ILLINOIS POLLUTION CONTROL BOARD
July 21, 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, Complainant,	)	
v.	)	PCB 81-145
CITY OF CARROLLTON, a municipal corporation, Respondent.	)	

MS. CHRISTINE ZEMAN, ASSISTANT ATTORNEY GENERAL, APPEARED ON BEHALF OF COMPLAINANT;

MR. HUGH A STRICKLAND, McDONALD, STRICKLAND & CLOUGH, APPEARED ON BEHALF OF RESPONDENT.

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

This matter comes before the Board upon a complaint filed September 15, 1981 by the Illinois Environmental Protection Agency (Agency) naming as Respondent the City of Carrollton. The Complaint alleges violation of Sections 12(a) and 12(f) of the Illinois Environmental Protection Act (Act) and Rules 105, 203(a), 402, 403, 501(c) and 901 of Chapter 3: Water Pollution. These violations arise out of operation of a municipal wastewater treatment plant. On November 13, 1981 a public hearing was held at Carrollton. There is no indication of public participation.

On October 19, 1981 the Agency filed a First Request for Admission of Fact and Genuineness of Documents. The truth of the facts was admitted at the hearing (R.7). The Agency also amended the Complaint on the record at the hearing (R.4). The amendments updated the Complaint to include an Agency inspection of November 4, 1981.

The Carrollton plant includes the following: a diversion structure and septic tank for overflows; aerated grit chamber; package activated sludge plant; and, an effluent flow meter (R.31). The plant has a design flow of 1.1×10^6 liters per day (0.3 MGD)(Ex.5, p.11). It discharges to Link Branch, a tributary of the Illinois River via Macoupin Creek (Ex.5). Carrollton has a population of 2866.

Carrollton was issued NPDES Permit No. IL 0021679 by the United States Environmental Protection Agency (USEPA) on

July 31, 1977 (Ex.5). It was to expire on December 31, 1981. There is no indication that the permit has been renewed. Attached to the permit was an enforcement compliance letter with more relaxed effluent limitations. The plant was required to meet 4 mg/l for 5-day biochemical oxygen demand (BOD) and 5 mg/l for total suspended solids (TSS) on a 30-day average. The compliance letter allowed up to 30 mg/l for each. It is apparent that these levels were exceeded by a huge amount, although the Agency has not alleged these violations, relying instead on the conditions of Attachment A which prohibit discharge of floating solids or visible foam in other than trace amounts.

The following is a summary of the allegations of the Complaint:

Count	Section/Rule	Summary
I	§12(a) and (f) 403, 901	Discharge of floating solids or visible foam in violation of Board rules and permit conditions
II	§12(a) 203(a), 402	Causing unnatural sludge or floating debris in Link Branch in violation of Board rules
III	§12(a) and (f) 501(c), 901	Failure to sample influent as required by NPDES condition
IV	§12(a) and (f) 105, 501(c) and 901	Failure to monitor as required by Board rule and NPDES permit condition
V	§12(a) and (f) 901	Failure to provide optimum maintenance and operation and adequate staff as required by NPDES condition

Agency inspectors noted a colored or turbid discharge, floating material and sludge deposits downstream of the plant on eight instances between May, 1979 and November, 1981 (R.32, 35, 43, 49, 59, 64, 75, 76, 79, 82, Ex.7). The plant operator admitted that he had observed an effluent dark in color and sludge deposits downstream (R.109). The Board finds that Respondent has violated Sections 12(a) and 12(f) of the Act and Rules 203(a), 402, 403 and 901 of Chapter 3, substantially as alleged in Counts I and II. (These rules are to be codified as Sections 302.203, 304.105, 304.106 and 309.102).

Agency inspections on May 10, 1979 and November 4, 1981 disclosed that influent sampling was not being conducted as required by Attachment A, page 2 of the NPDES permit (R. 61, 83). This condition required monitoring of BOD, TSS and ammonia at the point of entry into the plant. This was to be by a composite taken each month (Ex. 5). The Board finds Respondent in violation of Section 12(f) of the Act and Rule 501(c) of Chapter 3 [Section 305.102(c)], substantially as alleged in Count III of the Complaint. No violation of Section 12(a) or Rule 901 will be found because Section 12(f) and Rule 501(c) address the conduct more specifically.

Counts III, IV and V involve allegations of failure to monitor as required and failure to provide optimum maintenance and operation. In some areas these violations overlap. For example, the failure to properly measure flow is related to the failure to properly calibrate the measuring equipment.

