

ILLINOIS POLLUTION CONTROL BOARD

February 14, 1974

ENVIRONMENTAL PROTECTION AGENCY)
COMPLAINANT)

v.)

PCB 72-283

CITY OF ABINGDON AND)
AMERICAN SANITARY DIVISION OF)
STA-RITE INDUSTRIES, INC.)
RESPONDENTS)

PRESCOTT E. BLOOM in behalf of the ENVIRONMENTAL PROTECTION AGENCY
DAVID R. McDONALD, CITY ATTORNEY, in behalf of the CITY OF ABINGDON
DAVID E. BECKWITH in behalf of STA-RITE

OPINION AND ORDER OF THE BOARD (by Mr. Marder)

This action involves an enforcement case filed on July 6, 1972, by the Environmental Protection Agency against the City of Abingdon and Sta-Rite Industries (joint Respondents). The complaint alleges infractions of various Sanitary Water Board regulations as well as violation of Section 12 (a) of the Environmental Protection Act. Violations are alleged from "on and after November 19, 1970."

The City of Abingdon owns and operates a trickling filter sewage treatment plant (STP) in Knox County, Illinois. The STP discharges its effluent into Dago Slough, a tributary of Indian Creek which is in turn a tributary to Cedar Creek. Sta-Rite, Inc., owns and operates facilities in the city of Abingdon.

As of the date of this opinion Respondent Sta-Rite has discontinued all plating operations at its Abingdon plant. This is particularly important in that it was the discharges from said plating operation (cyanide, heavy metals) which are the alleged contaminants complained of. Respondent Sta-Rite had owned and operated a facility for the manufacture of both plumbing and swimming pool fixtures. As part of this operation Sta-Rite operated two plating operations (R. 415): hand plating and automatic plating. The hand plating operation consisted of a number of open tanks in which parts are immersed and withdrawn by hand. The automatic plater is similar to the above except that a conveyor and hook system is used to move the components from tank to tank. The entire plant used in the vicinity of 8 to 9 million gallons of water in a three-month period (R. 417).

Sta-Rite presently is conducting a stripping operation at its plant site. This operation is used to remove defective plating from a part. The operation is an acid electrical system which generates a sludge which settles to the bottom of a tank (R. 458), and is then removed and disposed of.

Specific charges alleged against Respondents are as follows:

Count I: Sta-Rite Industries

- A) Violation of 12 (a) - Discharge of contaminants.
- B) Violation of Sanitary Water Board-14 Rule 1.03 (a) - allowed discharges which form bottom deposits detrimental to bottom biota.
- C) Violation of SWB-14 Rule 1.03 (d) - discharge of substances which are toxic to human, plant or aquatic life; causing two separate fish kills on or about November 19, 1970, and December 8, 1971.
- D) Violation of SWB-14 Rule 1.05 (d) - discharges in excess of 48 hour median tolerance level.
- E) Violation of SWB-14 Rule 1.07 (1) - discharges that form sludge deposits at points from which water is withdrawn for livestock feeding.
- F) Violation of SWB-14 Rule 1.07 (4) - discharged substances harmful to human, animal, plant or aquatic life at points where water is withdrawn for livestock watering.
- G) Violation of SWB-5 Rule 1.01 - discharge to sewer system.

Count II: City of Abingdon

- A) The above (A) to (F) are alleged against the city of Abingdon.
- B) Violation of Section 12 (b) of the Environmental Protection Act - violation of Agency operating permit conditions.

This type of action, although not unprecedented, is somewhat unique. The question arises as to who is responsible for discharges into waters of the state if said discharges were "passed" through a city treatment plant. It is clear that the city plant is under permit to treat influent so as to meet effluent criteria and on that simple fact one could argue that the entire case against Sta-Rite with the exception of SWB-5 should be dismissed. This, however, is not the case. Section 12 and specifically 12 (a) of the Environmental Protection Act dictates that no one shall discharge contaminants so as to cause water pollution. The SWB regulations, although passed prior to the passage of the Environmental Protection Act, were incorporated in Section 49 (c) as being the effective tool of the Act until new regulations could be promulgated. All regulations embraced by the Act are meant to be clarifications and extensions of the Act and can thereby in no way distract from the Act's general principles. The intent of Section 12 (a) is abundantly clear.

