

ILLINOIS POLLUTION CONTROL BOARD
February 9, 1984

CITY OF CENTRALIA,)	
)	
Petitioner,)	
)	
v.)	PCB 83-103
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

OPINION AND ORDER OF THE BOARD (by B. Forcade):

This matter comes before the Board upon a petition for variance filed July 29, 1983, by the City of Centralia ("Centralia"), seeking relief from Conditions 2 and 3 of the Board's Order in City of Centralia v. EPA, (PCB 82-98, October 27, 1982, 49 PCB 237). The following is a summary of the regulations involved:

<u>35 Ill. Adm. Code</u>	<u>Chapter 3</u>	<u>Summary</u>
302.209	203(g)	Fecal coliform water quality standard of 200 counts/100 ml
304.120	404(c)	Effluent standard of 10/12 mg/l, BOD/TSS
304.121	405	Fecal coliform effluent standard of 400 counts/100 ml

On September 8, 1983, the Board struck specific portions of the July 29, 1983, petition and also ordered Centralia to file an amended petition. On October 17, 1983, Centralia filed an amended petition, but without the requisite affidavit, as noted in a Board Order of October 19, 1983. On November 21, 1983, Centralia filed a second amended petition for variance. December 30, 1983, the Illinois Environmental Protection Agency ("Agency") filed a recommendation that variance be granted subject to certain conditions. On January 13, 1984, Centralia filed a response to the Agency recommendation. The Agency filed an Amended Recommendation on January 27, 1984. No hearing was held and the Board has received no public comment.

Centralia operates a wastewater treatment plant serving 16,000 persons and some industry. It has a design average flow of 3.0 million gallons per day ("MGD"). It discharges pursuant to NPDES permit IL 0027979 to Sewer Creek, a tributary of Grand Point Creek, Crooked Creek and the Kaskaskia River. This permit has continued in force beyond its expiration date because of a timely reapplication.

The Plant was upgraded under the federal construction grants program in 1977 and 1980. The current plant includes grit removal, grease removal, an activated sludge unit, clarification, chemical addition, filtration and disinfection (Rec. ¶ 11).

In 1978, the Agency tested five rounds of stream samples taken downstream from Centralia. These samples showed violations of water quality standards for iron, ammonia nitrogen and dissolved oxygen, as well as fecal coliform. Sediments contained increased levels of chlorinated pesticides, organics, and lead (Rec. ¶ 12).

As recently as September 1983, an Agency biological and chemical survey of both Sewer and Grand Point Creeks showed a significant degradation of over five miles of the downstream water. Inspections showed water that was turbid with a strong sewage odor. Black sludge deposits were present about 200 yards downstream of the discharge (Rec. ¶ 14).

About three weeks after initial start-up of the upgraded plant, in May, 1980, the underdrains in one of three tertiary sand filters failed. During backwashing, filter media lodged in nozzle caps. This caused a pressure buildup which led to uplifting of a concrete slab in the filter cell. After this failure, the other two filters were removed from service. Since the plant had no provision for by-passing the filters to the chlorinator, it was also taken out of service. The plant is thus discharging an unchlorinated, secondary effluent. Besides the non-use of sand filters, the stream degradation may be caused in part by occasional by-passes due to excessive infiltration and inflow, and pump failures. Centralia is in the process of upgrading to reduce infiltration and inflow, and is "negotiating" the rehabilitation of the lift station which causes overflows (Rec. ¶ 26).

A report prepared by an independent consulting firm determined that failure of the sand filters was due to design error. Action against the designer and manufacturer was initiated in February, 1982. As of this date, no settlement has been reached. Centralia has indicated that in order to preserve evidence, it does not wish to repair the sand filters pending completion of litigation. The Board rejects

Centralia's claims of hardship arising from possible destruction of evidence through repair of the sand filters. As operator, Centralia's primary responsibility is to meet the effluent standards and avoid pollution of the waters of the State.

Centralia has also concluded that the original design of the sand filters was not compatible with its proposed, upgraded plant. Centralia prefers to upgrade the sand filters at a cost of \$250,000 to \$400,000. Because of the unexpected failure of the sand filters, and Centralia's decision to upgrade their design, the Board will grant additional time for construction.

In this proceeding Centralia requested variance from Conditions 2 and 3 of PCB 82-98. Those conditions involve interim effluent limitations and a construction schedule to achieve ultimate compliance with applicable Board regulations. The two conditions will be discussed separately.

