

ILLINOIS POLLUTION CONTROL BOARD

April 4, 1975

ENVIRONMENTAL PROTECTION AGENCY,)
Complainant,)
v.) PCB 73-414
FEDERAL PAPER BOARD COMPANY, INC.)
a New York corporation qualified)
to do business in Illinois,)
Respondent.)

Mr. Frederic J. Entin, attorney for Complainant.
Mr. Henry F. Field, attorney for Respondent.

OPINION AND ORDER OF THE BOARD (by Dr. Odell)

On September 28, 1973, the Illinois Environmental Protection Agency (Agency) filed a Complaint against the Federal Paper Board Company (Federal) with the Illinois Pollution Control Board (Board). An Amended Complaint was filed on January 29, 1974. Federal operates a manufacturing facility (the Morris Mill) which produces various paper products including paperboard. Respondent's operations discharge waste waters to the City of Morris sewer system and also, in much larger quantities, to an unnamed intermittent stream tributary to the Illinois River. The facility is located at 600 East North Street, City of Morris, Grundy County, Illinois.

The Amended Complaint charged that from July 1, 1970, until January 29, 1974, Respondent operated its facility causing water pollution in violation of Sections 12(a) and 12(c) of the Illinois Environmental Protection Act (Act), various rules of the Sanitary Water Board (SWB-8 and SWB-14), and certain rules of the Water Pollution Regulations (Chapter Three). Specifically the Amended Complaint alleged that Respondent:

1. From July 1, 1970, until January 29, 1974, allowed discharges causing water pollution in an intermittent stream tributary to the Illinois River and in the Illinois River (hereinafter both "the waters") in violation of Section 12(a) of the Act.
2. From July 1, 1970, until January 29, 1974, allowed the discharge of inadequately treated industrial wastes containing excessive amounts of BOD, suspended solids, and fecal coliform into the waters in violation of Section 12(a) of the Act.
3. From July 1, 1970, until April 15, 1971 (sic) discharged substances that will settle to form putrescent and otherwise objectionable sludge deposits into the waters in violation of Rule 1.03(a) of SWB-8.

4. From July 1, 1970, until April 15, 1972, caused the waters to contain unnatural floating debris and other floating material, in violation of Rule 1.03(b) of SWB-8.

5. From July 1, 1970, until April 15, 1972, caused the waters to contain unnatural color, odor, and turbidity in violation of Rule 1.03(c) of SWB-8.

6. From July 1, 1970, until April 15, 1972, failed to provide facilities for the substantially complete removal of settleable solids from its industrial wastes in violation of Rule 1.08-10(b)(1) of SWB-8.

7. From July 1, 1970, until April 15, 1972, failed to provide facilities for the removal of all floating debris or sludge solids from its industrial wastes in violation of Rule 1.08-10(b)(2) of SWB-8.

8. From July 1, 1970, until April 15, 1972, failed to provide facilities for the removal of color, odor, or turbidity to below obvious levels, in violation of Rule 1.08-10(b)(3) of SWB-8.

9. From April 16, 1972, until January 29, 1974, caused the waters to contain unnatural sludge or bottom deposits, floating debris, odor, unnatural color or turbidity in amounts toxic or harmful to human, animal, plant or aquatic life in violation of Rules 203(a) and 402 of Chapter Three.

10. From April 16, 1972, until January 29, 1974, allowed the effluent discharge of its industrial wastes to the waters to contain settleable solids, floating debris, scum and sludge solids, color, odor, and turbidity above obvious levels in violation of Rule 403 of Chapter Three.

11. From July 1, 1972, until January 29, 1974, allowed the effluent of its industrial wastes to exceed the BOD standard of 30 mg/l and the suspended solids standard of 37 mg/l in violation of Rule 404(a) of Chapter Three.

12. From July 31, 1972, until January 29, 1974, allowed the effluent of its industrial wastes to contain fecal coliforms above the standard of 400 per 100 ml in violation of Rule 405 of Chapter Three.

