

ILLINOIS POLLUTION CONTROL BOARD
August 1, 1985

CITY OF STREATOR,)
)
 Petitioner,)
)
 v.) PCB 84-181
)
 ILLINOIS ENVIRONMENTAL)
 PROTECTION AGENCY,)
)
 Respondent.)

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

This matter comes before the Board upon a petition filed December 19, 1984, by the City of Streator ("Streator") for variance from 35 Ill. Adm. Code 302.209 and 304.121 to allow discharge of final effluent containing fecal coliform bacteria in excess of the standard. The Illinois Environmental Protection Agency ("Agency") filed a response to Petitioner's request on January 21, 1985, in which it recommends that the variance be granted, subject to conditions.

Citizen response to Streator's request has been large. The board received 50 individual letters, all in opposition to granting the variance. Citizen concerns focus mainly on the impact of the Streator discharge on water quality in the Vermilion (north) River below the Streator outfall*. Many citizens point out the high level of recreational use, particularly canoeing and fishing, made of this reach of the Vermilion and express concern about perceived poor water quality or about degradation of existing water quality.

Pursuant to citizen requests and Board regulations, Streator's petition was set for public hearing; hearing was duly held on March 22, 1985, at the Streator City Hall. In addition to representatives of Streator and the Agency, the hearing was attended by several members of the public, who reiterated concern

*At least some of the public concern over the proposed variance appears to have been occasioned by the incorrect belief that its granting would permit the dumping of "raw sewage" in the river, in as much as this phrase appears regularly in the letters. To the extent that this misinterpretation may still exist, the Board notes that the petition is not to allow dumping of untreated raw sewage, but to allow discharge of effluent which has received primary and secondary treatment in Streator's plant to meet other applicable effluent standards but which has not received a "dose" of chlorine immediately prior to discharge into the river. Streator has never chlorinated its final effluent.

about water quality in the Vermilion (north) River.

The City of Streator owns and operates a wastewater collection and treatment system, which includes a network of sanitary sewers, large combined interceptors, and four pump stations. The treatment plant, constructed in 1954, is a conventional activated sludge plant consisting of grit removal, primary clarifiers, activated sludge units, and secondary clarifiers. The plant was constructed without facilities for disinfection, and continues to discharge its treated, but not disinfected, effluent directly to the Vermilion (north) River. Streator originally developed plans for a chlorination facility in August 1974. These plans were initially held in abeyance due to lack of construction funds and later due to concerns related to Board action in R77-12(D).

Streator asserts that during all of 1983 and the first 10 months of 1984 its treatment plant processed an average of 2.10 mgd of wastewater, with a flow in the average day in the maximum month of 2.978 mgd and the average day in the minimum month of 1.477 mgd. The maximum flow recorded during the period was 5.40 mgd. Streator further asserts that the final effluent averaged 11 mg/l of 5-day BOD and 9 mg/l of suspended solids (TSS). The Agency is in general concurrence with the latter figures, indicating BOD and TSS 30-day average concentrations for the first nine months of 1984 at 12.0 mg/l and 8.5 mg/l respectively. These concentrations are within limits specified in the NPDES permit currently held by Streator.

In the more pertinent matter of fecal coliform counts on the treated effluent, the record is substantially poorer. Petitioner only offers that "Past analytical testing for fecal coliforms has been rather infrequent, however, past counts have ranged from 150,000 to 2,000,000 per 100 ml" (Petition, p. 2). The Agency offers no additional effluent fecal coliform data, but rather takes note of "the lack of data on fecal coliform levels in the discharge" (Agency Recommendation, 4), and concludes that "It is obvious that the excessive levels of fecal coliform referred to in the petition are attributable to the lack of chlorination" (Agency Recommendation, 5).

Petitioner offers no evidence in the record regarding environmental impact other than the contentions that downstream from the treatment plant the river passes through undeveloped land with houses removed an average of 1/4 mile from the river bank, that the stream is not used for swimming, is used for fishing only "to a minor extent", and is used "by an occasional canoeist during high water periods"* when "the dilution afforded

*The apparent differences in perception of the degree of recreational use made of the Vermilion (north) River on the part of Streator and the public as expressed in the citizen letters stems at least in part from differences in the reach of river (continued)

by the Vermilion (north) River makes the plant discharge rather insignificant" (Petition, p. 3). Streator also asserts that no complaints have been received by city officials relative to water pollution downstream from the plant outfall. The Agency Recommendation notes that, based on citizen comments received by the Agency, "the water quality of the river for general purposes is apparently quite satisfactory to the interested public" (Recommendation 7).

