



18 months to install at an estimated cost of \$1.3 million which upon completion is expected to produce 6-8 mg/l BOD<sub>5</sub>, 10-12 mg/l suspended solids and 1 mg/l phosphorus (Pet. p6, 8). Petitioner, its residents and property owners will pay the entire cost of the project (Pet. p6).

Rules 203(c), 203(f), and 402  
Phosphorus and Ammonia Nitrogen

The Petition as amended alleges that a variance is necessary from the Rule 203(c) phosphorus and the Rule 203(f) ammonia nitrogen water quality standards and the Rule 402 effluent quality requirements. Rule 203(c) sets a limit for phosphorus concentration of 0.05 mg/l in any stream at the point of entry to any lake or reservoir. Rule 203(f) requires that a 1.5 mg/l concentration of ammonia nitrogen shall not be exceeded in waters of the State. In addition, where downstream phosphorus and ammonia nitrogen standards will continue to be in violation, the Village would be required to meet the water quality standards as an effluent unless Petitioner is granted a variance from Rule 402 in addition to Rules 203(c) and 203(f) (ammonia nitrogen) of Chapter 3.

The Board is familiar with the problems facing municipal dischargers in meeting phosphorus standards. City of Hoopeston, 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. The Board notes that the Petitioner has adopted an ordinance limiting the amount of phosphates in detergents offered for sale in the Village (Pet. p7).

In those and other cases, the Agency and the Board have recognized that it is economically impractical for the petitioners to comply with the current phosphorus limitation of Chapter 3. In addition, the Agency has petitioned the Board in regulatory proposal R76-1 for appropriate amendments to the phosphorus effluent and water quality standards of the Water Pollution Regulations. If regulatory proposal R76-1 were adopted as proposed, the southeast treatment plant would be required to treat phosphorus to a level of 1.0 mg/l.

In a number of cases involving the ammonia nitrogen requirement, the Board has granted a variance provided that Petitioner agree to comply with the proposed ammonia nitrogen regulatory changes adopted by the Board in R77-61 City of Canton, PCB 77-234 (November 23, 1977); Village of Arthur, PCB 77-266 (December 20, 1977). On March 30, 1978, the Board proposed to adopt a new Rule 402.1 as an exception to Rule 402 of Chapter 3 to establish an interim ammonia nitrogen effluent

limitation for dischargers to streams of this State. On April 14, 1978, this proposed final regulation was submitted to the Secretary of State's Office for a 45-day publication and comment period ending May 29, 1978. Without a variance from Rules 203(f) (ammonia nitrogen) and 402, Petitioner's present discharge from the southeast plant would be required to meet 1.5 mg/l ammonia nitrogen effluent limitation in the summer and 4.0 mg/l winter limitation provided that Petitioner does not cause or contribute to a breach of the ammonia nitrogen water quality standard.

In view of the foregoing, the Board will grant a variance to the southeast plant from Rule 203(f) as it applies to ammonia nitrogen and from Rule 402 for two years or until designed improvements are completed.

Rule 404(f) (BOD<sub>5</sub>/Total Suspended Solids)  
Rules 203(d) and 402 (Dissolved Oxygen)

In this Petition, the Village of Lake Zurich also seeks a variance from the 4 mg/l BOD<sub>5</sub> and the 5 mg/l suspended solids effluent limitations of Rule 404(f). In December, 1972, the southeast treatment facility was granted a "Pfeffer exemption" pursuant to Rule 404(f)(ii) of Chapter 3. On February 24, 1978, the Agency denied Petitioner's extension of the exemption on the grounds that the discharge may contribute to dissolved oxygen water quality violations in the DesPlaines River and the discharge of deoxygenating wastes and phosphorus causes or contributes to water quality violations in the unnamed lake downstream from Petitioner's discharge (Rec. p2, 3).

The Agency points out that predicted data generated by the Northeastern Illinois Planning Commission through a computer simulation indicates that future violations of the dissolved oxygen standard in the upper DesPlaines River may occur even after all point sources are in compliance with existing regulations (Rec. p3, 4).

The Petitioner's request for a variance from Rule 404(f) would permit the southeast plant to discharge at a 10/12 BOD<sub>5</sub>/SS level. Petitioner claims that relief will have no significant impact on fish, aquatic or plant life during the terms of the variance (Pet. p9). The Agency concludes that the proposed expansion will improve the existing quality of the receiving waters (Rec. p4).

In support of this request for relief from the 4/5 deoxygenating waste requirements, the Board will incorporate the Agency justification in its proposal before the Board to delete Rule 404(f) published in Environmental Register #148, dated June 9, 1977. In R77-12 (Docket C), the Agency stated that treatment to 4/5 BOD<sub>5</sub>/SS is beyond the capabilities of

conventional tertiary treatment. In this case, Petitioner has explored alternative methods and has reported no reasonable means of meeting the Rule 404(f) limitation (Pet. p7). The Petitioner, therefore, concludes and the Agency agrees that a requirement to meet the 4/5 regulatory requirements constitutes an arbitrary and unreasonable hardship.