13. On December 1, 1971, caused or allowed the construction or operation of an outlet for its process wastes, which outlet bypassed a sanitary sewer and entered a storm sewer discharging to the Illinois and Michigan Canal (Canal) without an Agency Operating Permit in violation of Section 12(c) of the Act.

14. From December 1, 1971, until January 29, 1974, allowed the discharge of inadequately treated wastes to enter the Canal through the storm sewer, causing the formation of a mat of

sludge on the surface of the Canal, thereby causing water pollution in violation of Section 12(a) of the Act.

15. From July 1, 1970, until April 15, 1972, caused floating debris and other floating materials from its industrial waste discharge to be present in the Canal producing color, odor, or other conditions in such degree as to create a nuisance in violation of Rule 1.03(c) of SWB-14.

16. From July 1, 1970, until April 15, 1972, failed to provide facilities to remove all floating debris, scum, or sludge solids from its industrial wastes in violation of Rule 1.08-10(b) (2) of SWB-14.

17. From July 1, 1970, until April 15, 1972, failed to provide treatment facilities for its industrial wastes to remove color, odor, and turbidity to below obvious levels in violation of Rule 1.08-10(b) (3) of SWB-14.

A hearing was held in Morris, Illinois, on May 1, 1974. A Stipulation and Proposal For Settlement (Stipulation) was entered into evidence which was received by the Board on May 15, 1974. One expert witness testified for the Respondent; no citizens were present at the hearing. On October 3, 1974, the Board requested the filing of additional information to clarify certain facts brought out in the Stipulation and hearing. The Joint Supplement to Stipulation and Proposal For Settlement (Joint Supplement) was received by the Board on November 27, 1974. On January 9, 1975, the Board sought additional information about Respondent's operations. The Second Joint Supplement To Stipulation and Proposal For Settlement (Second Supplement) was received at the Board offices on February 14, 1975.

The Stipulation provided the following information:

"2. Federal employs approximately 552 persons at the Morris Mill, which has been in operation since before 1890 and which Federal acquired in 1956. The Morris Mill produces normally between 190 and 220 tons per day of multi-ply cylinder paperboard, for food and other packaging uses, which is distributed and sold through Illinois and other Mid-Western states.

"3. The principal ingredients of this paperboard are recycled waste paper and water, which are mixed together into a fiber water slurry and fed between felt mats at the "wet end" of the Morris Mill's paper-making machine which, through numerous processes, then extracts the water from the stock and produces the finished paperboard product. Water extracted from the product retains certain dissolved and suspended solids, and is referred to as white water or process wastewater.

"4. In addition to the process water system described above, the Morris Mill uses about 3 million gallons per day of cooling water which is pumped from the Illinois and Michigan Canal into the plant and discharged through two sewers to the Illinois River.

"5. Before 1970, these process water and cooling water systems were intermixed. With the installation of the present Dorr-Oliver disc saveall in about 1970 at a cost of about \$340,000, Federal embarked upon its effort to totally recycle its own process waste water and ultimately reach or near a goal of zero process waste water effluent discharge to Illinois waters. Federal's concept, now nearing successful completion, avoids several major pitfalls of secondary waste water treatment facilities (which, in a changing legal environment, may prove obsolete before completion and which inevitably discharge some steady amounts of contaminants into nearby waters). By design, the Morris Mill should discharge no effluent into Illinois waters.

"6. Federal's zero discharge system was implemented with the knowledge of the Illinois Sanitary Water Board and Federal kept the Board fully aware of its on-going efforts to work out the problems which Federal has confronted. Between 1969 and 1972, Federal spent about \$956,065 on equipment and construction necessary to inaugurate its zero discharge concept. Other than the Dorr-Oliver saveall, expenditures went for sewer segregation, low pressure drop cleaners and screens, a trickling filter cleaning system, shower piping and water reuse piping and for construction, including a building for the Dorr-Oliver.

