

ILLINOIS POLLUTION CONTROL BOARD
October 4, 1978

CITY OF TROY,)
)
 Petitioner,)
)
 v.) PCB 78-182
)
 ENVIRONMENTAL PROTECTION AGENCY,)
)
 Respondent.)

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

This matter comes before the Board on a Petition filed on July 7, 1978, by the City of Troy for a variance for two years from Rules 203(f) and 402 of Chapter 3: Water Pollution Regulations, as each applies to ammonia nitrogen. On September 29, 1978, the Illinois Environmental Protection Agency filed an Amended Recommendation which updated their original Recommendation of August 23, 1978. The Agency recommends that relief should be granted from the applicable ammonia nitrogen requirements provided that Petitioner adhere to certain conditions, including a commitment to install best practicable control technology when grant funds become available. No hearing was held in this matter.

The City of Troy, located 20 miles east of St. Louis, Missouri, in Madison County, Illinois, owns and operates a sewage treatment plant with a design flow capacity of 1.0 million gallons per day serving a population of 2818 people. Effluent from this treatment plant is discharged to an intermittent tributary of Silver Creek which is upstream from the Kaskaskia River.

During 1972, the City of Troy completed a project with federal grant funds to expand and improve the treatment capabilities of their facility. The existing plant consists of a flow diversion structure, a contact stabilization activated sludge package plant, tertiary sand filters and improved chlorination facilities (Pet. 2, Rec. 1, 2). The upgraded facility was designed originally to meet the 1.5 mg/l ammonia nitrogen standard by breakpoint chlorination, but the Agency has since discouraged the use of breakpoint chlorination for nitrogen removal on the basis that the residual chlorine is harmful to aquatic life and that the process controls required are beyond the usual capabilities found in small treatment facilities (Pet. 3, Rec. 4, 5).

The City of Troy is currently preparing a Facilities Plan with Step I funding under an amendment to their federal grant. In March, 1973, the City of Troy was granted a Pfeffer Exemption which according to their NPDES Permit IL 0031488 currently requires that their discharge not exceed 10 mg/l BOD₅ and 12 mg/l suspended solids. However, the effluent monitoring reports of the Agency and the Petitioner indicate that the City of Troy treatment facility is not consistently meeting the 10/12 BOD₅/SS requirements, nor is the facility capable of achieving compliance with the applicable ammonia nitrogen effluent and water quality standards (Rec. 2, 3).

Rule 203(f) of Chapter 3 requires that the concentration of ammonia nitrogen of 1.5 mg/l shall not be exceeded in Illinois waters with certain exceptions not applicable here. In addition, where downstream ammonia nitrogen standards will continue to be in violation, the City of Troy will be required to meet the water quality standards as an effluent limitation unless the City is concurrently granted a variance from Rule 402 of Chapter 3.

Recently, the Board adopted a new Rule 402.1 effective July 27, 1978, as an exception to Rule 402. Rule 402.1 establishes an interim ammonia nitrogen effluent limitation for discharges to streams of this State. Without a variance from Rules 203(f) (ammonia nitrogen) and 402, Petitioner's discharge from their treatment plant would be required by Rule 402.1 to meet 1.5 mg/l ammonia nitrogen effluent limitation in the summer (April through October) and 4.0 mg/l for the remainder of the year provided that Petitioner does not cause or contribute to a violation of the ammonia nitrogen water quality standard.

On July 27, 1977, the Agency collected water samples at Petitioner's outfall and at locations in the vicinity of Petitioner's discharge. Analysis revealed ammonia nitrogen effluent concentrations of 48 mg/l from the Troy treatment facility with instream ammonia nitrogen concentrations increasing from negligible amounts upstream to a concentration of 40.5 mg/l, 1/4 mile downstream from Petitioner's outfall (Rec. 3). Petitioner contends the ammonia nitrogen effluent concentrations which average 22.4 mg/l are typical for an activated sludge treatment plant which is not employing nitrogen removal technology (Pet. 3, 4).

Petitioner claims that immediate compliance with the ammonia nitrogen standards would impose an arbitrary and unreasonable hardship. After preliminary review of nitrogen treatment technology, the City of Troy has indicated that two nitrogen conversion facilities, an activated biofilter (packed bed reactor) and a rotating biological disc at estimated costs of \$500,000 and \$650,000 respectively would best lend themselves to the City's wastewater treatment facility (Pet. 3).

The Agency states that a variance should be granted provided that Petitioner include in any improvement program, the best practicable technology pollution control equipment for the removal of ammonia nitrogen. While the Agency recommends a variance for two years, it also notes that the City of Troy with a priority number of 1044 will not be provided federal funding for ammonia nitrogen removal for five years (Rec. 3, 5).

In a number of cases involving the ammonia nitrogen requirements prior to adoption of Rule 402.1, the Board has granted a variance provided that Petitioner agree to install facilities to achieve the minimum discharge of ammonia nitrogen consistent with best practicable control measures as soon as grant funding was made available. City of Canton, PCB 77-234 (November 23, 1977); Village of Arthur, PCB 77-266 (December 20, 1977); Village of Lake Zurich, PCB 78-89 (June 8, 1978).

In the matter before us, the Board finds that Petitioner would suffer an arbitrary and unreasonable hardship if not granted relief until federal grant funds become available. The Board will hereby grant a variance to the City of Troy treatment plant from Rule 203(f) as it applies to ammonia nitrogen and from Rule 402 for two years or when grant funds become available, whichever occurs first.

The Board will direct the Agency to modify Petitioner's NPDES Permit IL 0031488 consistent with this Order pursuant to Rule 914 of Chapter 3 to include interim effluent limitations as may reasonably be achieved through application of best practicable operation and maintenance practices in the existing facilities.

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

ORDER

1. The City of Troy is granted a variance for the operation of its treatment plant from Rules 203(f) and 402 of Chapter 3: Water Pollution Rules and Regulations regarding ammonia nitrogen until October 5, 1980, or when grant funds become available and implemented, whichever occurs first, and subject to the condition that any plant improvement include the installation of the best practicable technology pollution control equipment for ammonia nitrogen removal.

2. The City of Troy shall continue to pursue grant funding and shall meet all applicable grant deadlines.

3. Petitioner, within 30 days of the date of this Order, shall request Agency modification of NPDES Permit IL 0031488 to incorporate all conditions of the variance set forth herein.

4. The Agency pursuant to Rule 914 of Chapter 3 shall modify NPDES Permit IL 0031488 consistent with the conditions set forth in this Order including such interim effluent limitations as may reasonably be achieved through application of best practicable operation and maintenance practices in the existing facilities.

5. Within forty-five (45) days of 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 be stayed during judicial review of this variance pursuant to Section 41 of the Environmental Protection Act. The form of said certification shall be as follows:

CERTIFICATION

I, (We), _____ having read the Order of the Pollution Control Board in PCB 78-182, 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 4th day of October, 1978 by a vote of 5-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board