

ILLINOIS POLLUTION CONTROL BOARD
December 18, 1997

VILLAGE OF FOX RIVER GROVE,)	
ILLINOIS,)	
)	
Petitioner,)	PCB 97-156
)	(Permit Appeal - NPDES)
v.)	
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

PETER ROSENTHAL, ROSENTHAL, MURPHY, COBLENTZ & JANECA, APPEARED ON BEHALF OF PETITIONER.

MARGARET P. HOWARD, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, APPEARED ON BEHALF OF RESPONDENT.

OPINION AND ORDER OF THE BOARD (by G.T. Girard):

On March 12, 1997, the Village of Fox River Grove (the Village), filed a petition (Pet) for review of conditions imposed by respondent, the Illinois Environmental Protection Agency (Agency), on a National Pollutant Discharge Elimination System (NPDES) permit issued February 6, 1997 with an effective date of March 1, 1997. The Village is seeking renewal of a NPDES permit for the Village's wastewater treatment facility in Fox River Grove, McHenry and Lake Counties, Illinois. The discharge is to the Fox River in Illinois.

The Agency filed its record (Rec) on April 15, 1997. Hearing was held before the Board's Chief Hearing Officer Michael Wallace on September 17, 1997, in Fox River Grove, Illinois. No members of the public were present. On October 21, 1997, the Village filed its brief and on November 14, 1997, the Agency filed a brief.

The Board's responsibility in this matter arises from Section 40 of the Environmental Protection Act (Act). 415 ILCS 5/40 (1996). The Board is charged, by the Act, with a broad range of adjudicatory duties. Among these is adjudication of contested decisions made pursuant to the permit process. More generally, the Board's functions are based on the series of checks and balances integral to Illinois' environmental system: the Board has responsibility for rulemaking and principal adjudicatory functions, while the Agency is responsible for carrying out the principal administrative duties, inspections, and permitting.

The sole issue in this appeal is whether the Village should be required to meet the effluent standards set forth in 35 Ill. Adm. Code 304.120(b). Based on the record, the Board

finds that the Village should meet the effluent standards of 35 Ill. Adm. Code 304.120(b) and the Board will uphold the issuance of the NPDES permit by the Agency.

BACKGROUND

The Village operates a treatment plant which discharges from a single point into the Fox River. Pet. Br. at 2. The treatment plant uses a natural biological process to treat sewage and remove organics. Pet. Br. at 3. The plant services approximately 4,000 residents and the Good Shepard Hospital. Pet. Br. at 3-4; Tr. at 19. The Village has entered into an agreement to provide wastewater treatment service for sewage generated in the Lake Barrington Industrial Park. Pet. Br. at 4; Tr. at 20. The planning area for the plant also includes several houses on small lots which currently utilize septic systems. Pet. Br. at 4. The Village anticipates that many of these septic systems are failing. Pet. Br. at 4.

The sewer system that is tributary to the plant was constructed in 1926 and for that reason there is a large amount of infiltration from stormwater and groundwater. Pet. Br. at 4. To account for the infiltration of stormwater and groundwater, the plant was designed with a capacity of 1.25 million gallons per day (mgd) even though the plant was intended to treat only one million gallons per day of wastewater. Pet. Br. at 4; Tr. at 78-82.

The plant was initially permitted in 1977 by the USEPA and that permit set effluent limitations for biochemical oxygen demand (BOD₅) at 30 mg/L and for suspended solids at 30 mg/L. Pet. Br. at 7; Ex. 4. In 1981, the Village sought renewal of the permit and the Agency took no action on the application. Pet. Br. at 7; Tr. at 783. In 1986, the Village sought renewal of the permit and a settlement was reached with the Agency. Pet. Br. at 8. As a result of the settlement the organic waste load rating of the plant was reduced to 9,900 population equivalents (P.E.) and the effluent limitations were set at 30 mg/L for both BOD₅ and suspended solids. Pet. Br. at 8; Ex. 9, 10, 11. The Village sought and was granted a renewal of its permit in 1992 with the effluent limitations for BOD₅ and suspended solids remaining the same. Pet. Br. at 8; Ex. 16.

