

ILLINOIS POLLUTION CONTROL BOARD
September 25, 1986

BLOOMINGTON AND NORMAL SANITARY)
DISTRICT,)
)
Petitioner,)
)
v.) PCB 86-156
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by J. D. Dumelle):

This provisional variance extension request comes before the Board upon a September 25, 1986 Recommendation of the Illinois Environmental Protection Agency (Agency). On July 31, 1986, the Board granted the Petitioner a 45-day provisional variance in PCB 86-116 from 35 Ill. Adm. Code 304.120(c) and 35 Ill. Adm. Code 304.141(a) to allow the Bloomington and Normal Sanitary District to exceed its NPDES Permit effluent biochemical oxygen demand (BOD) and total suspended solids (TSS) limits during the time period that the tertiary filters are bypassed while the filters are out of service for structural inspection and repair. (See: Opinion and Order of July 31, 1986 in PCB 86-116, Bloomington and Normal Sanitary District v. IEPA). The Agency recommends that a 45-day extension of the prior variance in PCB 86-116 be granted to the Petitioner.

The Bloomington and Normal Sanitary District was previously granted a provisional variance in PCB 85-34 on March 22, 1985 to allow the rebuilding and replacement of the tertiary filters' media and to allow the construction of some piping changes around the filters. (See: Opinion and Order of March 22, 1985 in PCB 85-34, Bloomington-Normal Sanitary District v. IEPA). However, the Petitioner has not yet completely rebuilt and replaced the media of its tertiary filters because of unanticipated wastewater treatment plant operating constraints. (Rec. 1).

The Bloomington and Normal Sanitary District, which serves approximately 85,000 residents in a 25 square mile area, owns and operates three wastewater treatment facilities. Preliminary, primary, and secondary treatment are provided by each of these three wastewater facilities before their secondary effluents are combined for tertiary treatment and disinfection. (Rec. 1). Additionally, each facility has the capacity to disinfect its

secondary effluent individually if necessary. These three facilities have a total design average flow of 16.0 million gallons per day (mgd). Effluent from the Petitioner's wastewater treatment facilities is discharged to Sugar Creek, tributary to Salt Creek, the Sangamon River, and the Illinois River. (Rec. 1).

The Petitioner's NPDES Permit #IL0027731 provides that its wastewater treatment facilities must meet tertiary effluent concentration limits of 10 milligrams per liter (mg/l) biochemical oxygen demand and 12 mg/l total suspended solids as a monthly average and 15 mg/l BOD and 18 mg/l TSS as a 7-day maximum average plus associated loadings limits.

However, the Petitioner has asked for effluent limitations of 25 mg/l for both BOD and TSS as 30 day averages during the requested 45-day provisional variance extension period.

As previously indicated in PCB 86-116, the sanitary district has recently been contending with severe structural problems associated with the support floor of the tertiary filter media. In one of the 16 cells, the cell floor has "blown up" during backwash, thereby pulling out the anchors and cracking some of the media support plates. Additionally, substantial movement of the floor in other cells has occurred during backwash. (Rec. 2).

In an attempt to rectify the structural problems which have been encountered, the Petitioner removed the tertiary filter from service on August 5, 1986. However, because of the lack of structural integrity of the floor and anchoring system, the tertiary filter cannot now be placed back into service. According to the Petitioner's chief engineer, the problem is more widespread than originally believed and the sanitary district may need to seek a full variance after the proposed provisional variance extension in order for the filter to be rebuilt. (Pet. 2).

There are 1328 concrete slabs (each weighing about 200 pounds) in the filter containing 23,840 nozzles. To allow further examination of the sub-floor and anchoring system, the Petitioner has removed about 40 of the 1328 two-hundred pound floor slabs so far. Because of the lack of availability of an appropriate hoist in central Illinois, a delay in the removal of these slabs occurred. Even before the 40 slabs were removed, the Petitioner had to remove about 840 nozzles. (Pet. 1-2).

The Petitioner's structural consulting engineers are currently in the process of making a more comprehensive structural inspection of the two cells which initially failed and are performing pull-out testing on floor anchors throughout the filter. (Pet. 1; Rec. 2). Accordingly, the sanitary district is requesting a 45 day extension of its prior provisional variance

in PCB 86-116 in order to complete the comprehensive structural inspection and determine the appropriate solution to its engineering problems. (Pet. 1; Rec. 2).

In Table 1 of its variance extension petition, the sanitary district has delineated secondary effluent data obtained during the provisional variance granted in PCB 86-116 as follows:

BLOOMINGTON AND NORMAL SANITARY DISTRICT

TABLE I

AUGUST 5-31, 1986

SECONDARY TREATMENT *

FLOW	11.84 Million Gallons Per Day (Average) 17.31 Million Gallons Per Day (Maximum)
BOD *	16 mg/l Monthly Average Concentration 87.8% Monthly Average Removal Efficiency
SUSPENDED SOLIDS *	13.3 mg/l Monthly Average Concentration 90.5% Monthly Average Removal Efficiency

* Values presented in Table represent flow proportioned weighted averaging of all 3 plants.

PCB 86-116 Variance Monthly Average Effluent Limits	BOD 25 mg/l SS 25 mg/l
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(Pet. 3).

