

ILLINOIS POLLUTION CONTROL BOARD  
August 24, 1978

VILLAGE OF FISHER, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 78-162  
 )  
 ENVIRONMENTAL PROTECTION AGENCY, )  
 )  
 Respondent. )

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

This matter comes before the Board on an Amended Petition filed on June 19, 1978, by the Village of Fisher for a five-year variance from the total iron, the total dissolved solids (TDS) and the chloride water quality standards of Rule 203(f) and Rule 402 in Chapter 3: Water Pollution Rules and Regulations. On July 28, 1978, the Environmental Protection Agency filed its Recommendation in favor of a variance from the TDS and the chloride water quality standards; however, the Agency recommended relief not be granted from the total iron standard because Petitioner may meet this requirement using conventional water treatment technology. No hearing was held in this matter; hearing was waived in the Amended Petition.

The Village of Fisher, Champaign County, Illinois, owns and operates a municipal water treatment plant and a sewage treatment plant serving a population of 1780. The municipal treatment plant consists of a modified activated sludge package plant tributary to a 5-day retention lagoon with a design capacity of 0.151 MGD which discharges to an intermittent stream known as Owl Creek upstream from the Sangamon River and Lake Decatur. The wastes which cause the water quality problem for which variance is sought originate at the municipal water treatment plant, particularly its iron removal and its ion-exchange softening treatment processes. Before discharging to the Fisher STP, the water treatment wastes are aerated and filtered for iron removal and treated to remove calcium and magnesium, but this treatment and the conventional package sewage plant process fall short of removing salt concentrations to meet the applicable water quality standards in Owl Creek (Pet. 1, 2, 3).

As mandated by Rule 203(f) of Chapter 3, effluent from Petitioner's sewage treatment plant may not exceed concentrations of 1.0 mg/l total iron, 500 mg/l chloride and 1000 mg/l total dissolved solids (TDS). In addition, where downstream water quality standards will continually be violated, the Village of

Fisher is required to meet the water quality standards as an effluent limitation unless Petitioner is granted a variance from Rule 402 in addition to the applicable provisions of Rule 203(f).

Under existing conditions in the Village of Fisher, Petitioner claims that it could not meet these requirements unless the discharge from the municipal water plant were discontinued or diverted elsewhere. At present, Petitioner has proposed a facilities plan to upgrade and expand the present water plant. Anticipated improvements consist of installing an "Aeralator," a package iron removal system incorporating an induced draft aerator, a small holding tank and a four-celled coal-media filter followed by three ion-exchange softeners. Wastes from these processes are designed to be held in a 48-hour detention tank for discharge at a constant rate to the municipal sewage treatment plant. Upon completion, Petitioner contends that the effluent quality from the Fisher STP is expected to achieve maximum 30-day averages of 2.7, 521 and 1261 mg/l for total iron chloride and TDS concentrations respectively (Pet. 2, 3, 4).

Petitioner states that to require further improvement on these projected effluent quality figures would impose an arbitrary and unreasonable hardship. In support of this position, Petitioner has submitted figures which indicate that the Village's salt contributions to the downstream watercourse will be minimal. At 1978 operational levels, Petitioner's maximum daily discharge is estimated to be 3.9, 705 and 1666 pounds per day for total iron, chloride and TDS as compared to 368, 16,373 and 176,007 pounds per day mean dry weights of the respective salts in the Sangamon River upstream from Lake Decatur. Further reductions in chloride or TDS concentrations at Fisher would involve reverse osmosis or evaporation to concentrate the brine waste prior to landfill disposal or by hauling the unconcentrated filter backwash and brine wastes to a landfill; the Petitioner states that the costs of such alternatives are prohibitive for this and other small water treatment operations (Pet. 4, 5, 6).

The Agency supports Petitioner's contribution analysis and cost assessment of brine waste control technology; however, the Agency also notes that Petitioner has made no provision for iron removal at its proposed water treatment facility. The Agency claims that Petitioner could employ slow sand filters for removal of iron from the water plant's filter backwash to bring the sewage treatment plant into compliance with the total iron water quality standard of Chapter 3.

In similar cases, the Board has required small communities to employ slow sand filters for iron removal prior to discharge. Village of Potomac, PCB 77-224, 19 PCB 224, City of Leroy, PCB 74-231, 14 PCB 609. In this matter, we find nothing to persuade us that this technology cannot be implemented by Fisher.

The Board finds that it would be an arbitrary and unreasonable hardship to require that Petitioner meet the chloride and TDS water quality standard and will, therefore, grant a 5-year variance from these requirements in Rule 203(f) and Rule 402 to Petitioner's sewage treatment plant. Petitioner will also be granted a variance from the total iron requirements of Rules 203(f) and 402 for one year or until Petitioner's proposed water treatment facility becomes operational, whichever occurs first.

The Board will direct the Agency to modify Petitioner's NPDES permit 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 Fisher is granted a variance for the operation of its sewage treatment plant from Rules 203(f) and 402 of Chapter 3: Water Pollution Rules and Regulations regarding chloride and total dissolved solids until August 24, 1983, subject to the following conditions:

- a) During the period of this variance, the Village shall operate its sewage and water treatment plant to achieve the minimum discharge of chloride and total dissolved solids consistent with the capabilities of existing equipment and process.
- b) The Village shall also submit annual reports to the Environmental Protection Agency on its efforts to discover new, more cost-effective means of treating brine wastes generated by its ion-exchange softening units.

2. The Village of Fisher is granted a variance for the operation of its sewage treatment plant from Rules 203(f) and 402 of Chapter 3: Water Pollution Rules and Regulations regarding total iron until August 24, 1979, or until the facility improvements at its water treatment plant become operational, whichever occurs first, subject to the following conditions:

- a) During the period of this variance, the Village shall operate its sewage and water treatment plant to achieve minimum discharge of total iron consistent with the capabilities of existing equipment and process.
- b) The Village shall also provide means for removing the total iron from its filter backwash water generated at its water treatment plant.

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

4. The Agency pursuant to Rule 914 of Chapter 3 shall modify the Petitioner's NPDES permit 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 78-162, 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.

Mr. Goodman abstained.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 24<sup>th</sup> day of August, 1978 by a vote of 4-0.

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