"7. The function and purpose of the Dorr-Oliver disc saveall is to clarify for recycling large quantities of used process water resulting from the paper manufacturing. Certain of the fibrous process stock is itself used to filter the process waste water and the "clarified" water is then recycled back into various plant functions -- e.g., as a component of the slurry, to the machine and felt showers, in-plant wash-up hoses and similar places where fresh water was previously used. The saveall is a very large machine which normally clarifies about 3000 gallons per minute.

"8. Since 1970, Federal has been faced with varying problems, described below, and has been continually seeking ways of perfecting its zero discharge concept. Because of the novelty of this approach to water pollution abatement, progress has been to some extent unpredictable as to detail and schedule. The first important step was the segregation of the process wastewater and the cooling water systems. Unfortunately, developmental problems due primarily to the age and condition of the plant (built well before the turn of the century) have caused occasional overflows of the process waste water into the cooling water system. The principal problem in recent times has been to track down and close sporadic spill sources from the "fresh" cooling water into the process water, which sometimes apparently cause the process water balancing tanks to overflow.

"9. On various dates during 1971-1973, the EPA has observed Federal's effluent and has caused certain grab samples to be taken. These sample reports demonstrate the variable nature of Federal's effluent. These samples show that Federal's effluent on certain dates was of such quality as to cause in some manner water pollution in violation of Section 12(a) of the Act, but that as to specific parameters, for example clarity, biochemical oxygen demand (BOD)

and suspended solids (SS), Federal was sometimes in conformity and sometimes not in conformity with applicable standards.

"10. An important component of Federak's plan involved an agreement with the City of Morris (City) which permitted Federal to discharge certain amounts of process waste water into the City's sewage system for treatment at its new sewage treatment plant then under construction. On May 20, 1970, Federal and the City of Morris entered into an agreement which permitted Federal to discharge up to 200,000 gallons per day of process waste water effluent to the City's treatment facility.

"11. On November 29, 1971, pursuant to this agreement, Federal began pumping process waste water into the City's sewer system. An undiscovered blockage in the City's sewer system caused spills from the City's sewer system into the Illinois and Michigan Canal which was discovered on about February 25, 1972. Federal immediately discontinued pumping to the City's sewer until the sewer was repaired on March 16, 1972. As a result of this spill, 3908 fish, valued at \$773.60 were killed in the Illinois and Michigan Canal.

"12. Further unforeseen problems experienced by the City in treating the Morris Mill effluent at the City's new treatment facility caused the City to refuse further treatment until the technical problems at the new facility were worked out. Federal ceased pumping into the City's sewer for 66 days between May 20, 1972 and July 25, 1972, when the City once again accepted the Morris Mill effluent for treatment.

"13. Between July 25, 1972 and October 1, 1973, Federal discharged varying amounts of process wastewater into the City sewer but at vastly reduced levels than permitted by the contract because of the technical problems the City was experiencing with the treatment of the solids in the Morris Mill effluent. The City's reduced capability limited Federal's planning and development efforts with regard to solving the remaining problems in attaining the zero discharge goal. On October 1, 1973, all process water flow to the City sewer was stopped at Federal's initiative for a period of three months, to allow the City plant to prepare its solids handling system for the winter. Shortly after year-end, flow was reinstated at a low and continuous gallonage, which continues today without difficulty at the City plant. This agreed low flow situation is now considered a permanent arrangement by both parties. Federal now approaches its task of final pollution abatement with this arrangement as background. Since 1969, Federal has been successful in reducing its discharge to the Illinois River by over 97%. With respect to the remainder, Federal and EPA submit, for the approval of the Illinois Pollution Control Board, the Settlement Proposal to be discussed below."

