ILLINOIS POLLUTION CONTROL BOARD
November 8, 1972

ENVIRONMENTAL PROTECTION AGENCY, Complainant,	)	
vs.	)	PCB 72-81
TEE-PAK INC., Respondent.	)	

Thomas J. Immel, Assistant Attorney General for the EPA
John B. Jenkins, Attorney for Respondent

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

The Environmental Protection Agency alleges that Respondent Tee-Pak Inc. has continually allowed the discharge of carbon disulfide, hydrogen sulfide and foul and obnoxious odors into the environment in violation of the Environmental Protection Act and has failed to submit an Air Contaminant Emission Reduction Program to control the emissions. Respondent states that it has in fact been operating under a program to reduce emissions and has recently installed additional equipment for that purpose.

Tee-Pak is a manufacturer of cellulose casings which are used in the meat packing business. A major part of its production is from its Danville, Illinois plant which employs 800 persons and has operated since 1957. During the manufacturing process hydrogen sulfide gas (H_2S) is released. Some of this gas is eventually vented to the atmosphere through a 160 ft. stack along with other wastes. The odor caused by the hydrogen sulfide emission has resulted in a number of citizen complaints.

The parties agree that hydrogen sulfide is the principal cause of the odor and the discussion has concentrated on methods for abatement of this type of emission.

No standard has been set for hydrogen sulfide emissions in the State of Illinois. The EPA complaint is based upon the theory that a sufficient quantity of hydrogen sulfide is being emitted from Respondent's plant to cause a nuisance in the community. Whether a nuisance exists will depend largely upon the reaction of citizens in the community to the odors emitted from Respondent's plant.

Tee-Pak states that it considered the possible nuisance problem as far back as 1966 and started planning for the reduction of hydrogen sulfide emissions. The first control equipment, however, was not installed until 1969. This equipment consisted of two small scrubbers and did not achieve a total reduction of

hydrogen sulfide emissions since production of the plant was greatly increased at that time. With the increase of production the number of citizen complaints greatly increased. Scrubber #3 was installed in July 1971. This was a large scrubber with a capacity of 30,000 cubic feet per minute and achieved a 98 or 99% reduction of hydrogen sulfide in the gas it was scrubbing. The Environmental Protection Agency has acknowledged that the number of complaints from citizens subsided substantially following the installation of scrubber #3. Following installation of scrubber #3 total reduction of hydrogen sulfide emissions was 27 1/2 percent.

Tee-Pak began construction of scrubbers #4 and #5 but prior to the time they were put into operation the EPA filed its complaint charging the company with creating a nuisance by emitting hydrogen sulfide and foul and obnoxious odors into the environment. Subsequent to the filing of the complaint construction was completed on scrubbers #4 and #5.

When this matter was called for a hearing on the merits the parties submitted their Stipulation and Proposal for Interim Settlement stating that emission reductions of 27.6% had been achieved through the use of three fully operational scrubbers and that the addition of scrubbers #4 and #5 would increase scrubbing capacity by approximately 60,000 cfm and should achieve a total H_2S emission reduction of approximately 55%. It was estimated that the two newer scrubbers would be fully operational by August 4, 1972. Monitoring equipment, however, had not yet been ordered.

The parties now propose that we authorize a period of about ten months for the purpose of monitoring and adjusting the emission control equipment which has already been installed and making various tests to determine if this added scrubbing capacity solves the nuisance problem. Respondent estimates that it will need 140 days to install the monitoring equipment following our approval of the testing program. The EPA, Attorney General and Tee-Pak will then conduct tests for a 180 day period promptly after the scrubbers and monitoring equipment have been installed and are operating efficiently. The tests will consist of stack analysis, continuous measurement of stack emissions, ground level measurements and other means of determining odor in the community. Within sixty days after the conclusion of the test period the parties will either submit a Proposal for Final Settlement or a hearing shall be held for determination of the matters raised in the complaint. It is requested that the Interim Settlement be considered a variance for the duration of the test period. As a part of the Interim Settlement the EPA agrees not to seek a monetary penalty against Respondent unless

the Respondent has failed to exercise good faith and cooperation in the procedures during the settlement period. Both parties recognize that this Board is not bound by any action taken by the Agency with regard to monetary penalty and that the Board may impose a monetary penalty even without the recommendation of the Agency.

