

ILLINOIS POLLUTION CONTROL BOARD  
November 2, 1978

VILLAGE OF FINDLAY, )  
)  
Petitioner, )  
)  
v. ) PCB 78-222  
)  
ENVIRONMENTAL PROTECTION AGENCY, )  
)  
Respondent. )

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

This matter comes before the Board on a Petition filed by the Village of Findlay on August 16, 1978, for relief from the Rule 203(d) and 402 dissolved oxygen requirements of Chapter 3: Water Pollution Regulations. On September 26, 1978, the Environmental Protection Agency recommended that relief be granted as requested for five years provided that Petitioner adhere to certain conditions. No hearing was held in this matter.

The Village of Findlay requires a variance from the dissolved oxygen requirements of Rules 203(d) and 402 of Chapter 3 before the Agency can approve conventional treatment improvements for Step II and Step III grant funding.

Petitioner owns and operates a factory-fabricated contact stabilization activated sludge unit with chlorination facilities and an aerated grit chamber. The treatment facility presently receives sanitary sewage and storm water drainage from the Village combined sewer system which discharges to an unnamed ditch 2200 feet upstream from Lake Shelbyville. According to Petitioner's discharge monitoring reports, the flow to the plant consistently exceeds the 0.125 MGD design average flow although the facility maintains average BOD5/suspended solids levels of 21 mg/l and 19 mg/l respectively. On April 3, 1976, the Village of Findlay was placed on restricted status based upon a finding that the treatment works was being operated at 145% of its design capacity (Pet. 2, 3, Rec. 3).

Since the USEPA authorized the Agency to administer the federal construction grants program, each applicant is required to present, to the Agency's satisfaction in a Step I Facilities Plan, an evaluation of alternative technologies which may include land treatment or reuse of wastewater. In this regard,

Petitioner submitted two treatment alternatives for upgrading its treatment works. The proposed system using conventional tertiary treatment improvements (Alternative #1) consists of a new sanitary collection system and improvements to the existing wastewater facility including nitrification tertiary filtration, sludge drying beds, a laboratory and control building and a main plant lift station. If denied this variance, the Petitioner could be required to implement Alternative #2. These improvements would include in addition to the new sanitary collection system and a main plant lift station, a secondary lift station, a storage lagoon, an irrigation pumping and a spray system, a subsurface drainage system, chlorination and flow measurement devices. Both alternatives include the necessary interconnecting appurtenances to serve a design population of 1,000 P.E. (Pet. 3, Rec. 4, 5).

To show compliance with the dissolved oxygen requirements of Chapter 3, Petitioner is required to demonstrate that a discharge from the proposed facility using conventional tertiary treatment improvements would not cause or contribute to the reduction of dissolved oxygen levels in the receiving body of water below 5.0 mg/l at any time or less than 6.0 mg/l during 16 hours of any 24-hour day. Additionally, if the dissolved oxygen standards are not achieved in the receiving body, Petitioner would be required to meet the water quality standards as an effluent limitation in accordance with Rules 203(d) and 402 of Chapter 3.

On April 10, 1976, the application of the Village of Findlay for a Pfeffer exemption pursuant to Rule 404(f)(ii) was denied by the Agency. The denial was based not upon a determination that Petitioner's proposed facility improvements in Alternative #1 would violate the Chapter 3 dissolved oxygen standards in the receiving stream or in Lake Shelbyville, but was due to an Agency determination that the modified Streeter-Phelps Equation could not be used for analysis of the effect of the discharge on the receiving waters. Because of the short distance (less than five days travel time) between the Findlay outfall and Lake Shelbyville, the difficulty of predicting the reaeration rate of the lake and other factors, the Village of Findlay is precluded from verifying dissolved oxygen conditions by this relatively simple method. According to the Agency, downstream dissolved oxygen levels could only be evaluated by expensive and time-consuming field studies which the Agency believes would constitute an arbitrary and unreasonable hardship upon the Petitioner (Rec. 4).

The Village of Findlay claims that the Alternative #1 using conventional tertiary treatment technology would significantly reduce the potential for dissolved oxygen depressions

in Lake Shelbyville and cost \$504,000 less than land application technology over the life time of the treatment technology. The Agency substantially agrees with Petitioner's cost assessment but it seriously doubts whether the proposed land application system (Alternative #2) would eliminate a point-source discharge to Lake Shelbyville. According to consulting engineer's report underdrains would be required at least five feet below the surface in Alternative #2 so that the intended use of the ground would not be hindered. Under these circumstances, the Agency believes that the discharge from the underdrain would not consistently meet the BOD<sub>5</sub>/SS requirements of Rule 404(f) and would be required to meet the same standard as conventional treatment technology (Pet. 5, Rec. 5).

The Board is concerned with the dissolved oxygen conditions in Illinois waters especially the problem areas in this State where dissolved oxygen violations will continue to occur despite concerted efforts to improve point source discharges to these waters. In a prior variance proceeding involving the Village of Findlay (PCB 78-16, March 30, 1978), the Board considered Petitioner's evaluation of treatment alternatives including land application through spray irrigation in its grant of relief from the Board's phosphorus requirements. In that proceeding, the Board granted the Village of Findlay relief from the phosphorus requirements of Rules 203(c) and 402. In this matter, the Board finds that Petitioner would suffer unreasonable hardship if required to implement land application treatment technology improvements at its existing facility. A variance will be granted to the Village of Findlay from Rules 203(d) and 402 for five years on the condition that Petitioner's proposed treatment works achieve a concentration of 10 mg/l BOD<sub>5</sub> and 12 mg/l suspended solids effluent quality as a monthly average. Petitioner will also be required to consider all reasonable methods for maintaining high dissolved oxygen levels in the effluent from its facility and maintain an effluent dissolved oxygen concentration of at least 6 mg/l.

The Board will direct the Agency to modify Petitioner's NPDES permit consistent with this Order pursuant to Rule 914 to include interim effluent limitations as may reasonably be achieved through application of best practicable operation and maintenance practices at the existing facility.

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

#### ORDER

1. The Village of Findlay is hereby granted a variance for its wastewater treatment plant from Rules 203(d) and 402 of

Chapter 3: Water Pollution Regulations until October 19, 1983, subject to the following conditions:

- a) Petitioner's proposed treatment works shall be designed and constructed to achieve an effluent limitation not to exceed a concentration of 10 mg/l BOD<sub>5</sub> and 12 mg/l suspended solids as a monthly average.
- b) Petitioner's proposed treatment works shall maintain an effluent dissolved oxygen concentration of at least 6 mg/l in its discharge to the unnamed ditch tributary to Lake Shelbyville.
- c) Petitioner shall monitor and report to the Agency semi-annually the dissolved oxygen levels in the unnamed ditch at monitoring points in accordance with methods and frequency as determined by agreement with the Agency.

2. Petitioner shall continue to pursue grant funding and meet all applicable grant schedule requirements.

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

4. The Agency, pursuant to Rule 914 of Chapter 3, shall modify NPDES permit 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.

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 suspended 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 78-222, understand and accept said Order, realizing that such

acceptance renders all terms and conditions thereto binding and enforceable.

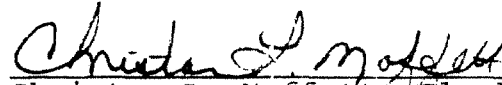
\_\_\_\_\_  
SIGNED

\_\_\_\_\_  
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 2<sup>ND</sup> day of November, 1978 by a vote of 4-0.



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Christan L. Moffett, Clerk  
Illinois Pollution Control Board