In considering this variance from Rule 404(f) of Chapter 3, the Board agrees that failure to grant the requested relief would impose an unreasonable hardship in view of the pending proceedings in Docket C of R77-12. Petitioner will be granted a variance from Rule 404(f) for two years or until the Board adopts any modification to Rule 404(f) in Docket C of R77-12. While the southeast plant is undergoing facility improvements, Petitioner shall meet the interim limitations of NPDES Permit IL 002320,

It is not the intention of this Board to excuse Petitioner from implementing any reasonable measures designed to improve dissolved oxygen conditions downstream from its discharge. The Board is concerned about the dissolved oxygen problems that apparently will continue to occur in the DesPlaines River system after concerted efforts to improve point-source discharges to these waters. In view of these conditions, the Board finds that a variance from Rule 203(d) dissolved oxygen water quality standard is necessary here. A variance will be granted to Petitioner on the condition that the Village consider all reasonable methods for improving dissolved oxygen levels in its effluent from the southeast plant and in critical downstream areas as described in the Order; Petitioner will also be required to monitor for dissolved oxygen levels in the receiving waters in accordance with the Order.

The Board will direct the Agency to modify Petitioner's NPDES Permit IL 002320 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 Village of Lake Zurich is granted a variance for the operation of its southeast sewage treatment plant from Rules 203(c) and 402 of Chapter 3: Water Pollution of the Board's Rules and Regulations regarding phosphorus until June 8, 1983, subject to the following condition:

- a) This variance will earlier terminate upon adoption by the Board of any modification of the existing phosphorus water quality standards and effluent limitations and the Village shall comply with such revised regulations when adopted by the Board.

2. The Village of Lake Zurich is granted a variance for its southeast sewage treatment plant from Rules 203(f) and 402 of Chapter 3: Water Pollution of the Board's Rules and Regulations regarding ammonia nitrogen until June 8, 1980, or until the southeast facility improvements become operational, whichever occurs first, subject to the following condition:

- a) During the period of this variance, the Village shall operate this treatment plant to achieve the minimum discharge of ammonia nitrogen consistent with the capabilities of the existing equipment and process.

3. The Village of Lake Zurich is granted a variance for its southeast sewage treatment plant from Rule 404(f) of Chapter 3: Water Pollution Regulations until June 8, 1980, subject to the following conditions:

- a) This variance will terminate upon the adoption by the Board of any modification of Rule 404(f) and the southeast plant shall comply with such revised regulations when adopted by the Board.
- b) During the period of this variance, the effluent shall not exceed the interim effluent limitations of its NPDES Permit IL 002320.

4. The Village of Lake Zurich is granted a variance for its southeast sewage treatment plant from Rules 203(d) and 402 of Chapter 3: Water Pollution Regulations until June 8, 1980, subject to the following conditions:

- a) The variance herein granted shall apply only to the general dissolved oxygen standard in Buffalo Creek and the unnamed lake downstream from the southeast discharge.
- b) During the period of this variance, the southeast plant shall implement all reasonable measures to increase dissolved oxygen levels in southeast treatment plant effluent and in the waters downstream from its discharge.

- c) The Village shall monitor and report to the Agency monthly dissolved oxygen levels in Buffalo Creek and in the unnamed lake downstream from the southeast treatment plant discharge at monitoring points as shall be determined by agreement with the Agency.
- d) If dissolved oxygen levels measured at the locations in Buffalo Creek or in the unnamed lake do not exceed the limitations of Rule 203(d) in any consecutive 12-month period further monitoring under 4(d) shall not be required.

5. Petitioner, within 30 days of the date of this Order, shall request Agency modification of NPDES Permit IL 002320 to incorporate all conditions of the variance set forth herein.

6. The Agency, pursuant to Rule 914 of Chapter 3, shall modify NPDES Permit IL 002320 consistent with the conditions set forth in this Order including such interim effluent limitations as may reasonably be achieved through the application of best practicable operation and maintenance practices in the existing facilities.

7. 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 extended during any judicial review of this variance pursuant to Section 31 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 78-89, understand and accept said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

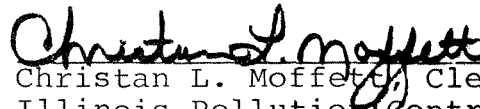
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SIGNED

\_\_\_\_\_  
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 8<sup>th</sup> day of June, 1978 by a vote of 5-0.

  
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Christan L. Moffett, Clerk  
Illinois Pollution Control Board