

ILLINOIS POLLUTION CONTROL BOARD
June 13, 1985

CITY OF BELVIDERE,)
)
 Petitioner,)
)
 v.) PCB 85-81
)
 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 June 13, 1985 Recommendation of the Illinois Environmental Protection Agency (Agency). The Agency recommends that a 30-day provisional variance be granted to the City of Belvidere (City) to allow the Petitioner to exceed the effluent limitations in its NPDES Permit No. IL 0027685 for biochemical oxygen demand (BOD) and total suspended solids (TSS) while repairs are made to the sludge collection mechanism in the West Final Settling Tank of its wastewater treatment plant (WWTP) and while subsequent inspection of the sludge collection mechanism in the East Final Settling Tank of its WWTP is completed. (Rec. 1).

The City of Belvidere owns and operates a wastewater treatment facility which has a design average flow of 5.8 million gallon per day (MGD) and consists of "screening and grit removal, primary sedimentation, contact stabilization activated sludge process, secondary sedimentation, tertiary filters, disinfection and sludge thickening, digestion, and dewatering". (Rec. 1). This WWTP discharges its effluent to the Kishwaukee River pursuant to its NPDES Permit authorization.

On May 20, 1985, the drive cage in the Petitioner's West Final Settling Tank at the City's wastewater treatment plant broke. This resulted in the drive cage, center well, and truss arm falling to the bottom of the settling tank. (Rec. 1-2). Additionally, all of the steel bent up on the drive cage thereby cracking the side wall box and center inlet well. To repair this damage, it is necessary to "cut out and make a whole new drive cage assembly, weld the center plate and the inlet box walls, jack up the truss arm and reline, bolt and weld it and check the run out to make sure it runs true". (See: attachment to Agency's Recommendation). The City has dewatered the West Final Settling Tank and ascertained that the breakage and other equipment problems were due to bolt failure and missing field welds which should have been installed during the initial construction fifteen years ago. (Rec. 2).

Fortunately, the City was able to properly repair the aforementioned damage more rapidly than originally anticipated and the West Final Settling Tank was returned to service on June 5, 1985. (Rec. 2). However, the service man who inspected the damage at the West Final Settling Tank believes that there is a strong possibility that field welds were not installed on either final settling tank (i.e., only installation bolts were installed) and thus it is likely that the East Final Settling Tank may soon develop the same problems as the west tank. Accordingly, the Petitioner plans to dewater and inspect the East Final Settling Tank center drive cage as soon as the weather permits and to install new bolts and properly weld the drive cage to avoid future environmental problems. The City intends to run the West Final Settling Tank for a time period of at least a week to determine that this settling tank is properly operating before dewatering the east tank to make the necessary repairs before a similar failure occurs in the east settling tank. (Rec. 2). It takes at least a day to drain down the east tank far enough to expose the steel; about 2 days for the steel to dry sufficiently to allow adequate welding; at least several days for the necessary welding and bolt replacement; and approximately a week for the treatment plant to stabilize after the east settling tank is put back into service. Such procedures may be delayed by rainy weather which could preclude starting this work or could interrupt this work while in progress. (See: Attachment 1 to Agency's Recommendation).

The Petitioner's NPDES Permit provides that the City's wastewater treatment facilities must meet interim effluent limits of 20 mg/l for BOD and 25 mg/l for TSS as 30 day averages and 50 mg/l for BOD and 63 mg/l for TSS as daily maximums. During the time period since the equipment failure in its West Final Settling Tank occurred, the Petitioner's discharge monitoring reports to the Agency pertaining to BOD and suspended solids levels have indicated the following BOD and TSS concentrations in its effluent:

<u>Date</u>	<u>Flow (MGD)</u>	<u>BOD (mg/l)</u>	<u>TSS (mg/l)</u>
5/21/85	4.3	52	116
5/22/85	3.7	30	27
5/23/85	3.8	43	34
5/24/85	3.6	124	194
5/25/85	3.2	123	274
5/26/85	2.9	215	276
5/27/85	3.0	28	40
5/28/85	3.6	15	5
5/29/85	3.6	11	6
5/30/85	3.8	38	54
5/31/85	3.3	33	46
6/1/85	3.6	71	136
6/2/85	2.4	12	2
6/3/85	4.1	21	7

