

ILLINOIS POLLUTION CONTROL BOARD  
October 19, 1983

VILLAGE OF BOURBONNAIS, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 83-71  
 )  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

MR. MICHAEL R. BERZ, BERZ & SMIETANSKI, APPEARED ON BEHALF OF THE PETITIONER, THE VILLAGE OF BOURBONNAIS;

MR. RICHARD L. ACKMAN, ACKMAN, MAREK, BOYD & SIMUTIS, LTD., APPEARED FOR PETITIONER, KANKAKEE WATER COMPANY;

MS. MARY E. DRAKE, ATTORNEY AT LAW, APPEARED FOR RESPONDENT, ENVIRONMENTAL PROTECTION AGENCY.

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

This matter comes before the Board upon a petition for variance filed June 1, 1983 by the Village of Bourbonnais (Bourbonnais), requesting a variance from "Rule 306.103-0-2" to allow sewage treatment plant bypasses in Kankakee County. On June 16 Mr. Edward S. McGlynn objected to the variance, and on June 21 Mr. Ed Mullady objected. The Board set the matter for a hearing, which was held on August 19 and 29 at Kankakee. Members of the public appeared and testified.

On August 25, 1983 Mr. James Prindle and Mr. Gordon Graves filed an application for intervention on behalf of the Northern Illinois Anglers Association. The Hearing Officer denied intervention on the grounds that the application was not timely (35 Ill. Adm. Code 103.142; R. 235).

On September 6 the Agency recommended that the variance be granted with conditions. On September 12 Bourbonnais filed a response which expressed general agreement with the recommendation, except with respect to the amount of inflow and infiltration reduction which can be achieved. Mr. McGlynn also filed a response to the recommendation, which the Board deems to be public comment.

On September 6 the Agency filed a motion to join Kankakee Water Co. (Water Co.) as a party. As will be further discussed, the Water Co. owns the sewer lines and operates the treatment plant, which Bourbonnais owns. The Agency has recommended

conditions which would require actions by the Water Co. On September 14 the Water Co. filed an appearance and response which agreed to joinder, but objected to some aspects of the recommendation. On September 19 Mr. Ed Mullady filed a reply to the response, which does not object to the joinder, and which the Board deems to be public comment. The Board made the Water Co. a petitioner on October 6, 1983.

The Board notes that the Water Co. actively participated in the hearing and was thereby not prejudiced by the late joinder. This is fortunate. Had the Agency filed its Recommendation by the July 1 due date, it likely would have discovered the need to join the Water Co. in advance of the hearing date. The Agency could have filed an amended recommendation after the hearing if needed.

#### Facility Description

Bourbonnais owns the wastewater treatment plant. The plant is operated by the Water Co., which also owns and operates the sewage collection system (R.130). The Bourbonnais plant serves a population of about 14,360, with 3,909 customers, 112 of which are commercial, industrial or institutional (Petn. 6).

The plant treats sewage which averages about 156 mg/l BOD (5-day biochemical oxygen demand) and 176 mg/l TSS (total suspended solids). The average dry weather flow is 1 million gallons per day (1 MGD). Average flow is 1.6 MGD. Plant capacity is about 2.4 MGD (R. 121, 144, Petn., Attachment B).

Incoming sewage receives primary treatment including screening and shredding. The flow is then split into three roughly equal portions. One portion passes through an Imhoff settling tank, trickling filter and settling tank. The other two portions pass through two different activated sludge processes (R. 153). The plant has had operational problems which stem in part from difficulties in controlling three different processes. The activated sludge units have recently been modified to make their operation more similar (R. 159). Another problem arises because the aeration tank is too large for the clarifiers (R. 158). This allows sludge to accumulate for too long, resulting in resuspension on gas bubbles. The plants have been reconfigured to reduce the aeration tank volume (R. 158).

The effluent receives final chlorination before discharge to the Kankakee River pursuant to NPDES Permit No. IL0025275. The plant is subject to effluent standards of 20 mg/l BOD and 25 mg/l TSS. The plant is on restricted status. The

requested variance does not involve either the restricted status or the effluent standards for the treated effluent.

Upstream of the plant is an overflow point which also discharges to the Kankakee River. The overflow was plugged after the Agency refused to modify the NPDES permit to allow continuation of its operation. The 100-year rains of December 2 and 3, 1982 caused the treatment plant to overflow (R. 94). On February 17, 1983 the bypass was unplugged pursuant to NPDES permit conditions allowing the operator to protect the integrity of the plant (R. 119).