The Village again sought renewal of its permit and filed an application with the Agency in 1996. Pet. Br. at 9. On February 6, 1997, the Agency issued a permit which was to take effect on March 1, 1997. R. at 96-97. The Agency established effluent limitations for carbonaceous biochemical oxygen demand (CBOD₅)¹ at 20 mg/L and for suspended solids at 25 mg/L. R. at 100. The Village filed this instant appeal challenging those effluent limitations.

REGULATORY BACKGROUND

¹ According to the Agency, BOD₅ and CBOD₅ are two tests which measure the amount of biochemical oxygen demand of wastewater effluent can be measured. The Agency states: "At this effluent quality, they are equivalent in terms of the effluent limits set out in the Illinois PCB's regulations." Ag. Br. at 2.

The Board regulations define population equivalent at 35 Ill. Adm. Code 301.345. That definition provides:

Population Equivalent: A term used to evaluate the impact of industrial or other waste on a treatment works or stream. One population equivalent is 100 gallons (380 l) of sewage per day, containing 0.17 pounds (77 g) of BOD₅ (five day biochemical oxygen demand) and 0.20 pounds (91 g) of suspended solids. The impact on a treatment works is evaluated as the equivalent of the highest of the three parameters. Impact on a stream is the higher of the BOD₅ and suspended solids parameters.

Also Section 304.120 of the Board's regulations establishes the effluent standards for facilities with 10,000 population equivalents. 35 Ill. Adm. Code 304.120. Specifically, Section 304.120(b) provides:

- b) No effluent from any source whose untreated waste load is 10,000 population equivalents or more, or from any source discharging into the Chicago River System or into the Calumet River System, shall exceed 20 mg/l of BOD₅ and 25 mg/l of suspended solids.

ISSUE ON APPEAL

Framing of Issue

The Agency's written response to the permit application frames the issues on appeal from that decision. (Pulitzer Community Newspapers, Inc. v. Illinois Environmental Protection Agency, PCB 90-142, at 6 (December 20, 1990); Centralia Environmental Services, Inc. v. Illinois Environmental Protection Agency, PCB 89-170, at 6 (May 10, 1990); City of Metropolis v. Illinois Environmental Protection Agency, PCB 90-8 (February 22, 1990). Thus, the Agency's February 6, 1997, letter frames the issue on appeal. The February 6, 1997, Agency letter issued the instant NPDES permit with 12 special conditions. R. at 102-104. The Village is challenging the Agency's imposition of an effluent standard of 20 mg/l CBOD₅ and 25 mg/l suspended solids for a monthly average. R. at 97.

The Agency indicated in its February 6, 1997 letter that the Fox River Grove facility is hydraulically rated at 12,500 P.E. and for that reason the Agency must apply the 20 mg/l CBOD₅ and 25 mg/l suspended solid effluent standards. R at 97. The Agency's letter also states:

The facility was designed for a 10,000 P.E. organic loadings and 20/25 BOD₅/SS effluent limitations and should be capable of meeting these limitations. Obligations and plans made to include additional unsewered areas and new developments will obviously increase suspended solid and organic loads on the plant, however, the Agency believes that the plant, as designed, will meet the

limitations set in the permit until the above design capacities of the plant are reached. R. at 97.

Burden of Proof

A petition for review of permit conditions is authorized by Section 40(a)(1) of the Act [415 ILCS 5/40 (a)(1)] and 35 Ill. Adm. Code Section 105.102(a). The Board has long held that in permit appeals the burden of proof rests with the petitioner. The petitioner bears the burden of proving that the application, as submitted to the Agency, would not violate the Act or the Board's regulations. This standard of review was enunciated in Browning-Ferris Industries of Illinois, Inc. v. Pollution Control Board, 179 Ill. App. 3d 598, 534 N.E. 2d 616, (Second District 1989) and reiterated in John Sexton Contractors Company v. Illinois (Sexton), PCB 88-139, February 23, 1989. In Browning-Ferris the appellate court held that a permit condition that is not necessary to accomplish the purposes of the Act or Board regulations is arbitrary and unnecessary and must be deleted from the permit. In Sexton the Board held:

...that the sole question before the Board is whether the applicant proves that the application, as submitted to the Agency, demonstrated that no violations of the Environmental Protection Act would have occurred if the requested permit had been issued.

