioner provide space in the engineering design of its proposed waste treatment works for storage of chemical mixing and dosing equipment capable of meeting phosphorus standards which may be established by the Board."

Since the phosphorus standards have not yet been finally established and since the size and space requirements for equipment capable of meeting some future indeterminate standards are not currently ascertainable, we feel that condition "a" should be considered by the District's engineers and their best judgment in providing for this space shall be exercised.

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

ORDER

1. The Mulberry Grove Sanitary District is granted a variance for the operation of its sewage treatment plant from Rules 203(c) and Rule 402 of Chapter 3: Water Pollution, of the Board's Rules and Regulations pertaining to phosphorus until March 31, 1983, subject to the following conditions:

- (a) That Petitioner agrees to comply with the terms of R 76-1, or other modified phosphorus standards, when and if adopted by the Board.
- (b) That Petitioner's NPDES Permit be modified in the manner requested in paragraph 3 of the Agency's Recommendation.

2. Within forty-five (45) days after the date of this Order, the Petitioner shall submit to the Manager, Variance Section, Division of Water Pollution Control, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706, an executed

Certification of Acceptance and Agreement to be bound to all terms and conditions of the variance. The forty-five day period herein shall not run during judicial review of this variance pursuant to Section 41 of the Environmental Protection Act. The form of this certification shall be as follows:

CERTIFICATION

I, (We), _____ having received and read the Order of the Pollution Control Board in PCB 77-297, understand and accept said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

SIGNED

TITLE

DATE

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 2nd day of March, 1978 by a vote of 5-0.

Christan L. Moffett
Christan L. Moffett, Clerk
Illinois Pollution Control Board