The fact that a discharge is to the city sewer rather than directly to the waters of the state simply allows a "second shot" at treatment, but in no way allows contaminants above prescribed levels.

The above should not be considered a method for STP operators to disavow responsibility for their plant in the event of upset, but rather asserts that when a plant is upset by a sudden change in either quality or quantity of effluent, both the discharger to, and the operator of, the STP have unique responsibility. The operation and maintenance of an STP under normal conditions is clearly the responsibility of the owner of the STP.

Two previous cases before the Board have dealt with this very issue: Environmental Protection Agency v. Airtex Products, Inc. and City of Fairfield, PCB 71-325, and Environmental Protection Agency v. Village of Augusta, Dennis Food Co. and Dennis Chicken Products, Inc., PCB 71-364. In both of these instances the higher monetary penalty was imposed on the initial discharger. The Board's decisions were based on our understandings of the mandate of the Environmental Protection Act. (On appellate review Airtex Products, Inc., v. Illinois Pollution Control Board, #72-80, 5th District, the Airtex action was reversed as to the penalty; however, the decision stood. The question of penalty power of the Board is under Illinois Supreme Court review as of the date of this opinion.)

We now turn to the facts of the instant case. Mr. Rubinfeld (STP operator for city) testified as to the sampling procedure used during his operation of the plant. On November 19, 1970, Mr. Rubinfeld found his sample to be high in pH, and that the growth on the trickling filter was destroyed (R. 32). Mr. Rubinfeld further testified that on November 19, 1970, he had a discussion with Sta-Rite employees (Dale Essex, Marshall Hobbing) about the high pH reading at Sta-Rite's plating room. The discussion revealed that a cleaner tank was dumped. No evidence was elicited as to what was in the cleaner tank (R. 31). Mr. Rubinfeld then called Mr. Ken Meredith (Illinois Environmental Protection Agency) and notified him that there was an apparent fish kill. This was noted by the presence of fish floating on the water surface at about 12 noon of November 19, 1970

Mr. Rubinfeld next testified as to events on August 4, 1971; again the pH was high (10.4). The presence of chrome and a fish kill were noted. Growth on the trickling filter was destroyed (R. 35). On this date Sta-Rite called the city stating that a slug of cyanide had been released to the city. The Illinois Environmental Protection Agency was again notified (R. 36). Mr. Rubinfeld further testified that during July or August of 1971 he had received complaints from farmers alleging cattle kills. It is important to note that when the algae growth on a trickling filter is destroyed, this essentially makes secondary treatment at the plant impossible. A new growth takes between 38 and 40 days to reinstate itself (R. 63).

Under cross-examination it was established that on August 4, 1971, the cyanide slug had come from a leaky drum and that Sta-Rite had attempted to correct the situation by addition of chlorine (R. 66).

Ms. Jean Chang testified as to results run on samples from the city of Sta-Rite's discharges. Samples were run on Jan. 12, Feb. 4, and March 16, 1972. The following results were reported (R. 73-75):

Samples During 1972

	Jan. 12	Feb. 4	Mar. 16
Nickel	0.56 ppm	0.25	No reading
Chrome	5.480 ppm	7.0	5.303
Copper	0.320 ppm	2.0	0.091
Zinc	0.012 ppm	5.0	> .004
Cyanide	No report	0.265	.002
pH	No report	13.3	10.2

These samples have relevance in that Sta-Rite has alleged that all cyanide usage ended in November 1971, and yet the February 1972 analysis shows 0.265 ppm. This would indicate that residual cyanide is still entering the city sewers from some source.