The Joint Supplement and the Second Supplement provided the following information:

1. At present, sampling of BOD and suspended solids is done on an irregular, grab sample basis. The samples show that the daily total discharge process waste water is 62,500 gallons with concentrations of 2,400 ppm for BOD and 1,775 ppm for suspended solids. The table below shows the past, present, and expected final levels of discharges for BOD and suspended solids:

BOD and TSS Discharge Levels to the Illinois River

	Standards Under		Late 1960's lbs/day	Present mg/l	Compliance Plan Levels After			
	Rule				6 mos.		15-18 mos.	
	404(a) mg/l	404(b) mg/l			mg/l	lbs/day	mg/l	lbs/day
BOD	30	20	6,000	2,400	50	1,250	20	500
TSS	37	25	7,500	1,775	37	925	25	625

2. The City is not capable of taking additional amounts of process waste water from the facility now or in the near future.

3. Zero discharge of effluent is not unreasonable at the facility, but the experimental nature of the process makes it uncertain when this goal can be achieved.

4. During the late 1960's, the level of discharge of total process waste water mixture (including cooling water) was 3 million gallons per day. After the compliance program is completed, 62,500 gallons per day of total process waste water will be discharged at concentration levels indicated in the table above.

At the hearing, Federal indicated that it wants to achieve zero discharge of waste waters at the plant, because federal regulations refer to zero discharge as a goal (R.10). Secondary treatment methods have been rejected in favor of the use of a Dorr-Oliver Saveall unit which filters and recycles process waste water before final discharge (R.12). The high effluent concentrations in the past and at present result from leaks and spills from the two different inplant water systems, i.e., the cooling water system and the waste water system. Once the Water Systems Building is finished pursuant to the compliance plan, the cooling water should be satisfactorily isolated from the waste water so that high effluent concentrations are eliminated (R.13, 18).

The Settlement Proposal in the Stipulation required Federal to construct a new Water Systems Building within fifteen months with an additional three months added to the schedule if winter weather impedes construction. Federal agreed to maintain a 30-day average of 50 mg/l of BOD and 37 mg/l suspended solids within six months after initiation of the compliance plan. The standards of Rule 404(b) would be met one year later. It was estimated that

compliance would cost an additional \$250,000. Federal agreed to investigate other methods of compliance, execute a performance bond in the amount of \$50,000, report to the Agency, and pay a penalty of \$12,000 plus \$773.60 for the fish kill. The Settlement Proposal was expressly conditional on acceptance in all respects by the Board.

From the Stipulation and attached exhibits, we find that Respondent violated on November 18, 1971, Rules 1.03(a), 1.03(b), 1.03(c), 1.08-10(b)(1), 1.08-10(b)(2), and 1.08-10(b)(3) of SWB-8. Respondent violated Rules 203(a) and 403 of Chapter Three on November 30, 1972, January 29, 1973, and August 28, 1973. Rules 1.03(a), 1.08-10(b)(2), and 1.08-10(b)(3) of SWB-14 were violated on November 18, 1971. All of these violations contravene Section 12(a) of the Act. Respondent violated Section 12(c) of the Act on and after December 1, 1971, as alleged in the Complaint.

We accept the Stipulation and Proposal For Settlement entered into between the parties. The compliance program will result in the abatement of the pollution problem. The penalty is sufficient to satisfy the deterrence function under the Act; the sums for the fish kill are reasonable.

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

ORDER


IT IS THE ORDER of the Pollution Control Board that:

1. Respondent violated Sections 12(a) and 12(c) of the Act, certain rules of SWB-8 and SWB-14, and certain rules of Chapter Three as set out in greater detail in our Opinion.

2. Respondent shall pay a penalty of \$12,000 for its violations of the Act and regulations established in this Opinion plus \$773.60 to the Game and Fish Fund of the State Treasury for the reasonable value of the fish killed as agreed to in the Settlement Proposal, and as provided in Section 42 of the Environmental Protection Act. Payment shall be by certified check or money order payable to the State of Illinois, Fiscal Services Division, Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706. Payment shall be made within 35 days of the adoption of this Order.

3. Respondent shall carry out all the terms (A through J) of the Settlement Proposal as contained on pages 9 through 15 of the Stipulation and Proposal For Settlement submitted to the Board on May 15, 1974.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 4th day of April, 1975, by a vote of 3 to 0.


Christan L. Moffett