As presently configured, any flows in excess of 2.8 MGD are bypassed to the River without treatment (R. 121). The variance requested would authorize bypass of flows in excess of 2.4 MGD through 1984, by the end of which time a new interceptor sewer will be completed connecting Bourbonnais with the Kankakee treatment plant. After 1984 flows in excess of 2.4 MGD, up to 4.4 MGD, will be transported to Kankakee for treatment. The 2 MGD difference is the maximum which Kankakee can accept for treatment at its existing plant. Any excess over 4.4 MGD would be bypassed until the fall of 1987, at which time the expanded Kankakee Metro Plant will open. It will have sufficient capacity to treat all of Bourbonnais' waste (R. 30, 38). The Bourbonnais plant will be kept open to treat waste up to its capacity until the end of its useful life.

The Bourbonnais plant has hydraulic capacity to treat waste from the population it serves; the problem is excess infiltration and inflow (R. 159). A rainfall of only 0.3 inches can cause bypassing (R. 123). Most of the system was built as a separate system, and the combined portions have been separated. Some of the system has been inspected for leaks, and extensive repairs completed. A major problem seems to be the difficulty in reducing inflow from sources such as sump pumps, downspouts and footing drains. Bourbonnais has an ordinance prohibiting such connections, and an inspection program. It has achieved disconnection of some (R. 79, 80). A more vigorous inspection program needs to be undertaken, and legal action instituted against illegal connections.

#### Regulations Involved

Bourbonnais requested a variance from "Rule 306.103-0-2"; the Agency recommended a variance from "Rule 306.103-C". It appears that variances are needed from 35 Ill. Adm. Code 306.303 and 306.304, which are the renumbered sections as amended at 7 Ill. Reg. 5682, effective April 19, 1983:

Section 306.303 Excess Infiltration

Excess infiltration into sewers shall be eliminated, and the maximum practicable flow shall be conveyed to treatment facilities.

Section 306.304 Overflows

Overflows from sanitary sewers are expressly prohibited.

Compliance Alternatives

Besides the bypass and diversion to the Kankakee, there are several compliance alternatives, including the following:

1. Replugging the bypass;
2. Construction of a retention basin;
3. Expansion of the Bourbonnais plant capacity; and,
4. Reduction in infiltration and inflow.

Replugging the bypass could result in structural damage to the plant. If the excess flows are forced through the plant, the water winds up in the river anyway. Sludge is washed out of the plant, actually resulting in a larger mass discharge than with the bypass. Contaminant concentrations during upset conditions are even greater than concentrations in influent sewage (R. 248). After an upset, the plant continues to deliver poor performance for days after flows return to normal (R. 131).

A ten million gallon retention basin would be required to contain expected overflows. This would cost about one million dollars and would require condemnation of 5 to 10 acres. This would require several years to plan and execute. Expansion of the existing plant would also take several years (R. 133, 141).

On the other hand, the construction of the interceptor sewer, construction of the Metro Plant and eventual abandonment of the Bourbonnais plant is an on-going, grant-funded project which will provide the most cost-effective solution to the problem in less time than would be required for expensive short-term fixes. An aggressive program to reduce inflow may eliminate bypassing in excess of 4.4 MGD within two years.

Reduction in infiltration and inflow is consistent with the interceptor project, and should continue even if there were adequate capacity to treat the infiltration and inflow.

### Environmental Impact

While the use of the bypass should be discontinued as soon as is practicable, it is environmentally preferable to a washout of the plant. The bypass is a continuation of a long-standing practice; authorizing it by variance will not result in any degradation of waters beyond that historically evident. Water quality and fishing conditions are good both above and below Bourbonnais (Testimony of Dr. Edwin E. Herricks, pp. 13, 22, 33 and 39). Dissolved oxygen levels are actually higher below the plant than upstream (op. cit., p. 10).

As noted above, the bypass actually introduces a smaller mass of contaminants into the river than a treatment plant washout. During a large bypass, the bypassed sewage is diluted three to one (R. 147). This infers levels of about 40 mg/l BOD and 45 mg/l TSS, levels which are within a factor of two of treated effluent, although this certainly is not a legal or desirable method of achieving the standards. Use of the bypass also allows optimal treatment at the plant of a portion of the flow to continue without interruption.

### Hardship

Even apart from the environmental harm, it is clear that the potential plant washout and facility damage would impose arbitrary or unreasonable hardship upon Bourbonnais and the Water Co. if it were required to again plug the bypass. However, this hardship results in part from the Petitioners' failure to aggressively reduce inflow, or their failure to plan for a retention basin or increased capacity for the Bourbonnais plant pending regionalization. The Board is also concerned about a general laxity in taking steps to improve the operation of the plant until recently. Under the circumstances, the Board feels that the most environmentally effective route is to establish firm conditions in a grant of variance which order a reduction of the infiltration-inflow problem by a stepped-up program of disconnection inspections with sanctions for non-compliance that includes fines and shut-off of water supplies, and overall reductions of flows by certain deadlines. Additionally, more professional oversight, testing, and reporting concerning overall operations as well as deadlines for the use of the bypass are included in the Order. The Board notes that it would be precluded from establishing such conditions in this case were the variance to be denied. The Board will therefore grant the variance.