Mr. Meredith next testified as to his investigations. On November 19, 1970, Mr. Meredith conducted a field survey of the area. He noted that the trickling filter was being bypassed. Samples were collected at various points. Complainant's Exhibit #1 was introduced as a report of Mr. Meredith's findings. The report affirms the allegations of a fish kill on the above date. Analysis in Exhibit #1 (admitted by hearing officer*) shows no heavy metals upstream of the plant and the presence of cyanide, nickel, zinc, and chrome both in the STP influent and in the STP discharge and the receiving streams. Upon motion of Respondent City of Abingdon all biological tests were struck as not having proper foundation. Complainant's Exhibit #2 was entered as a summary of the August 4, 1971 on-site survey. This was the date of the cyanide leak from Sta-Rite. The following data was recorded.

	Upstream	Infl. STP	Eff. STP	Dago Slough Down	Indian Creek Upstream	Indian Creek Downstream
Cyanide	0 mg/l	0.02	0.0	0.0	0.0	3.0
Nickel	0	3.5	4.5	2.5	0.06	2.5
Chrome +3	0	2.9	0.7	0.07	0	0.05
Chrome +6	0	0	1.5	0	0	0
Copper	0	0.58	0.35	0.15	0.16	0.94
Lead	0	0.13	0.08	0.025	0	0.175

It must be noted that these samples were taken some time after the cyanide slug passed through the treatment plant and this could explain

* There was much discussion as to the validity of test results. Upon objection from Respondents, the hearing officer agreed to strike some of the analytical data. The hearing officer has resigned from the Board's service and did not strike the abovementioned data. From review of the record, the Board has determined which data should be struck and will not rely on said data in its determinations.

the high cyanide readings downstream (e.g., Indian Creek).

Mr. Meredith testified as to results of a tissue test run on cattle which had died downstream of the treatment plant. The Animal Diagnostic Lab reported that tests for heavy metals and cyanide had proven negative (R. 115). There was no proof that the cattle were poisoned by the presence of toxic materials; in fact, the presence of poison weeds in the area was testified to (R. 289).

Under cross-examination it was pointed out that some of the analysis for cyanide showed seeming discrepancies. Mr. Meredith explained when cyanide is discharged in slugs the release of cyanide may be slow and not show up immediately (R. 159). Mr. Meredith pointed out that the city was doing an excellent job with the facilities provided (R. 184).

Mr. Tucker next testified (Ill. Environmental Protection Agency biologist). He testified as to a survey made on the area surrounding the city's STP (R. 196). His conclusions, given in Complainant's Exhibit #4, show that the stream upstream of the STP was semipolluted, while the downstream portion was classified as polluted.

A number of citizen witnesses testified as to cattle kills during 1970 and 1971. As mentioned above, no proof was offered as to the cause of these alleged cattle kills.

Mr. Lyle Ray (Agency sanitarian) next testified as to the results of investigations made of the STP and surrounding areas. His testimony centered around Sept. 21, 28, October 5, 18, Nov. 16, and Dec. 8, 1971. Much evidence was gathered, and Complainant's Exhibits #7,8,9,10,11 were entered, being reports of Mr. Ray's findings. Mr. Ray reconfirmed much of Mr. Meredith's testimony as to his observations of the trickling filter (R. 214) and stream conditions. Mr. Ray reported that bottom samples taken downstream of the STP on Nov. 9, 1971, had a septic odor, were black, apparently organic in nature and approximately two feet deep (R. 242). He also reported that the water was turbid and gray. He also testified that the water upstream of the plant was clear, and the bottom deposits were of a normal color. Results of bottom mud samples recorded on November 9, 1971 (not struck) were as follows:

Constituent	Upstream	Downstream	Confluence Upstream	Confluence Downstream
Lead mg/l	56	73	54	63
Chromium +3 mg/l	2.5	51	2.4	18
Cyanide* mg/l	0	0.05	5.0	0.02
Nickel mg/l	5.0	52	0.04	29
Cadmium mg/l	0.09	10	0.04	5
Zinc mg/l	10.0	53	10.0	24

On Nov. 16, 1971, the following bottom results were determined:

* All cyanide readings are from water samples rather than bottom samples.