Rule 105 requires monitoring according to USEPA's current manual of practice or other procedures acceptable to USEPA and the Agency. Rule 501(c) requires permittees to comply with the monitoring, sampling and recording requirements in NPDES permits. Condition 3B of Attachment A requires analytical and sampling methods to conform with Standard Methods for the Examination of Water and Wastewaters, 13th Edition, 1971, or two other named publications, or equivalent methods pursuant to prior written approval.

The plant operator admitted that he did not know what the requirements for TSS and BOD sampling were and that he did not comply with them (R. 97, 103, 105).

Agency inspections indicate that Carrollton actually measures only flow and pH. These are measured by unapproved methods. All other "monitoring" is guesswork (R. 45, 74, 104). The following are details of monitoring deficiencies:

1. pH is measured by a "photometric method"; whereas, use of a pH meter is required (R. 74, 97).

2. Flow meters require annual calibration; whereas, Carrollton's was calibrated in 1974 and 1981 (R. 34, 63, 83, 105).

3. Carrollton does not have equipment to perform BOD or TSS tests. These were once done by the operator in a nearby town, but have been guessed since he quit (R.98).

4. The permit requires a monthly grab sample for fecal coliform and a monthly composite for ammonia. The details of this monitoring, or lack of it, are not disclosed (Ex.5).

5. Agency inspectors noted outdated analytical chemicals at the facility (R.42).

There are a number of tests which are not required by the permit but which are necessary to monitor conditions within the treatment works to obtain optimum efficiency. These include a dissolved oxygen (DO) meter to efficiently operate the activated sludge process (R.63, 78, 83). Agency measurements indicate inadequate DO levels in the process (R.78).

The following equipment necessary for monitoring or optimum efficiency is missing:

1. There is no pH meter (R.42, 97).

2. There is no DO meter (R.78).

3. There is no analytical balance necessary for BOD and TSS monitoring (R.42, 45, 63, 83, 97, 124).

4. Operation manuals are missing (R.70, 82, 104).

The following are failures in routine maintenance which impair optimum efficiency:

1. Carrollton does not keep operating records of the plant (R.71, 81, 104).

2. The lift pump used for pumping sludge from the aerobic digester required cleaning and replacement of parts (R.67, 81, 115, 129). Because of this sludge recirculated in the system to be discharged rather than be removed.

3. The City failed to recalibrate flow meters annually from 1974 until 1981 (R.63, 83, 105).

4. The sludge lagoon was near overflow on September 5, 1979 and on January 23, 1980, restricting capacity to remove sludge from the plant (R.32, 65, 77, 80, 96, 121, Ex.6B).

5. There was a leak in the septic tank on September 5, 1979 and on January 23, 1980 (R.32, 66, 77, 80, 120, Ex.6A).

6. The City failed to remove sludge from the septic tank (R.96, 122, 132).

7. Clarifier effluent weir was cleaned on a weekly, rather than a daily, basis as of March 26, 1980 and November 4, 1980 (R.68, 81, 96).

8. Clarifier effluent weir was not level, reducing detention time and impairing effluent quality (R.61, 65, 118, 134).

9. Solenoid on clarifier skimmer was inoperative on June 12, 1980 (R.68, 118, 130).

10. The City failed to replace broken diffusers in aerobic digester and reaeration tank (R.61, 69).

11. The City failed to clean diffusers(R.61, 70, 80, 82, 119, 130).

12. Inflow comminutor was missing (R.31, 36, 81, Ex.6C).

In addition to these items, there is dispute concerning the blower motors. Air is injected into the aeration tank by electric blowers (R.71, 76, 78, 80). This provides mixing and dissolved oxygen necessary for efficient treatment. Agency inspectors observed "dead spots" in the aeration tank caused by inadequate mixing. They measured residual DO levels which were inadequate for treatment (R.70). The facility is equipped with two blowers; however, only a single blower was in operation on March 26, 1980. The operator indicated that he was not allowed to operate both blowers because of utility costs (R.71).

On June 12, 1980 the operator indicated that he had been operating both blowers two hours per day, but was not allowed to operate the second blower continuously for more than two hours because of operational problems with one blower and because of utility expenses (R.76).

On July 11, 1980 the Agency performed process control tests with Agency equipment. These indicated the need for a higher level of aeration. The operator indicated that even with the blower returned to continuous operation he would not be allowed to run it for a long period of time because of utility expense (R.79, 127).