Similarly, Table II provides the following information:

BLOOMINGTON AND NORMAL SANITARY DISTRICT

TABLE II

AUGUST, 1986

SECONDARY TREATMENT
INDIVIDUAL PLANTS

FLOW	Plant No. 1	6.4 Million Gals Per Day (Average)
	Plant No. 2	1.7 Million Gals Per Day (Average)
	Plant No. 3	3.8 Million Gals Per Day (Average)
BOD	Plant No. 1	20.5 mg/1 Monthly Average Concentration
	Plant No. 2	4.9 mg/1 Monthly Average Concentration
	Plant No. 3	3.3 mg/1 Monthly Average Concentration
SUSPENDED SOLIDS	Plant No. 1	19.0 mg/1 Monthly Average Concentration
	Plant No. 2	4.3 mg/1 Monthly Average Concentration
	Plant No. 3	5.7 mg/1 Monthly Average Concentration

(Pet. 4).

The Agency believes that the data in Tables I and II indicates that the Petitioner will generally be able to meet the requested effluent limitations without the tertiary filters during the time period that structural inspections and repairs are being completed. (Rec. 2).

The Petitioner believes that, at the present time, there is no practical alternative to removing the tertiary filters from service in order to properly evaluate and correct the media support floor problem. (Rec. 2).

The Agency has also indicated that, in view of the need to remove the tertiary filters from service in order to resolve the media support floor problem, it "agrees with Petitioner's assessment of the alternatives". (Rec. 2).

The sanitary district has stressed that it anticipates no adverse environmental impact on the receiving stream during the time period of the requested provisional variance extension.

The Agency agrees with the Petitioner's environmental assessment and believes that "the expected environmental impact will be minimal because disinfected secondary effluent will be discharged". (Rec. 3). Additionally, the Agency thinks that any potentially adverse environmental impact can be readily detected, and treatment operations appropriately modified by the Petitioner as capabilities allow, because the sanitary district "has established its own water quality and biological monitoring stations downstream of its discharge". (Rec. 3).

The Petitioner has claimed that denial of its requested provisional variance would cause an arbitrary or unreasonable hardship. The Agency agrees with the Petitioner's contention in regard to such hardship and has indicated that denial of the requested relief would place an arbitrary or unreasonable hardship on the sanitary district because the Petitioner is expending substantial funds and is striving in good faith to correct the problems and "has demonstrated via past data that it has the capability to produce good secondary effluent while the tertiary filters are out of service". (Rec. 2).

Accordingly, the Agency has concluded that compliance on a short-term basis with the provisions of 35 Ill. Adm. Code 304.120(c) and 304.141(a) would impose an arbitrary or unreasonable hardship upon the Petitioner. The Agency has stated that there are no Federal regulations which would preclude the granting of the requested relief and there are no downstream public water supplies which would be adversely affected by the granting of the provisional variance. Therefore, the Agency recommends that the Board grant the Bloomington and Normal Sanitary District a 45-day extension of the previously granted provisional variance from Sections 304.120(c) and 304.141(a) for a period of 45 days, subject to certain conditions.

Pursuant to Section 36(c) of the Illinois Environmental Protection Act, the Board hereby grants the provisional variance as recommended.

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

ORDER

The Petitioner, the Bloomington and Normal Sanitary District, is hereby granted a 45-day extension of its provisional variance from 35 Ill. Adm. Code 304.120(c) and 35 Ill. Adm. Code 304.141(a), subject to the following conditions:

1. This provisional variance extension shall begin on September 20, 1986 and shall continue for 45 days, or until the tertiary filters are returned to service, whichever occurs first.

2. Effluent shall be limited to 25 mg/l weighted average of the three secondary effluents for both BOD and TSS as monthly averages. Effluent shall be sampled by the Petitioner according to NPDES Permit #IL0027731 as to frequency and sample type. Analysis results shall be submitted to the Agency on the monthly discharge monitoring report as 30 day averages.
3. The Petitioner shall notify Pat Lindsey of the Agency's Compliance Assurance Section via telephone at 217/782-9720 when the tertiary filters are returned to service. Written confirmation of each telephone notification shall be submitted within 5 days to the Agency at the address given below:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
2200 Churchill Road
Springfield, Illinois 62706
Attention: Pat Lindsey
4. The Petitioner shall keep the Agency apprised of the tertiary filter situation, especially concerning necessary corrective measures and estimated time frames to implement and complete them.
5. If the Petitioner is unable to return the tertiary filters to service prior to the end of this provisional variance extension, the Petitioner shall file for a standard variance prior to the expiration of this provisional variance extension.
6. The replacement and rebuilding of the tertiary filter media shall be included as part of the final scheme for returning the tertiary filters to service.
7. The Petitioner shall operate the remainder of the three treatment facilities so as to produce the best effluent possible.
8. Within 10 days of the date of the Board's Order, the Petitioner shall execute a Certification 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
Springfield, Illinois 62706

This certification shall have the following form:

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 86-156 dated September 25, 1986, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

Petitioner

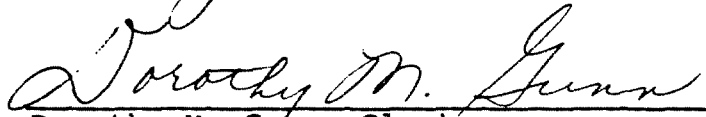
By: Authorized Agent

Title

Date

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 25th day of September, 1986 by a vote of 6-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board