Constituent	Upstream	Downstream	Confluence Upstream	Confluence Downstream
Copper mg/l	25	85	5.0	30.0
Chromium mg/l	10	140	4.5	33
Cyanide* mg/l	0.002	0.02	0.005	0.015
Cadmium mg/l	0.11	10.0	0.11	4.0

Testimony as to stream conditions on October 18, 1971, was similar to the above as regarding the deterioration of the stream as a result of the STP effluent. Septic odors were noted downstream of the plant and the bottom deposits were black (R. 258). On this date a fish kill was noted downstream of the STP (R. 263).

Under cross-examination it was shown that bottom deposits are not black and septic from heavy metals but rather from rotted sewage (R. 277), and that much of the turbidity and discoloration is due to inadequate treatment rather than heavy metals (R. 279). It was pointed out that poison weeds were indeed growing along the banks of the stream (R. 289). Some discussion was had as to the validity of the bottom samples and the reasons for the seeming inconsistency in analysis (R. 296). Although a solid answer was not given for these apparent variables (the slug theory was advanced and has merit, R. 298), the Board finds that, indeed, the bottom samples show a long history of heavy metal discharges. It has also been shown that Sta-Rite is the only discharger of consequence of heavy metals into the city sewers. Also under cross-examination, it was pointed out that cyanide discharges could affect the operation of the STP and thus could be the "real" culprit for septic odors and bottom deposits (R. 310).

Mr. Alec Pulley next testified as to the methodology used in determining the extent of fish kills on November 19, 1970, and December 8, 1971. Complainant's Exhibits 13 and 14 were entered detailing the studies made (R. 327, 342). By standard methods fish kills were estimated at \$844.50 on December 8, 1971, and \$231.52 on November 19, 1970.

Mr. R. Guiler (employee of Sta-Rite) next testified as to operations at Sta-Rite. Mr. Guiler stated that as of 6/19/73 all plating had ceased and that the plumbing operation had been discontinued (R. 415). He also testified that the plant had ceased the use of cyanide on November 16, 1971 (Note: This is before the alleged December 8, 1971, fish kill) (R. 439). However, it was pointed out that an acid stripping compound is still in use at Sta-Rite (R. 457), and it is possible that some heavy metals could be dumped to the sewer as a result of this operation (R. 461).

Mr. Hopping (employee of Sta-Rite) next testified as to the operations of Sta-Rite. He was in charge of treating cyanide at the plant (R. 496). Mr. Hopping testified as to the August 1971 cyanide leak

* All cyanide readings are from water samples rather than bottom samples

and added that the plant had had various tanks leak (R. 499-500). Mr. Hopping further testified that Sta-Rite had a program to install liners in tanks and were installing them as fast as possible (R. 503). Mr. D. Toft (factory manager Sta-Rite) testified that he was not aware of the Abingdon city sewer ordinance restricting discharge to the city's sewers (Abingdon Exhibit #1 in force April 5, 1971).

Mr. Sam Rubinfeld next testified for the City of Abingdon. He testified as to a meeting held in December 1970, at which the Sta-Rite Corp. was told of the problems caused by cyanide in their discharges (R. 544). It was also pointed out that the "Hack" test used by the STP for determination of cyanide would be interfered with by the presence of copper (R. 574). Mr. S. Mangieri next testified (mayor of city) and confirmed the 1970 meeting (R. 589) and offered information as to the bond indebtedness of the city.

All of the above is a summation of testimony elicited during hearings. It is admittedly somewhat confusing, especially in light of the large number of charges alleged against the Respondents. The Board must determine which of said charges are valid, and, if valid, to whom should the blame be affixed. The following is a summary of facts.