<u>Date</u>	<u>Flow (MGD)</u>	<u>BOD (mg/l)</u>	<u>TSS (mg/l)</u>
6/4/85	3.6	21	14
6/5/85	3.1	Not Available	7
6/6/85	3.9	Not Available	7
6/7/85	3.8	Not Available	9
6/8/85	3.4	Not Available	10

The Petitioner has emphasized that the failure of the drive cage mechanism in its West Final Settling Tank was of an emergency nature and totally unexpected. Therefore, the City felt compelled by circumstances to expeditiously proceed with the necessary repairs to the west tank and return it to service as soon as possible instead of doing nothing until the requisite variance was granted. The Agency agrees that, because of the emergency nature of the breakdown, the Petitioner acted properly in limiting the potential environmental damage by making the necessary repairs to the west settling tank as soon as possible. (Rec. 2).

The Agency believes that the environmental impact of granting the proposed provisional variance will be minimal because of the short duration of the requested variance and the fact that treatment will be provided by the remaining treatment units. The Agency has indicated that the City has presented an appropriate plan for correcting the present environmental problems and for preventing the same adverse situation from occurring in the east settling tank. (Rec. 3). Both the City and the Agency feel that the alternative (i.e., "to do nothing and possibly have both final settling tanks out of service") would "result in a longer and more serious environmental impact". (Rec. 3). Therefore, the Agency has concluded that the City of Belvidere "has chosen the best alternative for correcting the problem and preventing future reoccurrence". (Rec. 3).

The Agency has noted that about 1-1/2 to 2 weeks of favorable weather is necessary to properly drain and perform the appropriate work on the East Final Settling Tank (including the time necessary to permit the WWTP to regain its equilibrium). Weather permitting, the City hopes to begin work on its East Final Settling Tank during the week of June 17, 1985. (Rec. 3).

Accordingly, the Agency has concluded that compliance on a short-term basis with the interim effluent limits for BOD and TSS set forth in the Petitioner's NPDES Permit would impose an arbitrary or unreasonable hardship upon the City of Belvidere. Therefore, the Agency recommends that the Board grant the Petitioner a provisional variance for a period of 30 days, subject to certain conditions.

Pursuant to Section 35(b) of the Illinois Environmental Act, the Board hereby grants the provisional variance as recommended.

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

ORDER

The City of Belvidere is hereby granted a provisional variance from the interim effluent limits for BOD and TSS in its NPDES Permit No. IL 0027685, subject to the following conditions:

1. This provisional variance shall commence on the date of the Board Order and continue for 30 days, or until one week after the East Final Settling Tank is placed back in service, whichever occurs first.

2. During the provisional variance period, Petitioner shall collect samples and analyze them for BOD and TSS. These results, along with the daily flow, shall be recorded and submitted to Mr. Robert Voss of the Agency's Compliance Assurance Section within 10 days of the end of the variance period at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
2200 Churchill Road
Springfield, Illinois 62706

3. The Petitioner shall notify Mr. Robert Voss via telephone at 217/782-9720 when the East Final Settling Tank is removed from service and when it is returned to service. Each telephone notification shall be confirmed within 5 days with a written notice sent to Mr. Robert Voss at the address given above.

4. During the provisional variance period, the Petitioner shall meet effluent limits of 80 mg/l for BOD and 120 mg/l for TSS.

5. The Petitioner shall return the East Final Settling Tank to service as quickly as possible, and shall provide the best treatment practicable during the provisional variance period.

6. Within 10 days of the date of the Board's Order, the Petitioner shall execute a Certificate of Acceptance and Agreement which shall be sent to Mr. Robert Voss of the Agency at the address specified in item #2 of this Order.

This certification shall have the following form:

I, (We) _____, having read the Order of the Illinois Pollution Control Board in PCB 85-81 dated June 13, 1985, understand and accept 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 13th day of June, 1985 by a vote of 6-0.

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