INTERIM EFFLUENT LIMITATIONS

Condition 2 of the Board's Order in PCB 82-98 states that Centralia shall meet the following interim effluent limitations:

	<u>Daily Composite</u>	<u>Grab Sample</u>
BOD	30 mg/l	45 mg/l
TSS	30 mg/l	45 mg/l

Centralia proposes to modify this condition so that its effluent shall meet the following limitations:

	<u>30 Day Average</u>	<u>7 Day Average</u>
BOD	30 mg/l	45 mg/l
TSS	30 mg/l	45 mg/l

The Agency agrees with Centralia but requests a monthly average rather than a 30 day average (Rec. ¶ 9). The Board agrees that immediate compliance without repair of the sand filters would impose an arbitrary or unreasonable hardship. The Board does hold reservations regarding this variance and, thus, will add conditions to address Centralia's delinquency in dealing with several chronic problems.

Centralia's effluent, since July, 1982, has not consistently met even a 30/30 mg/l limitation based upon a 30 day average (Am. Pet., p.3). In July of 1982, after a shutdown period, Hollywood Brands Candy Company ("Hollywood"),

which discharges to the WWTP, resumed operation. Hollywood's slug discharges of organic effluent are partially responsible for increases in effluent concentrations (Rec. ¶ 6). As of the date of the second amended petition, Centralia's Phase I Pretreatment Study, which is to address the Hollywood problem, had not been submitted. Centralia's NPDES permit originally required a pretreatment plan in 1981. In 1982, Centralia's Consulting Engineer Bill Rose verbally committed to a completion date of May 30, 1983 (Rec. ¶ 8). In light of the pervasive treatment problems experienced by Centralia's system the Board will impose a condition requiring rapid development and implementation of a pretreatment program.

COMPLIANCE SCHEDULE

Condition 3 of the Board's Order in PCB 82-98 states that Centralia shall timely meet the following schedule for purposes of compliance with Sections 302.209, 304.120(c) and 304.121:

Complete design - July 31, 1983
 Complete construction - September 30, 1985
 Begin operation - October 31, 1985

Centralia requests more time and separate construction schedules in lieu of Condition 3 (Pet. Res. p.1). The Agency agrees to separate schedules (Rec. ¶ 41). These proposed schedules will be addressed as they apply to specific treatment problems; however, the Board will grant separate schedules for the following reasons:

- (1) The original variance dealt only with a schedule for upgrading the tertiary sand filters. Since October, 1982, additional operating problems which must be corrected have arisen.
- (2) The scope of the modifications has increased.
- (3) Centralia has not yet completed all of the necessary steps to receive available grants .

The treatment needs fall into the following general areas:

- (1) sewer rehabilitation and excess flow holding facilities,
- (2) filtration, (3) nitrification, (4) sludge handling, and
- (5) grit and grease removal facilities.

1. Sewer Rehabilitation and Excess Flow Facilities

Centralia applied for a grant for sewer rehabilitation and construction of relief sewers to eliminate on-system overflows and basement backups. In July, 1983, the Agency committed to issue certification to allow issuance

by USEPA of that grant. Design work is complete and permitted [WPC Permit #1983-IA-2188 (September 23, 1983)]. However, certification cannot proceed until Centralia acquires the necessary easements (Rec. ¶ 24).

Although this work will alleviate problems in the sewer system, it will result in flows to the treatment plant which are in excess of plant capacity. Therefore, the Board will adopt a separate schedule for the completion of the excess flow holding facility as requested by Centralia.

2. Filtration

Since the Board's October 27, 1982, Order the USEPA informed the Agency and Centralia by a letter dated September 7, 1983, that all costs associated with repair, replacement or reconstruction of the tertiary sand filters are ineligible for grant participation. This is based upon the certification by Centralia that the facility, as sized at the time of the grant, was adequate for the entire planning period (Rec. ¶ 31). Centralia has agreed that reconstruction can proceed as a separate project. In light of Centralia's decision to undertake improvements to the system which will result in better results, the Board will grant a schedule beyond the time required to repair the filters. However, for merely repairing the filters, a shortened period will apply.

3. Nitrification

Water quality sampling data since 1978 has shown values of ammonia nitrogen and un-ionized ammonia considerably in excess of the Board's water quality standard. Improvement in performance levels during the late summer of 1983 were at least partially due to a very dry period, which caused flow to the Centralia plant to be reduced. This variance will include, as a condition, a schedule for construction of nitrification facilities.

4. Sludge Handling

A method for sludge digestion continues to be of critical importance to the performance of the Centralia plant.

In 1979, Centralia submitted a Facilities Plan which called for the replacement of the activated sludge facilities, then under construction, with rotating biological contactor ("RBCs") units consisting of 20 shafts. The Plan claimed that this was the most cost effective method to achieve

compliance. The Facility Plan was approved on September 4, 1980 (Rec. ¶ 19).

During November 1982, the Agency learned of Centralia's plan to revise the number of RBCs from 20 to 40. The Agency then informed Centralia that any design changes had to be addressed in a revised Facility Plan (Rec. ¶ 20). Subsequent communication did not resolve the issue.