The Agency provides some data on the in-stream fecal coliform record on the Vermilion (north) River near Lenore, located about 8 miles downstream from Streator. Twelve counts made on samples collected between February 1983 and August 1984 showed values ranging from 9 per 100 ml to 2700 per 100 ml, with a median of 835 per 100 ml; nine of the samples exceed 200 per 100 ml. As the Agency points out, it is unknown what Petitioner's contribution is to these levels. The Agency also points out that it is common knowledge that fecal coliform bacteria are contributed to streams by sources such as septic systems and livestock. Such sources are presumed by the Agency to be responsible in undetermined part for the observed in-stream coliform levels.

In the matter of compliance plans, Streator proposes a seven-step program beginning with a facilities plan scheduled for completion on June 30, 1985, and terminating at attainment of the effluent limitations for fecal coliform bacteria on July 1, 1988. This program is being undertaken as a general construction program to modify and improve the existing collection and treatment system, and not towards the specific goal of developing a disinfection system. Streator points out that a separate program for chlorination could be undertaken during the interim period while the general reconstruction is in progress. However, Streator indicates that the cost of this temporary program would be approximately \$60,000, and that little of this expenditure would be recoverable upon completion of the permanent plant improvements in approximately three years. Streator accordingly argues hardship from the perspective that "it would be fiscally irresponsible to spend \$60,000 for disinfection facilities that could not be incorporated into the final plans of the plant improvement" (Petition, p. 5). It should also be noted that the city is in the USEPA's construction grant program, having received Step I funding for the facility planning. However, Step II funds are not available for construction of the planned improvements, and Streator must devise a means of financing them itself. The Agency contests none of these assertions.

The Board laments that the record in the instant case is

under consideration. Most (but not all) of the citizen comments focus on the lower reaches of the Vermilion, particularly the reach between Lowell and the river mouth, beginning 15 river miles below Streator.

thinner than might be desirable, particularly in light of the obviously great public concern. The public deserves more explanation of the possible merits of the proposal and greater assurance of environmental protection than the instant record affords. Moreover, on the instant record alone the Board would find it difficult to arrive at a decision other than denial of the petition. Data provided by both Petitioner and the Agency do little towards carrying the burden of proof regarding environmental impact. Additionally, the Board has long held that economic costs are not themselves sufficient to warrant a finding of arbitrary or unreasonable hardship, unless balanced by a finding of no or minimal environmental impact.

Set against the record of the instant case is the fact that effluent chlorination has been, and continues to be, a recurring issue before the Board. It is also a matter which has been extensively discussed and reviewed in the sanitary engineering literature and is the subject of regulatory opinions of which the Board may take official notice. At issue has been the matter of whether fecal coliform bacteria are a reliable indicator of water quality, and whether the practice of chlorination, which is the standard procedure for reduction of fecal coliforms, produces a net positive environmental impact.

On October 14, 1982, in acting upon R77-12(D), the Board adopted rules repealing the water quality standards for in-stream fecal coliform bacteria (35 Ill. Adm. Code 302.209) and effluent fecal coliform bacteria (35 Ill. Adm. Code 304.121). At that time the majority held that:

If disinfection were first proposed for adoption today, it is quite clear that the record would not support its widespread use. Now, however, available evidence of harmful effects and limited, at best, health benefits has greatly increased.

Even if alternatives may arguably avoid some of the effects of chlorination, without substituting new adverse effects, the evidence of any benefits from widespread disinfection is too weak to support a regulation requiring a shift from chlorination practices.

...the evidence before the Board indicates that the public health and safety considerations for and against chlorination balance out. The environmental damage caused by chlorination tips the scales, even without consideration of economic impacts, which significantly favor selective disinfection.

This Board decision was subsequently appealed, and the Illinois Supreme Court reversed the Board on October 3, 1984. See The People of the State of Illinois v. The Pollution Control Board, et al., 103 Ill.2d 441, 469 N.E.2d 1102. The Supreme Court found that, due to the number of expert witnesses who testified to the need for a microbiological standard (whether fecal coliform bacteria or another indicator organism), the Board incorrectly repealed both the standard governing maximum levels of fecal coliform bacteria in general use waters (35 Ill. Adm. Code 302.209) and in effluents (35 Ill. Adm. Code 304.121). The Court did note, however, in apparent agreement with the Board, that chlorination can be expensive and that of itself "is not without potential health risk, and it probably does not kill all pathogenic material".

