

ILLINOIS POLLUTION CONTROL BOARD
May 9, 1986

GOOD HOPE SANITARY DISTRICT,)	
)	
Petitioner,)	
)	
v.)	PCB 86-66
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent,)	

OPINION AND ORDER OF THE BOARD (by W.J. Nega):

This provisional variance request comes before the Board upon a May 9, 1986 Recommendation of the Illinois Environmental Protection Agency (Agency). The Agency recommends that a 45-day provisional variance be granted to the Good Hope Sanitary District from 35 Ill. Adm. Code 304.120(a) to allow the Petitioner to exceed the final effluent standards set by its NPDES Permit of 30 milligrams per liter (mg/l) for biochemical oxygen demand (BOD) and 37 mg/l for total suspended solids (TSS) during the time period that the water level in its existing single-cell lagoon is lowered so that improvements can be made to the present lagoon.

The Good Hope Sanitary District owns and operates a sewage treatment plant which serves a population of 570 in the municipality of Good Hope in McDonough County, Illinois. The Petitioner's sewage treatment plant, which receives only domestic sewage from the community, has a design average flow of 57,000 gallons per day (i.e., 0.057 million gallons per day) and discharges effluent to an unnamed tributary of the LaMoine River pursuant to the appropriate NPDES Permit authorization. (Rec. 1).

According to a lagoon exemption granted to the Good Hope Sanitary District by the Agency on May 19, 1977, the Petitioner's single-cell lagoon system is required to meet final effluent limitations of 30 mg/l for biochemical oxygen demand and 37 mg /l for total suspended solids as monthly averages. Discharge monitoring reports submitted to the Agency by the Petitioner indicate the following effluent data for the past year:

<u>Month</u>	<u>Flow (MGD)</u>	<u>BOD (mg/l)</u>	<u>TSS (mg/l)</u>
March, 1986	0.033	30	6
February, 1986		32	20
January, 1986	0.033	28	5

<u>Month</u>	<u>Flow (MGD)</u>	<u>BOD (mg/l)</u>	<u>TSS (mg/l)</u>
December, 1985	0.036	16	7
November, 1985	0.039	7	3
October, 1985	0.065	21	48
September, 1985	0.021	26	73
August, 1985	0.026	29	136
July, 1985	0.014	26	77
June, 1985	0.042	31	64
May, 1985	0.117	20	46
April, 1985	<u>0.241</u>	<u>21</u>	<u>7</u>
Average	0.061	24	41 (Rec. 2)

At the present time, the Petitioner is involved in a project to upgrade its sewage treatment plant. The Good Hope Sanitary District is seeking authorization to "lower the water level in its lagoon to a depth of 18 inches to allow a berm to be constructed to form a smaller temporary lagoon cell within the present lagoon so that improvements can be made to the existing lagoon". (Rec. 2). During the time period that the lagoon water level is being lowered, the Good Hope Sanitary District plans to construct both sand filter and chlorination facilities and also anticipates the installation of temporary aeration equipment in the lagoon. (Rec. 2).

The Agency has indicated that the Good Hope Sanitary District has requested a provisional variance only for the relatively short time period in which the lagoon water level is being drawn down to 18 inches. The Petitioner plans to utilize the aerated temporary lagoon cell, dual intermittent sand filters and chlorination facilities to treat the incoming sewage while improvements to the existing lagoon are being finished. (Rec. 2).

In a letter dated April 28, 1986 from the President of the Good Hope Sanitary District to the Agency, the description of the planned process is as follows:

"...Improvements to the existing single cell lagoon include lowering the lagoon's bottom elevation and the addition of dual intermittent sand filters with chlorination facilities.

Lowering the existing lagoon's bottom elevation necessitates construction of a temporary earth berm within the existing lagoon cell. To facilitate construction of the berm, the Sanitary District proposes to

lower the water level in the lagoon.

Lowering the water level to eighteen inches would be a gradual process accomplished by slightly opening the drain valve located in the lagoon's effluent structure. The valve would be operated in a manner that would limit the effluent rate.

The Plant Operator would limit the effluent rate to approximately 143,900 gpd (2.5 x Influent Rate). This would allow the lagoon to maintain the greatest treatment possible and still lower the lagoon three feet in forty-five days. This rate should assure that sludge would not be removed from the lagoon bottom and deposited in the stream.

Once the lagoon is lowered, the contractor would begin construction of the berm. During construction, flow to the plant would proceed through the lagoon in normal manner and the drain valve would be closed to begin raising the lagoon's water level.

As the berm reaches completion, flow to the existing lagoon effluent structure would be eliminated. However, during development of the berm, the contractor would have installed the proposed sand filters and chlorination filters. Flow detained in the temporary lagoon would be pumped to the filters and chlorine basin prior to being discharged into the stream. The temporary lagoon would remain in operation until the lagoon rehabilitation was completed. Upon completing work within the lagoon, the temporary lagoon would be eliminated and the plant would be put into operation."

In reference to the potential environmental impact on the receiving stream during the lowering of the water level in the lagoon, the Petitioner has stated that it believes that there will be no long term adverse environmental impact. Although the Petitioner has admitted in Item 6 of its April 28, 1986 letter to the Agency that "discharging partially treated wastewater may momentarily create a lower dissolved oxygen (D.O.) content in the receiving stream", the Good Hope Sanitary District emphasizes that "flow within the stream should be adequate enough to maintain some dilution of the sewage which minimizes the effect of lower D.O. content". Moreover, Item 6 also indicates that "the stream is not used for recreational purposes such as

boating, fishing, etc. or as a source of potable water for any nearby communities" and concludes that "therefore, a lower D.O. content should not create any adverse effect".