1. Overwhelming testimony was generated that Sta-Rite had discharged both cyanide and heavy metals into the city sewers.
2. It has been proven that the presence of these contaminants can upset the normal operation of the STP.
3. Despite Sta-Rite allegations that it interpreted the results of its negotiations with the Sanitary Water Board as equivalent to the issuance of a permit (Brief Pg. 5), there is no record of a permit having been granted (Complainant's Exhibit #10, Pg. 6 #4).
4. Sta-Rite was in violation of a signed effective city ordinance after April 5, 1971.
5. Bottom samples have shown that a long period of discharging must have occurred.
6. It is reasonable to find that the presence of contaminants slightly upstream of creek confluence could be attributed to the STP discharges. This is true because of the obvious long-term discharges and the accumulation of contaminants in bottom samples.
7. By Sta-Rite's own witness's admission (testimony of Mr. Hopping) Sta-Rite had equipment which was prone to leakage.
8. Sta-Rite's problem and thus the city's and the environment's problem would be nowhere near as great if the STP had been of a larger capacity. This point is important, in that to some extent it mitigates the circumstances. This fact (small STP) is clearly out of Sta-Rite's control.

Summary of Findings: The evidence presented in this case shows:

1. Violation of 12 (a): Both respondents are guilty.
2. Violation of SWB-14, Rule 1.03 (a): Both respondents are guilty.

3. Fish kill on November 19, 1970: Both Respondents are guilty.
4. Fish kill on December 8, 1971: Although a fish kill occurred, there was insufficient evidence to prove guilt.
5. Violation of SWB-14 Rule 1.05 (d): No effort was made to enter the TLM for any of these compounds, therefore no showing of violation was made and no guilt proven.
6. Violation of SWB-14 Rule 1.07 (1); SWB-14 Rule 1.07 (4): Although no proof of the reason for cattle kills was entered, sufficient evidence was entered to prove that contaminants were present at these sites. Both Respondents are guilty.
7. Violation of SWB-5, Rule 1.01: No evidence of a formal permit was established by Sta-Rite. Sta-Rite is found guilty.
8. Violation 12 (b): The evidence is clear that the City of Abingdon is guilty of this charge.

In establishing a penalty the Board has carefully considered all the facts and takes into account the considerations it is mandated to consider under Section 33 of the Act. For violations found Sta-Rite will be assessed a \$2000 penalty plus one-half of the value of the November 19 fish kill (\$115.76). The City of Abingdon will be assessed a \$250 penalty plus one-half of the November 19 fish kill (\$115.76). The Board again restates its opinion that much of the reason for the deterioration of the receiving streams is due to the initial discharges of Sta-Rite. Had Sta-Rite conformed with SWB-5 Rule 1.01, this situation could possibly have been avoided.

This Opinion constitutes the findings of fact and conclusions of law of the Board.

ORDER

IT IS THE ORDER of the Pollution Control Board that:

1. For violations found above, Respondent Sta-Rite shall pay to the State of Illinois the sum of \$2115.76 within 35 days from the date of this Order, of which \$115.76 shall be placed in the Game and Fish Fund of the State Treasury pursuant to Section 42 of the Environmental Protection Act. Penalty payment by certified check or money order payable to the State of Illinois shall be made to: Fiscal Services Division, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706.
2. For violations found above, Respondent City of Abingdon shall pay to the State of Illinois the sum of \$365.76 within 35 days from the date of this Order, of which \$115.76 shall be placed in the Game and Fish Fund of the State Treasury pursuant to Section 42 of the Environmental Protection Act. Penalty payment by certified check or money order payable to the State of Illinois shall be made to: Fiscal Services Division, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, certify that the above Opinion and Order was adopted by the Board on the 14th day of February, 1974, by a vote of 5 to 0.

Christan L. Moffett