The Board is accordingly reassessing its posture regarding both the fecal coliform standard and the practice of chlorination. As stated in its Order of May 2, 1985, the Board is currently considering "the utility of either reopening [R77-12, Docket D] for further consideration of the reinstated rules or the reopening of a new docket".

As these actions bear on the instant case, the Board understands that the minimal fecal coliform data presented by Streator and the Agency are reflective of the Board's past position to reduce regulation of fecal coliform bacteria. Under this climate there was little impetus for conducting regular fecal coliform monitoring. The Board also understands the Agency's uncertainty in attributing the observed fecal coliform levels at Lenore with the Streator outfall, given the multiplicity of sources from which fecal coliform bacteria may derive and the substantial distance between the two sites.

In order to reach a decision in a variance case, the Board must consider, among other things, the environmental impact that the variance would impose on human, plant, and animal life in the affected area. Even though the record in this case lacks much of the data that would ordinarily be relied upon in making that determination, the Board finds that granting Petitioner's variance would cause no significant adverse environmental impact on the Vermilion (north) River. It must be noted that Petitioner, in seeking variance relief, is simply looking to continue its practice of discharging treated but nondisinfected effluent. Streator's treatment facility has never had the equipment necessary for disinfection. Therefore, this variance would only allow Petitioner to continue discharging effluent of the same quality that it has been discharging for many years.

The volume and content of correspondence received by the Board from citizens concerned over this matter clearly indicates that the Vermilion (north) River is used for a wide array of recreational purposes by many people throughout the State. The Board appreciates and recognizes the concerns of these individuals. Their views without fail establish the value of the

Vermilion (north) River as a recreational outlet, and the Board agrees that the attributes of the river, which make it especially worthy of protection, should not be allowed to be degraded. The Board simply notes that Streator's discharges, which would be allowed to continue under this variance for the time necessary to make permanent treatment facility improvements, would not cause deterioration of the condition of the river as it has existed since these discharges began.

The Board finds that Streator's original intention to chlorinate, its withdrawal from that position upon the Board's stance in R77-12(D), and its current intention to proceed once more toward implementing a permanent chlorination program within a reasonable time is evidence of good faith on the part of Petitioner. The Board further finds that requiring Petitioner to install temporary chlorination facilities which would not be compatible with the permanent facilities currently under development would constitute an arbitrary or unreasonable hardship. Additionally, as the city must find a means of funding the permanent improvements, expenditure of funds to finance temporary improvements would not be the best use of the City's financial resources, given the water quality of the receiving stream. The requested variance will therefore be granted, subject to conditions as specified in the following order.

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

ORDER

The City of Streator is hereby granted, effective this date, variance for its Sewage Treatment Plant from 35 Ill. Adm. Code 302.209 and 35 Ill. Adm. Code 304.121, subject to the following conditions:

1. Variance will expire on July 1, 1988.
2. By August 30, 1985, Petitioner shall complete a Municipal Compliance Plan, including, but not limited to:
 - a. A facilities plan which identifies the cost-effective alternative to bring the treatment plant and sewer system into compliance, and
 - b. An analysis of the financial plan to carry out the recommended cost-effective alternative.
3. By April 30, 1986, Petitioner shall complete final plans and specifications.
4. If by July 1, 1987, Petitioner has not begun construction of other treatment plan improvements, Petitioner shall begin plans and specifications for the

provision of disinfection equipment, which shall be operational by July 1, 1988, and shall cause Petitioner's effluent to be in full compliance with 35 Ill. Adm. Code 304.121 by such date.

- 5. By July 1, 1987, Petitioner shall complete construction of all facilities to bring the sewer system and treatment plant into total compliance with 35 Ill. Adm. Code 304.121.
- 6. Petitioner shall execute and forward to the Illinois Environmental Protection Agency, Water Pollution Enforcement Programs, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance. The form of the certificate shall be as follows:

CERTIFICATION

I, (We), _____, having read the Order of the Illinois Pollution Control Board, in PCB 84-184, dated August 1, 1985, 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

J.D. Dumelle concurred.

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 1st day of August, 1985, by a vote of 7-0.

Dorothy M. Gunn
Dorothy M. Gunn, Clerk
Illinois Pollution Control Board