

ILLINOIS POLLUTION CONTROL BOARD  
February 5, 1987

FRANTZ MANUFACTURING )  
COMPANY, )  
 )  
Petitioner, )  
 )  
v. ) PCB 86-143  
 )  
ILLINOIS ENVIRONMENTAL )  
PROTECTION AGENCY, )  
 )  
Respondent. )

OPINION AND ORDER OF THE BOARD (by R. C. Flemal):

This matter comes before the Board upon an amended variance petition filed by Frantz Manufacturing Company ("Frantz") on October 16, 1986. Frantz seeks variance relief until July 2, 1987 from 35 Ill. Adm. Code 304.120 as it relates to BOD and 304.124(a) as it relates to Oils<sup>1</sup>.

The Illinois Environmental Protection Agency ("Agency") filed its Recommendation in this case on December 11, 1986, recommending that variance be granted subject to conditions. Frantz waived its right to hearing in this matter, and none was held.

BACKGROUND

Frantz owns and operates a ball bearing manufacturing plant located one mile west of Sterling in Whiteside County, Illinois. The facility, which manufactures anti-friction wheels and bearings for gravity flow conveyors, employs 97 employees and does approximately \$10,000,000 in business annually.

One facet of the manufacturing work undertaken at the plant involves the plating of the products produced there. Frantz plates approximately 24,000 pounds of material per day through the use of a zinc electro-plating process. This process consists of an automatic barrel line with a zinc potassium chloride bath. The equipment used in the plating process includes a 650 gallon soap tank, a 390 gallon electro-clean soap tank, a 580 gallon rinse tank, a 290 gallon acid tank, a 580 gallon rinse

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<sup>1</sup>This parameter is referred to as "FOG" (Fats, Oils, and Grease) by Frantz, and as "Oil and Grease" by the Agency. For purpose of consistency, it will be referred to in this Opinion and Order as "Oils", which is how it appears in 35 Ill. Adm. Code 304.124(a).

tank, two potassium chloride plating tanks of 1500 gallons each, a 290 gallon 1% nitric acid dip tank, two 290 gallon chromate dip tanks, a 580 gallon cold rinse tank, and a 290 gallon hot rinse tank.

As a byproduct of the plating operation, approximately 17 gallons of effluent per minute emanate from the various rinse tanks. These wastes are channeled through a DMP chemical reduction and precipitation waste treatment system. Some of the waste is recycled, with the remaining average of 4000 gallons per day discharged to Elkhorn Creek at a point immediately below the discharge of the Sterling/Rock Falls sewage treatment plant.

The waste treatment system utilized by Frantz is designed to reduce levels of heavy metals in Petitioner's effluent, and according to the Agency performs that task "well". The system is apparently not able, however, to adequately reduce BOD and Oils concentrations.

Frantz first became aware of the problem with BOD and Oils in proposed NPDES permit IL0061859, dated November 14, 1985. The prior permit did not require monitoring of BOD and oils.

Due to the relative recentness of attention to BOD and Oils at the Frantz facility, the Agency has tested only a limited number of samples of Petitioner's effluent for these parameters, with the following results:

<u>Date</u>	<u>BOD (mg/l)</u>	<u>Oils (mg/l)</u>
7/15/86	111	38
2/25/86	198	84
8/26/85	50	*
6/10/85	25	7
2/4/85	111	**
11/28/84	112	**

\* Sample not analyzed for this parameter.

\*\* The oil was emulsified and, as a result, could not be analyzed.

Frantz states that the BOD concentration in its effluent ranges from 93 mg/l to 256 mg/l, while the Oils concentration ranges from 13 mg/l to 128 mg/l. Frantz further acknowledges that the average levels of BOD and Oils in its effluent are 166 mg/l and 69 mg/l, respectively. The effluent limitations for BOD found at 35 Ill. Adm. Code 304.120 (as it pertains to Frantz) and for Oils at 35 Ill. Adm. Code 304.124(a) are 30 mg/l and 15 mg/l, respectively.

RELIEF REQUESTED AND COMPLIANCE PLAN

Frantz proposes to adhere to the following discharge limitations during the period of the proposed variance:

	<u>BOD (mg/l)</u>	<u>Oils (mg/l)</u>
Daily Maximum	260	100
Daily Average	165	65

The Agency believes that the requested relief is "excessive", and instead suggests the following limitations:

	<u>BOD (mg/l)</u>	<u>Oils (mg/l)</u>
Daily Maximum	200	100
Monthly Average	100	60

The compliance plan proposed by Frantz entails construction of a sewer line connecting the Frantz facility with the City of Sterling sewer system. This work will allow for the elimination of the present discharge to Elkhorn Creek. According to Frantz, the City of Sterling has already committed to constructing the sewer line to the plant, which is expected to be operational by July, 1987.

ENVIRONMENTAL IMPACT

Neither the Agency nor Frantz have provided any sampling data pertaining to Elkhorn Creek. The Agency notes that it has not routinely sampled the relevant area of the creek since 1974. Since that time, both the Sterling/Rock Falls sewage treatment plant and Frantz have begun discharging to the stream.