The Village is challenging the effluent standards for CBOD₅ at 20mg/l and the effluent standards for suspended solids of 25 mg/l on a monthly average. Pet at 1. Therefore, the Village must establish to the Board that the NPDES permit would not violate the Act or the Board's rules if the requested permit were issued by the Agency with a different monthly average effluent standard for CBOD₅ and suspended solids.

ARGUMENTS BY THE VILLAGE

The Village maintains that the effluent standards should remain at 30 mg/L for both suspended solids and BOD₅, which is the standard the plant has been permitted for since 1977. In support of this position, the Village sets forth three arguments. Those arguments are: 1) the decision to impose lower effluent limits in the 1997 NPDES permit was arbitrary; 2) the decision to lower the effluent limits for the plant is not required by the applicable regulations; and 3) a reduction in the effluent limits for CBOD₅ and suspended solids will adversely impact the ability of the plant to handle sewage generated with the plant's facilities planning area. Pet. Br. at 12; 16; 25.

The Village argues that the Agency decision to impose a lower effluent limitation for CBOD₅ and suspended solids is arbitrary because there have been no changes in the facts surrounding the plant from the previous NPDES permit applications. Pet. Br. at 12. The Village maintains that there has been no change in the plant's processes or equipment. Pet. Br. at 12. And, the Village argues that the Agency is changing the limits even after agreeing in 1987 that the appropriate limits, when the plant's organic loading is set at 9,900 P.E., were 30 mg/L for BOD₅ and suspended solids. Pet. Br. at 13. Further, the Village also points out

that there has been no change in the Board's regulations since the last permit was issued. Pet. Br. at 12. In fact, the Village argues that the only factor which has changed from prior permit applications is that the Agency reviewer is different. Pet. Br. at 13. The Village maintains that a decision by an administrative agency may be set aside if the decision is arbitrary. Pet. Br. at 13; citing to May v. IPCB, 35 Ill.App.3d, 930, 342 N.E.2d 784 (2nd Dist. 1976). Thus, the Village asserts, as the only change from 1978 to the present is the identity of the Agency permit reviewer, the decision is arbitrary and should be set aside.

In addition to arguing that the decision by the Agency is arbitrary, the Village also argues that the effluent limits are not required by the applicable regulations. Pet. Br. at 16. The Village argues that the Agency decision was incorrectly based on the hydraulic capacity of the plant when the proper factor is the organic capacity of the plant. Pet. Br. at 17. The organic waste load rating was set by agreement with the Agency in 1987 as 9,900 P.E., less than the 10,000 P.E. level included in Section 304.120(b). Pet. Br. at Pet. Br. at 8 and 19.

The Village maintains that when Sections 304.120(b) and 301.145 are read it is clear that the Agency made a mistake in interpreting the two regulations. Pet. Br. at 16. The Village argues that the Agency's reliance on the hydraulic capacity of the plant "ignores the fact that the NPDES Permit is a permit which is issued to allow water" from the plant to be discharged to the Fox River and the hydraulic flow capacity is not what is material in determining the impact which water flowing out of the plant has on the Fox River. Pet. Br. at 16. The Village maintains what is material is how much waste can actually be treated at the plant. *Id.*

The Village relies on the phrase "untreated waste load" in Section 304.120(b) to support its position. The Village asserts that the plant has two capacity ratings and the organic rating of 9,900 P.E. measures the plant's ability to treat and handle an organic waste load. Pet. Br. at 20. The Village further asserts that the Agency has read Section 304.120(b) by inserting the word "capacity" after "untreated waste load" and that is why the Agency incorrectly relied on the hydraulic capacity of the plant in determining the effluent standards. Pet. Br. at 20.