In its Recommendation, the Agency has stated that it "agrees with Petitioner's assessment of the environmental impact since at this time of year it can be expected that the flow in the receiving stream will be higher than normal". (Rec. 2).

The Petitioner has considered alternatives to its planned lowering the water level in its existing lagoon and found such alternatives to be impractical. Item 7 of its April 28, 1986 letter to the Agency delineates the Petitioner's consideration of the possibility of building the berm while the lagoon's water depth would be at its normal operating level of five feet as follows:

"Maintaining complete treatment of the sewage during construction of the temporary earth berm would create several problems. First, the berm must be constructed to a certain degree of compaction in order to avoid seepage problems. It would appear to be an unreasonable hardship to attempt to obtain this degree of compaction in five feet of standing water.

Second, no testing for the degree of compaction could be made while the berm was below water level. Therefore, several lifts of earth would be installed without any compaction tests being completed.

Finally, constructing the berm in five feet of water would take more time and therefore be more costly than the proposed method of construction."

The Agency has carefully evaluated the Petitioner's plan to lower the water level in its waste stabilization pond to facilitate improvements to the Good Hope Sanitary District's sewage treatment facilities. It is estimated that the lowering of the water level in the lagoon can be completed in 45 days and it is anticipated that the water level in the lagoon would subsequently be raised as soon as possible to effectuate prior treatment levels. Because the existing lagoon does not presently provide adequate treatment of the community's sewage to meet the final effluent requirements set forth in the Petitioner's NPDES Permit, the parties believe that the proposed operational improvements will facilitate compliance with the applicable effluent standards.

In its Recommendation, the Agency states that "although Petitioner has not requested specific effluent limits during the period of lagoon drawdown, the Agency has determined that appropriate effluent limits of 60 mg/l as monthly averages for both BOD and TSS would be appropriate during the variance period requested". (Rec. 3). The Agency believes that "these limits would allow Petitioner some leeway should the increased discharge rate cause a slight degradation of the effluent, but would not allow the discharge of raw sewage or bottom deposits". (Rec. 3).

The Agency has also indicated that there are no federal regulations that would preclude the granting of the provisional variance and that there are no downstream public water supplies which would be affected by granting the requested relief to the Petitioner. (Rec. 3).

Furthermore, the Agency has emphasized that the "Petitioner has stated, and the Agency agrees, that the only alternative to lowering the water level in the existing lagoon, i.e., constructing the berm in 5 feet of standing water, is not a viable alternative." (Rec. 3).

Additionally, the Agency has noted in its Recommendation that "Petitioner has stated that denial of its variance petition would create an arbitrary and unreasonable hardship since the existing lagoon must be dewatered in order to make the necessary improvements and constructing the berm for the temporary lagoon in 5 feet of standing water would not allow for sufficient compaction to preclude seepage problems." (Rec. 3). The Agency stated that it "agrees that Petitioner would experience an arbitrary and unreasonable hardship if Petitioner's variance request were denied." (Rec.3).

The Agency has therefore concluded that compliance with the applicable standards would impose an arbitrary or unreasonable hardship upon the Good Hope Sanitary District. (Rec. 1: 3). Accordingly, the Agency has recommended that the Board grant the Petitioner a provisional variance from 35 Ill. Adm. Code 304.120(a), subject to certain conditions.

Pursuant to Section 35(b) of the Illinois Environmental Protection Act, the Board will grant the provisional variance as recommended.

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

ORDER

The Good Hope Sanitary District is hereby granted a provisional variance from 35 Ill. Adm. Code 304.120(a) to allow the Petitioner to exceed the final effluent standards set by its

NPDES Permit of 30 mg/l for biochemical oxygen demand and 37 mg/l for total suspended solids, subject to the following conditions:

1. The provisional variance shall commence when the Petitioner begins to lower the water level in the existing lagoon and shall continue for 45 days thereafter.
2. During the term of this provisional variance, the Petitioner's effluent shall be limited to 60 mg/l as monthly averages for both biochemical oxygen demand and total suspended solids.
3. The Petitioner shall collect samples once a week and shall analyze each sample for biochemical oxygen demand and total suspended solids. Results of these analyses shall be tabulated and submitted to the Agency with the requisite monthly discharge monitoring report.
4. The water level in the existing lagoon shall not be lowered below the 18 inch level and at no time shall lagoon sludge and/or bottom deposits be discharged.
5. The Petitioner shall notify Mr. Lyle Ray of the Agency's Peoria Regional Office via telephone at 309/693-5463 when the drawdown of the lagoon water level is begun and ended. This oral notification shall be supplemented by a written confirmation that shall be submitted within 5 days to:

Illinois Environmental Protection Agency
5415 N. University Avenue
Peoria, Illinois 61614
Attention: Mr. Lyle Ray

6. The Petitioner shall submit a change order to the Agency's Grant Administration Section should this provisional variance result in a cost savings from the original grant cost estimate.
7. The Petitioner shall operate its treatment facility 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 86-66, dated May 9, 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 9th day of May, 1986 by a vote of 7-0.

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