The Agency does note, though, that it and the Illinois Department of Conservation performed biological studies of the Rock River Basin, including Elkhorn Creek<sup>2</sup>. Those investigations resulted in the development of a water quality index ("WQI") used to compare physical and chemical water quality data with established standards. WQI values less than 20 indicate increasing quality while values greater than 20 indicate criteria have been exceeded. Three Elkhorn Creek stations were studied. One station was located in each of the following areas: headwaters; midpoint of the stream; below the Frantz discharge, near the mouth of the stream. The WQI values calculated for these positions were as follows:

<sup>2</sup>The Agency does not state when this work was undertaken, but it was apparently done after the Sterling/Rock Falls sewage treatment plant and Frantz had begun discharging to the stream.

Headwaters:	16.2
Midpoint:	None Given
Below Frantz Discharge:	40.4

Although the WQI rose downstream of the Frantz discharge, the Agency indicates that what it finds to be of greater significance is that all stations on Elkhorn Creek were determined to be "full aquatic life support streams". For this reason, and also because the Frantz discharge would account for only 0.02% of the 7-day 10-year low flow of Elkhorn Creek, the Agency anticipates that granting of the requested variance would cause no adverse environmental impact.

#### HARDSHIP

Frantz alleges that continued operation of its plating line is critical to the company. Petitioner further indicates that if it were forced to cease operation of the plating line, the materials needing plating would have to be transported a minimum of 45 miles to receive the same treatment. Plating costs would be expected to double, which Frantz contends would adversely affect the company's position in what it terms a highly competitive market. Frantz also states that three of its plating department personnel would be laid off as a consequence of ceasing plating operations.

The Agency believes that these allegations are not of sufficient weight to support the position that denial of the requested relief would cause arbitrary or unreasonable hardship to Frantz. The Agency admits, though, that in its view a "technical" hardship would result due to the inability of Frantz to meet the BOD and Oil effluent limitations. Moreover, the Agency believes that Frantz is proceeding in good faith by requesting this variance even though the NPDES permit has not yet been reissued.

#### CONCLUSION

The Board finds that Frantz would incur an arbitrary or unreasonable hardship if required to comply immediately with the regulations in question. This, in combination with the limited duration of the requested relief, the presence of a commitment to comply, and the minimal environmental impact expected over the duration of the variance, persuade the Board that the requested relief should be granted. The Board will therefore grant Frantz variance from Sections 304.120 and 304.124(a), subject to certain conditions discussed below.

As already noted, the Agency has indicated its belief that the interim effluent limitations requested by Frantz are excessive. Establishing interim limitations in this case is a somewhat difficult task because it is hard to do so when not a

great deal of effluent data exists. Nevertheless, the Board believes the limitations suggested by Frantz are most applicable in this case, and will impose them as a condition of the variance relief granted today, for the following reasons.

Frantz has submitted the ranges and averages of BOD and Oils concentrations it has observed in its discharges. These values are significantly higher than those shown by the Agency's data, but the Agency itself admits that its data are limited. Moreover, the limitations suggested by Frantz are reasonable in light of its data. Frantz admitted that it could reduce its discharge of Oils during the variance period through the use of surface skimming or capture elements, but that it could not significantly reduce its BOD levels under the existing conditions. These factors are reflected in the numerical limitations Frantz suggests.

Finally, the Agency raised the point that since construction of the sewer line is the responsibility of the City of Sterling (and thus out of the hands of Frantz), the length of the variance period requested by Frantz may not be sufficient. The Agency believes it would be more prudent to add an additional 60 days to the variance period. The Board concurs, and will so indicate in its Order.

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

ORDER

Frantz Manufacturing Company ("Frantz"), Bearing Division, is hereby granted variance from 35 Ill. Adm. Code 304.120 (as it relates to BOD) and 304.124(a) (as it related to Oils) for the discharges from the plating operations at its Sterling, Illinois facility, subject to the following conditions:

1. The variance shall terminate upon the completion of the sewer line connecting the Frantz plant with the City of Sterling wastewater system, or on September 1, 1987, whichever occurs first.
2. During the variance period Frantz shall meet the following interim effluent limitations:

	<u>BOD (mg/l)</u>	<u>Oils (mg/l)</u>
Daily Maximum	260	100
Monthly Average	165	65

3. Frantz shall perform all actions necessary to complete its connection to the City of Sterling wastewater system, and shall report to the Illinois Environmental Protection Agency ("Agency") on June 1, 1987, regarding the status of the project. Frantz shall also report to the Agency upon the completion of the project.
4. Frantz shall make timely application to the Agency for any necessary permits, including but not limited to construction and pretreatment permits.
5. Within 45 days after the date of this Opinion and Order, Frantz shall execute and send to:

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

a certificate of acceptance of this variance by which it agrees to be bound by the terms and conditions contained herein. This 45 day period shall be held in abeyance for any period during which this matter is appealed. The form of the certification shall be as follows:

CERTIFICATION

I, (We), \_\_\_\_\_, having read the Opinion and Order of the Illinois Pollution Control Board, in PCB 86-143, dated February 5, 1987, understand and accept the said Opinion and Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

\_\_\_\_\_  
Petitioner

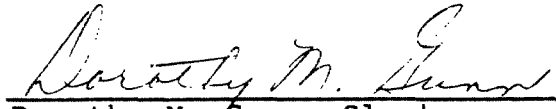
\_\_\_\_\_  
By: Authorized Agent

\_\_\_\_\_  
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 5<sup>th</sup> day of February, 1987, by a vote of 6-0.

  
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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board