The Village also challenges the Agency's reading of Section 301.345. The Village asserts that in calculating population equivalent, "when flow is utilized, what is utilized is the flow of 'sewage'" not the flow capacity. Pet. Br. at 23. The Village argues that the sewage flow is only 9,900 P.E. of the 1.25 million gallon flow. *Id.* The remaining flow capacity exists to handle the inflow and infiltration of groundwater and stormwater. Pet. Br. at 23. The Village also argues that the flow of sewage is not a factor in calculating population equivalent when population equivalent is used to determine the impact on a stream. *Id.* The Village asserts that the conditions of an NPDES permit establish the impact of discharge on the stream and thus the appropriate method of calculating the population equivalent is the impact on the stream. Pet. Br. at 23-24.

For these reasons, the Village maintains that the organic load rating of 9,900 P.E. is the proper measure for the plant. Using 9,900 P.E. would mean that the effluent standards of Section 340.120(b) do not apply to the plant and a higher effluent limitation can be applied.

The last argument put forward by the Village is that a reduction in effluent limits for CBOD₅ and suspended solids would adversely impact the ability of the plant to handle sewage generated within the plants facilities planning area. Pet. Br. at 25. The Village argues that physical limitations such as the size of the tract of land and the fact that the plant was built in a wetlands limit expansion of the facility. Pet. Br. at 25. Thus, as the possibility for exceeding the reduced effluent limits increases, the Village would have to finance a costly expansion or build a second treatment plant to avoid he possibility of exceeding the effluent limits in the NPDES permit. Pet. Br. at 25-26. Further, the cost for violating a permit condition could also be severe so the Village maintains it is prudent not to risk potential violation. Pet. Br. at 26. Thus, the new lower limits will reduce the ability of the plant to serve the service area. Pet. Br. at 28.

ARGUMENTS BY THE AGENCY

The Agency has responded to each of the arguments made by the Village. The Agency maintains that the decision was not arbitrary and the regulations do require a reduced effluent limitation for the plant. Ag. Br. at 2 and 3. The Agency also maintains that some expansion is possible. Ag. Br. at 5.

The Agency indicates that the first step in deciding which effluent limitations are applicable is to determine the facility's population equivalent based on the hydraulic loading of the facility. Ag. Br. at 2. The Agency maintains that the use of the phrase "untreated waste load" in Section 304.120(b) requires a review of the impact on the treatment works of the design flow of the facility. Ag. Br. at 2. The Agency "point[s] out" that the design average flow is used in the initial analysis for determining effluent limits because the available dilution ratio can determine whether secondary or tertiary treatment is required. The Agency also maintains that the design flow and the organic loadings tributary to a treatment plant both impact the treatment plant design. Ag. Br. at 2.

The Agency evaluates all three parameters listed in Section 301.345 to determine population equivalents. The Agency evaluated the impacts as applied to the facility rather than the receiving stream because of the requirements in Section 304.120(b) that "no effluent from any source whose untreated waste load is 10,000 P.E. or more shall exceed the limits provided therein." Ag. Br. at 3. The Agency determined that the flow was the highest of the three parameters and therefore the population equivalents for the plant are 12,500. *Id.* Thus, the Agency determined the effluent limitations of Section 304.120(b) apply to the plant. Ag. Br. at 3.

The Agency does not agree that the decision to apply the effluent standards of Section 304.120(b) was arbitrary. The Agency takes issue with the statement made in the Village's brief that "the only apparent reason for the change in the effluent standards was a change in the Illinois EPA personnel responsible for issuing the NPDES permits for the FRG Treatment

Plant.” Ag. Br. at 4. The Agency maintains this statement is incorrect in that the personnel at the Agency do not issue the permits, the Agency issues the permits. *Id.* Further, the supervisor who also signed the permits at issue here signed the previous permits as well. *Id.* The Agency maintains that is merely correcting a misinterpretation of the Board’s rules made in the past. Tr. at 132.