Carrollton believes the plant was designed for operation of only a single blower at a time, with the second intended as a back-up. It was necessary to rewire the plant to operate both motors simultaneously (R. 107, 114, 117, 126, 127, 133). Although it is possible that the plant was designed with inadequate aeration capacity, it was Carrollton's responsibility to assure adequate design, monitor performance and upgrade if necessary. A more likely explanation for the low DO lies in inadequate maintenance of the plant, especially the blower tubes and failure to remove sludge at proper intervals. The necessity of operating both blowers may stem from these deficiencies.

The Board finds that Carrollton has violated Sections 12(a) and 12(f) of the Act and Rules 501(c) and 901 of Chapter 3: Water Pollution (codified as Sections 305.102(a) and 309.102) substantially as alleged in Counts IV and V of the Complaint. Rule 105 (Section 301.104) is not a prohibition, but a direction to the Agency in writing permits.

The record shows that the Agency notified Carrollton of the inadequate reporting, analytical equipment and maintenance as early as March, 1977 (Ex. 1). Repeated notices followed through the time span alleged in the Complaint. In many instances Carrollton eventually remedied the deficiencies (R. 118, 121).

The Agency contends that the operator has inadequate training and does not spend enough time at the plant. The Agency has not however alleged violation of the operator certification rules (R. 54). The Agency recommends that the operator be present at this class of facility at least four hours per day, five days per week, although this has not been made a permit condition (R. 38). The operator spends about three hours per day at the plant and has other duties away from the plant (R. 94). The violation in Count V is based on the general evidence of neglect noted above, and not on time spent at the plant by the operator.

Some maintenance tasks require several men (R. 120). It takes several weeks or a month before Carrollton assigns manpower to these tasks (R. 132). It is apparent that the City doesn't place a sufficiently high priority on sewage plant maintenance.

As noted, the violations of the monitoring and maintenance requirements led to gross pollution involving the discharge of floating solids, colored, malodorous water and accumulation of sludge banks downstream of the plant. The Board regards this as a substantial injury to and interference with the protection of the health, general welfare and physical property of the people downstream [Section 33(c)(1) of the Act].

The treatment plant's social and economic value is reduced by inadequate maintenance and operation in gross disregard for permit conditions. There is no question as to suitability to the area [Sections 33(c)(2) and 33(c)(3)].

Carrollton's defense rests largely on its financial difficulties (Resp. Ex. 1)(R.133). Although the Board recognizes that replacement of the plant without grant funding may be at the limit of Carrollton's ability to pay, the gross noncompliance results from a continuing disregard for efficient operation practices and routine maintenance. Many of the plant's problems could have been avoided through small expenses over the years. The Board finds that it is technically practicable and economically reasonable to reduce or eliminate the offensive discharges and deposits [Section 33(c)(4) of the Act].

Although the Board recognizes that it will necessarily reduce the resources available to remedy the situation, it finds that a monetary penalty in the amount of $4300 is necessary to aid enforcement of the Act. Carrollton will be ordered to cease and desist these violations. No compliance schedule can be ordered because there is inadequate evidence in the record concerning what remedial measures must be undertaken and the amount of time required for completion. Carrollton will be ordered to meet with the Agency within 60 days to discuss compliance alternatives. A variance petition may be necessary if Carrollton cannot come into full compliance immediately.

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

ORDER

1. Respondent the City of Carrollton has violated Sections 12(a) and 12(f) of the Environmental Protection Act and Rules 203(a), 402, 403, 501(c) and 901 of Chapter 3: Water Pollution.

2. Within 90 days of the date of this Order, Respondent shall cease and desist further violations of Section 12 of the Act and Rules 203(a), 402, 403, 501(c) and 901 of Chapter 3: Water Pollution (to be codified as Sections 302.203, 304.105, 304.106, 305.102(c) and 309.102).

3. Within 60 days of the date of this Order, Respondent shall meet with the Environmental Protection Agency at a time and place to be set by the Agency in order

to arrive at a program for achieving compliance by the plant.

4. Respondent shall, within 35 days of the date of this Order, by certified check or money order payable to the State of Illinois, pay a civil penalty of $4300 which is to be sent to:

State of Illinois
Fiscal Services Division
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

IT IS SO ORDERED.

Board Member Dumelle dissented.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 21st day of July, 1982 by a vote of 4-1.

Christan L. Moffett

Christan L. Moffett, Clerk
Illinois Pollution Control Board