

ILLINOIS POLLUTION CONTROL BOARD
February 5, 1987

BLOOMINGTON AND NORMAL)
SANITARY DISTRICT,)
)
Petitioner,)
)
v.) PCB 86-202
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by R. C. Flemal):

This matter comes before the Board upon a petition for variance filed by the Bloomington and Normal Sanitary District ("District") on November 17, 1986. The District seeks one-year variance relief from the effluent limitations of 35 Ill. Adm. Code Section 304.120(c), and from 35 Ill. Adm. Code Section 304.141(a) as this latter section relates to biochemical oxygen demand ("BOD") and suspended solids ("TSS").

Section 304.120(c) sets BOD and TSS limitations of 10 mg/l and 12 mg/l, respectively. Section 304.141(a) establishes that no holder of an NPDES permit may discharge any contaminant in excess of the limitations set forth in the permit. The District's NPDES permit (#IL0027731) provides, among other matters, that its wastewater treatment facilities must meet tertiary effluent concentration limits of 10 mg/l BOD and 12 mg/l TSS as a monthly average and 15 mg/l BOD and 18 mg/l TSS as a 7-day maximum, plus load limits. For the period of variance the District proposes that both BOD and TSS be limited to 25 mg/l, as monthly averages.

On December 2, 1987, the Illinois Environmental Protection Agency ("Agency") filed its Recommendation ("Rec.") in this matter. The Agency recommends that variance be granted from Section 304.120(c). On February 2, 1987, the Agency filed a motion to amend its Recommendation and to file the amendment Instanter. The Agency states that it inadvertently failed to recommend that the District also be granted variance from Section 304.141(a), and that it "would have recommended variance from Section 304.141(a) in its Recommendation but for the oversight". The Board grants the Agency's motion to file the amendment to Recommendation Instanter.

By letter to the Board filed on January 7, 1987, the District noted the absence of need for a hearing in this matter, the positive Agency recommendation, and the expiration of the provisional variance under which the District has conducted reconstructive work to date. The District therefore requested

that this "matter be put on the Board's agenda for a decision at the earliest practicable date". In the same letter the District notes that it has no objections to the conditions suggested by the Agency.

REASON FOR REQUEST

Petitioner is a special purpose district which provides sewage treatment for the City of Bloomington and the Town of Normal. The total population served is approximately 85,000. Treatment is provided at three treatment plants, located at a single site, which have a combined design average flow of 16 million gallons per day. The oldest plant is a fixed nozzle trickling filter plant, and the other two employ the activated sludge process. Each of the three plants provide independent secondary treatment. The effluent from the three is then combined for tertiary filtration and disinfection. Discharge of the resultant effluent is to Sugar Creek, tributary to Salt Creek, tributary to the Sangamon River.

The District is asking for one year variance to allow it to bypass its tertiary filters while it repairs and rebuilds them. Although only approximately six years old, the tertiary filters are failing structurally. Damage, which occurs during backwashing operations, is apparently related to improper anchoring of the filters and insufficient structural integrity of the underlying floor. This is causing the filters to pull away from their anchors.

The District became aware of the problem, although not necessarily the magnitude of the corrective effort, during 1985. At that time the District, while undertaking piping modifications near the filters, noted considerable media loss, a symptom of the failing filter bottoms. The District subsequently sought and obtained two provisional variances¹, during the pendency of which the District was able to remove the filters from service and begin to evaluate both damages and corrective measures. The District's consulting structural engineers have completed an inspection of two cells and have conducted pull-out testing of floor anchors throughout the filter system. On this basis the engineers have concluded that the present anchors, as installed, cannot withstand the uplift pressure developed during backwashing and air scouring and that the media floor and the anchoring system will have to be rebuilt.

While the filters are out of service, the District will be unable to meet the BOD and TSS limits contained in the Board's

¹ The variances in question were in PCB 86-116 and PCB 86-156, granted respectively on July 31, 1986, and September 25, 1986. Both variances were for a period of 45 days.

regulations and in the District's NPDES permit. The District contends, however, that it will be able to limit its effluent to 25 mg/l for both parameters, averaged over its three plants, during the time the filters are out of operation.

COMPLIANCE SCHEDULE

Petitioner presents a nineteen-point compliance schedule for rebuilding and modifying its tertiary filters. Some of the items in the schedule consist of activities undertaken and completed during the pendency of the prior provisional variances. Approximately eight items remain. In the full, the compliance schedule is:

	<u>COMPLETION</u>
1. Issue Request for proposals for investigation	June 2, 1986
2. Receive proposals	June 24, 1986
3. Approve proposal and issue notice to proceed	July 8, 1986
4. Investigation begins	July 23, 1986
5. Consultant notifies District of possible anchor problems	Aug. 8, 1986
6. Submit draft investigation report	Oct. 31, 1986
7. Submit final investigation report	Nov. 5, 1986
8. Issue request for proposals for operational investigation	Nov. 5, 1986
9. Approve engineering design proposal for structural repairs	Nov. 10, 1986
10. Receive proposals for operational investigation	Nov. 26, 1986
11. Approve proposal for operational investigation and issue notice to proceed	Dec. 19, 1986
12. Receive final operational investigation report	Feb. 27, 1987
13. Issue Notice to Proceed for design work (operational and structural)	March 9, 1987
14. Complete design work*	April 27, 1987

- 15. Approve plans and issue notice to bidders May 11, 1987
- 16. Receive bids June 2, 1987
- 17. Approve bid and issue notice to proceed for construction June 8, 1987
- 18. Complete construction Oct. 30, 1987
- 19. Become fully operational Nov. 4, 1987

*Construction permit may be required at this point.