Finally, the Agency indicated that it has reviewed additional future waste loads at the Village’s plant. Ag. Br. at 5. The Agency has determined that additional waste loads would be within the design parameters of the plant and the Agency would issue additional permits for additional waste loads. Ag. Br. at 5.

DISCUSSION

As stated above, the sole issue in this appeal is whether the limits set forth in Section 304.120(b) apply to the Village. If not, then a permit with a higher effluent limitation could be issued to the Village. The threshold issue to be decided is what is the population equivalent of the Village’s wastewater treatment plant. The parties agree that the hydraulic flow design capacity for the treatment plant is 1.25 mgd. It is also undisputed that the organic loadings are at 9,900 population equivalents. The dispute arises over whether hydraulic design flow or organic loading should be used to determine population equivalents.

The plain language of Section 304.120(b) prohibits discharges which exceed 20 mg/L of BOD₅ and 25 mg/L of suspended solids from any source whose “untreated waste load is 10,000 population equivalents or more.” The reference to “untreated waste load” unmistakably refers to the load received by the treatment facility. Thus, the regulation directs the reader to determine population equivalents based on the impact to the treatment works.

Section 301.345 defines population equivalent using the gallons of sewage per day containing specific levels of BOD₅ and suspended solids. Section 301.345 provides that the impact on a treatment works is to be evaluated based on the higher of the three parameters. The hydraulic flow for the Village’s plant is 1.25 mgd, which is divided by 100 gallons per day to yield 12,500 population equivalents pursuant to Section 301.345. Therefore, the population equivalent, based on the plain reading of the regulation can be no less than 12,500, because Section 301.345 specifies that population equivalent is the higher value of the three parameters. With population equivalents of 12,500, the effluent can not exceed 20 mg/L of BOD₅ and 25 mg/L of suspended solids pursuant to Section 304.120(b).

As stated above, the Board in reviewing a permit appeal looks to whether the applicant proves that the application, as submitted to the Agency, demonstrated that no violations of the Act or Board regulations would have occurred if the requested permit had been issued. Clearly, issuing a permit with effluent limitation higher than 20 mg/L of BOD₅ and 25 mg/L of suspended solids would violate the provisions of Section 304.120(b). Therefore, the Board finds that the permit application as requested by the Village could not issue and the Agency properly imposed the limitations set forth in Section 304.120(b).

Because the Board finds that the permit as requested by the Village would have violated the Board regulations, the Board need not address the remaining arguments put forward by the Village. The Agency's prior actions are not relevant to the Board's decision today. The Board finds that the Agency's interpretation of the regulations is correct and we need not discuss the Agency's prior interpretations.

CONCLUSION

The Board finds that the Villages treatment plant has population equivalents of 12,500. Therefore, the effluent limitations of Section 304.120(b) apply to the Village. The Agency properly limited the effluent from the Village's plant to 20 mg/L of CBOD₅ and 25 mg/L of suspended solids. The Board finds that the permit as issued by the Agency is correct and the Board will dismiss this appeal.

This opinion constitutes the Board's findings of fact and conclusions of law.

ORDER

The Village of Fox River Grove's appeal of its NPDES permit is denied and this docket is closed.

IT IS SO ORDERED.

Board Member K.M. Hennessey abstained.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1996)) provides for the appeal of final Board orders to the Illinois Appellate Court within 35 days of service of this order. Illinois Supreme Court Rule 335 establishes such filing requirements. See 145 Ill. 2d R. 335; see also 35 Ill. Adm. Code 101.246, Motions for Reconsideration.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 18th day of December 1997, by a vote of 6-0.

A handwritten signature in cursive script that reads "Dorothy M. Gunn". The signature is written in black ink and is positioned above a solid horizontal line.

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board