The Board's Order differs from the conditions recommended by the Agency in some respects, which are discussed in the following paragraphs.

The Board will grant the variance only through December 31, 1985. This will be one year after the interceptor is to be

built, and will allow Petitioners two years to reduce infiltration and inflow. Petitioners may request extension of the variance if necessary. Such petition should be filed before the end of September, 1985, to allow adequate time for Board action.

The Board will not require sampling of bypassed flows, or require employment of an operating consultant other than the certified operator required by Board rules. The Board will require continuation of inspection for infiltration and inflow, but will not specify minimum man-hours or require Agency approval of consulting contracts.

The Agency recommended a condition requiring 750,000 gallons per day flow reduction in each of two years. This appears to be a reduction in peak flows, rather than average flow. The recommended condition would be hard to enforce without specification of the reference level from which reductions would be judged. The Board has restated the condition as a comparable reduction in average flow of 150,000 gallons per day per year. This has been estimated from the data of Table 3 of Petitioners' Exhibit 19.

The Agency recommended that the variance be conditioned on compliance by the plant with effluent limitations. The Board declines to condition the variance on compliance with limitations which are not directly related to the subject matter of the variance. Petitioners will be subject to an enforcement action should they violate the effluent limitations.

The Agency's suggested condition requiring modification of and operational changes at the treatment plant was too vague to be enforceable. The Board will require Petitioners to apply for construction permits or modifications to the NPDES permit to reflect these changes. The Agency will be expected to review these with greater specificity than is possible in this variance.

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

ORDER

Petitioners, the Village of Bourbonnais and the Kankakee Water Co., are granted a variance from 35 Ill. Adm. Code 306.303 and 306.304, for the Bourbonnais wastewater treatment plant, collection system and bypass overflow, subject to the following conditions:

1. This variance will expire on December 31, 1985.
2. This variance authorizes bypasses of flows only in excess of 2.4 million gallons per day through December 31, 1984, or until completion of the interceptor sewer connecting the Bourbonnais treatment plant to the Kankakee treatment plant, whichever occurs first.
3. This variance authorizes bypasses of flows only in excess of 4.4 million gallons per day after termination of condition (2).
4. All bypassed flows shall be measured as to quantity and duration. Devices for measuring rainfall shall be placed at both the Bourbonnais Village Hall and the treatment plant and rainfall shall be measured and recorded. Results of all the above measurements shall be sent to the Illinois Environmental Protection Agency monthly.
5. On or before December 1, 1983 Petitioners shall apply to the Illinois Environmental Protection Agency for permits and/or permit modifications to implement the plans for operational change and recommended monitoring suggested by Dr. Rittman. The Illinois Environmental Protection Agency shall issue and/or modify permits to require and/or allow implementation.
6. The Illinois Environmental Protection Agency shall modify NPDES Permit No. IL0025275 consistent with this Order.
7. On or before December 31, 1983, a person with technical training and abilities shall be retained to make a complete and comprehensive inflow and infiltration reduction study of the sewage collection system with the purpose of identifying sources of inflow and infiltration and proposing a plan for its reduction.
8. The proposal for inflow and infiltration reduction shall be implemented in such fashion so as to have obtained a reduction of average flows to the

sewage treatment plant of 150,000 gallons per day by December 31, 1984. An additional average flow of 150,000 gallons per day shall be removed from the system by December 31, 1985.

9. The present house-to-house inspection program for detection and removal of downspouts, footing drains and sump pump connections to the sanitary sewer collection system shall be continued.
10. A mailing shall be made to all customers of the Kankakee Water Company with sewage flows to the Bourbonnais sewage treatment plant stating that the recipient of the notice has ninety (90) days to accomplish disconnection of all downspouts, footing drains and sump pumps and if such unlawful connection is found the fine called for in the Village ordinance will be levied and the connections will be eliminated within ninety (90) days. It shall also state that upon detection of any reconnection of an unlawful connection, in addition to a fine, there will be immediate discontinuance of water service to any such customer.
11. Such disconnection of service and imposition of fine shall proceed with all due speed consonant with Constitutional guarantees and the requirements of due process.
12. Within forty-five (45) days of the date of this Order, Petitioner, the Village of Bourbonnais, and Petitioner, the Kankakee Water Company, shall execute and forward to the Illinois Environmental Protection Agency, 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 (45) 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 83-71 dated October 19, 1983, understand and accept the said Order, realizing that



such acceptance renders all terms and conditions thereto binding and enforceable.

SIGNED \_\_\_\_\_


TITLE \_\_\_\_\_

DATE \_\_\_\_\_

IT IS SO ORDERED.

Board Member J. Anderson concurred.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 19<sup>th</sup> day of October, 1983 by a vote of 50.

  
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Christan L. Moffett, Clerk  
Illinois Pollution Control Board