The Agency concludes that the District compliance schedule "appears to be reasonable, and that there does not appear to be any alternative method either to keep the facility in compliance with effluent limitations or to return it to compliance" (Rec., p. 4). However, the Agency believes that the compliance schedule is unduly tight, and notes that the Agency feels it may be advisable to allow Petitioner an additional two months to account for unforeseen delays which may occur. The Agency accordingly recommends that the variance terminate on December 31, 1987, and that a condition be imposed on the variance that "in no event shall Petitioner miss any compliance milestone by more than 60 days (Rec., p. 5), with exception only for the final date.

ENVIRONMENTAL IMPACT

During the period of the provisional variances the District reported the following effluent quality on its Discharge Monitoring Reports, as filed with the Agency:

<u>Date</u>	<u>Average Flow MGD</u>	<u>Average BOD mg/l</u>	<u>Average TSS mg/l</u>
08/86	11.84	16	13.3
09/86	15.68	17	16
10/86	20.00	14	17

The District has therefore been meeting the 25 mg/l limitations for both BOD and TSS provided for in the provisional variances. Petitioner contends that these are representative data for operation in the absence of the tertiary filters, and therefore are realistic approximations of the quality of effluent which would be produced during the period of the variance.

The District has also presented fish monitoring data from three sites located 600 yards, 2 miles, and 4 miles downstream from the plant outfall (see table below). Results from 1985 and early 1986, when the filters were in operation, are comparable to results obtained during later 1986 when the filters were not in

operation. On this basis, the Agency concludes that there has been no adverse environmental impact related to absence of tertiary filtration during the period of the provisional variances.

NUMBER OF FISH SPECIES FOUND IN SUGAR CREEK

<u>Distance Downstream of STP</u>	<u>1985 (Tertiary Treatment)</u>	<u>1986 Pre-Filter Removal (Tertiary Treatment)</u>	<u>1986 Post Filter Removal (Secondary Treatment)</u>
600 yds.	7	10	7
2 miles	19	16	18
4 miles	24	22	25
# Samplings	6	3	5

The District also conducts water quality monitoring at the same three downstream stations. The District has presented (Pet., p. 7) data for dissolved oxygen ("DO") and in-stream BOD for August, September, and the first half of October, 1986, when the filters were not in service, and for the corresponding periods in 1985 when the filters were in service. The DO data display no differences other than those which might be attributable to normal monthly and seasonal variation; the 1986 data without filtration are, in fact, generally higher than the 1985 data with filtration. The in-stream BOD data are generally higher for the 1986 data, but only marginally so.

The District intends, during the pendency of the requested variance, to continue water quality monitoring not only at the three cited stations, but at the full 14-station network it currently operates. The District also intends to continue monitoring at its 20-station biological monitoring network. The District thus contends that it will be able to recognize any changes in water quality and/or biological integrity which might occur during the period of the variance.

HARDSHIP

The District contends that it is technically impossible to comply with existing regulations while the filters are being rebuilt. The Agency concurs that Petitioner's hardship is one of technical feasibility. The Agency also notes that the District has identified the most cost-effective method of returning the plant to compliance (i.e., repairing the filters), and that to do so the District needs the time provided by a variance.

It is also the Agency's view that the District has been making a good faith effort to repair the filters as quickly as possible, and that a full corrective program could be pursued only after discovery of the full nature of the problem.

CONCLUSION

Based on the foregoing, the Board finds that denial of the relief requested by Petitioner would constitute an arbitrary or unreasonable hardship not justified by the minimal environmental impact presented in this case. The Board will therefore grant the variance, subject to conditions as requested by Petitioner and the Agency. Variance is scheduled to begin November 5, 1986, the date upon which the most recent provisional variance terminated.

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

ORDER

The Bloomington and Normal Sanitary District is hereby granted variance from 35 Ill. Adm. Code 304.121(c), and from 35 Ill. Adm. Code 304.141(a) as it relates to biochemical oxygen demand and suspended solids, subject to the following conditions:

1. Variance shall begin November 5, 1986.
2. Variance shall expire on December 31, 1987, or upon return of the tertiary filters to service, whichever occurs first.
3. Petitioner shall comply with the compliance schedule, as contained within the attached Opinion, as closely as possible, and in no event shall Petitioner miss any compliance date by more than 60 days, except for item 19 which shall be completed by December 31, 1987.
4. Petitioner shall provide progress reports on the status of the repair of the filters. Progress reports shall be submitted with the March, June, and September Discharge Monitoring Reports.
5. During the period of the variance the effluent shall be limited to 25 mg/l BOD and 25 mg/l TSS, measured as a weighted monthly average of the three effluents
6. Petitioner shall continue to monitor its effluent as stated in its NPDES permit.
7. Petitioner shall continue its biomonitoring program and report on its findings to the Agency with the December, 1987, DMR.
8. Petitioner shall continue to operate the rest of its treatment facilities as efficiently as possible so as to produce the best effluent possible.

9. Petitioner shall notify Pat Lindsey of the Agency's Compliance Assurance Section by telephone at 217/782-9720 when the tertiary filters are returned to service. Written confirmation of the telephone notification shall be submitted within five days to the Agency at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 61794-9276

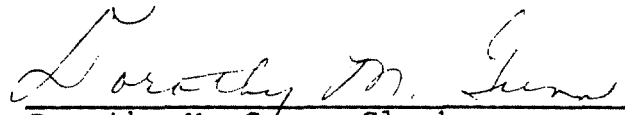
Attention: Pat Lindsey

10. Within 45 days of the date of the Board's Order, the Petitioner shall execute a certificate of acceptance and agreement, which shall be sent to Mr. James Frost of the Agency at the following address:

Mr. James Frost
Illinois Environmental Protection Agency
Division of Water Pollution Control
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 5th day of February, 1987, by a vote of 6-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board