There is inadequate information for the Board to determine the exact secondary treatment or the final sludge handling method Centralia has chosen to incorporate. However, an agreed schedule for the installation of sludge handling equipment will be included as a condition of this variance.

5. Grit and Grease Removal Facilities

The grit removal system has failed and was out of service at the time of the Agency's Amended Recommendation. Also, the screening and grease removal facilities are ineffective due to poor design (Rec. ¶ 33). Centralia does not believe the system needs repair, asserting that manual grit removal is adequate (Pet. Res. ¶ 3).

A condition of this variance will be to place this equipment in proper operation. Federal funds helped build the system, and the system eases loadings to subsequent processes. Absent compelling reasons it must be operational.

TIMING

Centralia has requested that the existing variance be extended until 1987 (Pet. Res. ¶ 7), in that certain construction schedules cannot be completed until then. The Agency agrees that construction may take that long, but requests the variance terminate December 31, 1985 so that the Board may review Centralia's efforts in 2 years rather than 4 years (Am. Rec. ¶ 9). The Board adopts the 1985 termination date to ensure that Centralia diligently pursues the required improvements. Also, the Board adopts the construction schedules upon which Centralia and Agency agree.

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

ORDER

Petitioner, the City of Centralia, is hereby granted for its wastewater treatment plant a variance from conditions 2 and 3 of the Board's Order in PCB 82-98, subject to the following conditions:

1. This variance will expire on December 31, 1985.
2. Centralia shall meet the following interim effluent limitations:

	<u>Monthly Composite</u>	<u>Sample Type</u>	<u>7 Day Avg.</u>
BOD (5 day)	30 mg/l	Daily Composite	45 mg/l
TSS	30 mg/l	Daily Composite	45 mg/l

- A. Centralia shall continue to study and evaluate unit modifications and process control changes in order to achieve the best quality effluent and to implement such changes and modifications necessary to achieve the best quality effluent. Centralia shall submit quarterly reports to the Agency beginning 30 days after signing the certification detailing its efforts.
 - B. Centralia shall actively enforce any existing sewer use ordinance and promptly take all other practicable remedial action to prevent the discharge of wastewater from any industry to Centralia sewers in slug or batch amounts.
 - C. Centralia shall submit its Phase I Pretreatment Study to the Agency no later than April 1, 1984 and shall take all steps necessary to implement an effective pretreatment program as expeditiously as possible.
3. Centralia shall meet the following schedule:
 - A. Complete work on the sewer rehabilitation and relief sewer project identified in Agency WPC Permit #1983-IA-2188 issued by the Agency on September 23, 1983, as follows:
 1. Complete easement acquisition - within 30 days after signing the certification.
 2. Award construction contract - August 15, 1984
 3. Commence construction - September 15, 1984

4. Complete construction - September 15, 1985
- B. Commence and complete work to rehabilitate, repair and place back in operation, the existing tertiary sand filters by June 1, 1984, and meet the following construction schedule for increasing the filtration capacity:
1. Advertise for bids - April 1, 1984
 2. Receive bids - May 1, 1984
 3. Award contract - June 1, 1984
 4. Commence construction - July 1, 1984
 5. Complete construction - January 1, 1985
 6. Reach operation level - February 1, 1985
- C. Commence and complete work on excess flow holding facilities, nitrification facilities, and sludge handling facilities which will bring the operation of Centralia's treatment plant into compliance with all applicable Board effluent and water quality standards and Agency promulgated design criteria in accordance with the following schedule:
1. Submit necessary facility planning documents - within 30 days after signing the certification.
 2. Submit complete plans and specifications, required for issuance of construction permits - March 1, 1985
 3. Advertise for bids - June 1, 1985
 4. Commence construction - October 1, 1985
 5. Complete construction - October 1, 1986
4. Centralia shall commence and complete work in order to place the mechanical grit and grease removal systems in operation by June 1, 1984, to be operated in accordance with paragraph 5 of the Agency's Amended Recommendation.

- 5. Beginning on July 1, 1984 and continuing thereafter on a monthly basis Centralia shall submit a report with its DMR detailing the results and progress of construction during the preceding month.
- 6. Centralia shall maintain the pumps at the terminal shift station in working order.
- 7. Centralia shall provide the best practicable degree of operation and maintenance both at the waste-water treatment plant and on the sewer system in order to keep the pollutant load to the receiving stream at a minimum.
- 8. Within forty-five days of the date of this Order, Centralia shall execute and forward to the Illinois Environmental Protection Agency, Variance Section, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound by all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the Certificate shall be as follows:


CERTIFICATION

I, (We,) _____, having read and fully understanding the Order in PCB 83-103, hereby accept that Order and agree to be bound by all of its terms and conditions.

SIGNED _____
TITLE _____
DATE _____

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 9th day of February, 1984 by a vote of 7-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board