

ILLINOIS POLLUTION CONTROL BOARD
December 16, 1982

CITY OF WEST FRANKFORT,)
)
) Petitioner,)
)
) v.) PCB 82-117
)
) ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent.)

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

This matter comes before the Board upon a September 20, 1982 petition for variance filed by the City of West Frankfort (City). The City requests variance from the ammonia nitrogen effluent and water quality standards of Sections 302.212 and 304.301 and the biochemical oxygen demand (BOD₅) and total suspended solids (TSS) effluent limitations of Section 304.120(c) of 35 Ill. Adm. Code, Subtitle C: Water Pollution. The City requests this relief for a period of approximately four months, from May to September of 1983. The Illinois Environmental Protection Agency (Agency) filed its Recommendation along with a motion to file instant on November 23, 1982, which motion is hereby granted. Hearing was properly waived and none was held.

The City owns and operates a trickling filter wastewater treatment plant (WTP) located in Franklin County and rated at 1.4 million gallons per day. The WTP provides tertiary treatment by an aerated lagoon which discharges to the Middle Fork of the Big Muddy River. Pursuant to its NPDES Permit No. IL0031704 it is allowed to discharge 10 mg/l BOD₅, 12 mg/l TSS and ammonia nitrogen as specified in old Rule 203(f) of Chapter 3 as long as the water quality standard is not exceeded.

The City's discharge, according to daily monitoring reports, marginally exceeds the BOD₅ and TSS limitations while it greatly exceeds ammonia nitrogen standards. Apparently, the reason for the violations is that the large deposition of solids in the polishing lagoon (2.7 million gallons) which are aerobically fermenting cause deamination of organic matter with a resultant increase in ammonia nitrogen levels. Further, resuspension of suspended solids and organic matter into overflows to the chlorination basin result in increased TSS and BOD₅ concentrations. This large deposition of solids was caused prematurely by the bypassing of all flows to the aerated lagoon during the 3 year construction period of the plant (1970-1973).

The purpose of this variance is to allow for the removal of settled solids from the tertiary polishing lagoon which will necessitate the bypassing of the lagoon during removal. While the discharge quality during bypassing should remain slightly better than secondary effluent, NPDES and Board standards will be exceeded.

The Agency recommends that the variance be granted subject to certain conditions to allow the solids removal in order to determine whether the City's WTP is capable of meeting present standards. The only other alternatives would be to require the City to incur further upgrading costs for other tertiary treatment systems or the dredging of the lagoon while keeping it in service. The former, absent a showing that the proposed method will not work, is unreasonably expensive, while the latter might result in enormous effluent excursions due to resuspension during dredging. If the dredge were shut down during storms it would cost \$1,000 to \$1,500 per day, thus increasing the costs beyond the recommended method.

Since the WTP's effluent may well improve during bypassing, the Board finds that little or no environmental harm should occur during the period of variance, that denial of variance would constitute an arbitrary or unreasonable hardship, and, therefore, that variance should be granted.

While the record could be somewhat more fully developed, the conditions recommended by the Agency appear reasonable and have not been objected to by the City. The Board will, therefore, impose those conditions. The Board notes, however, that those conditions do not recognize that the ammonia nitrogen rules have been changed and that an alternative standard became effective September 7, 1982, whereby up to 15 mg/l ammonia nitrogen is allowable if the un-ionized ammonia concentration does not exceed 0.04 mg/l (Section 302.212). Thus it is possible that a variance for ammonia nitrogen is unnecessary. However, this seems unlikely and the Board will follow the recommendation. Further, the recommended limitations are not specified as monthly or daily averages or as a grab sample maximum. Data presented indicates that the relief requested requires these to be monthly averages, and the Board has so modified the recommended limitations.

Finally, no explanation is given for the Agency's conclusion that solids deposits, most of which have been in the lagoon for ten years or more, continue to cause ammonia nitrogen increases. Such a situation seems unusual. However, in the absence of any better explanation for the increase in ammonia nitrogen concentration in the polishing pond, the Board agrees that the solids removal is appropriate, especially since they could clearly impact the other pollutants.

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

ORDER

The City of West Frankfort is hereby granted a variance from the ammonia nitrogen limitations of Sections 302.212 and 304.301 and the BOD₅/TSS limitations of Section 304.120(c) subject to the following conditions:

1. This variance shall expire on September 1, 1983.
2. The City's effluent shall not exceed a BOD₅/TSS limit of 20/25 mg/l or an ammonia nitrogen limit⁵ of 15 mg/l as a monthly average.
3. The City shall install a bypass around the aerated lagoon by January 1, 1983.
4. The City shall sample both the aerated lagoon influent and effluent and discharge from the point with the best quality of wastewater.
5. Within forty-five days of the date of this Order, the City shall execute and forward to the Illinois Environmental Protection Agency, Division of Water Pollution Control, Compliance Assurance Section, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the certificate shall be as follows:

CERTIFICATE

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 82-117, dated December 16, 1982, 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, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 16th day of September, 1982 by a vote of 5-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board