The parties do not, of course, guarantee that the untested scrubbers will solve the nuisance problem. They state, however, that the control equipment already installed "may" be sufficient to abate the nuisance and ask for a period of time to learn if that result has been achieved. (With the addition of the two recently completed scrubbers Respondent calculates that total emissions will be reduced to between 36 and 38 lbs. of hydrogen sulfide per hour. This level of stack emission is below the company's stack emission in the year 1965--a year when the company received no citizen's odor complaints.)

Scientific data is sorely lacking in this area. No emission standard for H_2S has been established and it would seem worthwhile to go through a testing period which will correlate the subjective reaction of citizens to the odor with the scientifically determined emission levels and air quality. Neither the Agency nor anyone else has really determined a nuisance level for H_2S. Indeed there is some debate as to what is the threshold at which persons can recognize the odor. One article would indicate that the odor determination level for the hydrogen sulfide similar to that produced by Respondent is .0047 ppm. See: Leonardos, "Odor Threshold Determinations of 53 Oxidant Chemicals", JAPCA, 19 (2) pp. 91-95, February 1969. Dr. Howard Hesketh in the Union Carbide case PCB 72-54 also suggested a nuisance threshold involving a specific concentration of the gas for a determined time period. In that case Dr. Hesketh suggested that .007 ppm for 30 minutes would be the appropriate nuisance threshold. These suggested threshold levels from Dr. Hesketh's calculations are apparently among the lowest suggested anywhere and the Agency is not ready to rely upon them in this case. The Agency has filed a statement terming Dr. Hesketh's calculations as "highly tentative". The Agency states "We are unwilling to predict a nuisance threshold for H_2S. We can only propose to measure reduction of H_2S emissions and correlate said reduction with known reduction in citizen complaints".

In the Union Carbide case Dr. Howard Hesketh used .00047 ppm as the H_2S odor threshold and then increased it 15 times to arrive at a "nuisance" level of 0.007 ppm in the presence of CS_2. In the absence of CS_2 he would only increase it 8 times to 0.004 ppm. It appears, however, that H_2S made from NA_2S has a

threshold at least 10 times higher or .0047 ppm. Multiplying this higher odor threshold by 15 or 8 as the case may be would give a substantially higher nuisance level than the figure mentioned in the Union Carbide case.

We are unwilling at this point to accept any of these figures. To do so would seem to us to be adding inference to speculation. We agree with the parties that the best way of determining whether the alleged nuisance has been abated is to conduct a thorough testing program. We believe that it will be very desirable to correlate complaints and subjective analysis with the scientifically determined emission and air quality data. If the data accumulated during the testing period reveal that there has been insufficient improvement in the air quality around the Respondent's plant then methods may be considered for further control of the emissions.

The charge that a nuisance has been created of necessity depends upon the subjective reaction of citizens in the community. A testing program would seem to us to offer a practical answer to the practical problem which does exist and it is at least as useful as inferences drawn from laboratory testing procedures.

We note that the stipulation provides for secrecy and confidential treatment of the stack analysis reports, stack emission measurements, ground level measurements and other test results. The Stipulation at one point refers to such information as "proprietary". We agree that testing procedures should not be revealed where public knowledge would interfere with the validity of the test result. However, we will make no advance determination of the secrecy of the test procedures or results. At the conclusion of the testing period the necessary data shall be made available to this Board and we will then determine whether the data shall remain confidential (under Rule 107 of our procedural rules). Except for the secrecy provisions of the Stipulation the Proposal for Interim Settlement is approved.

ORDER

It is ordered that:

1. The EPA and Tee-Pak Inc. shall conduct certain tests described below for a 180 day period beginning promptly after the scrubbers and monitoring equipment have been installed and are operating efficiently. The test period will begin 140 days from the date of this Order. Tee-Pak will proceed with all due diligence to install the necessary equipment for conducting the tests and will promptly notify the EPA and the Attorney General when such equipment is satisfactorily operational.

2. Stack Analysis. Within 30 days after the beginning of the test period a sample of Tee-Pak's stack

emission will be drawn in the presence of one or more EPA representatives and an analysis of said sample for hydrogen sulfide will be prepared and submitted to the EPA and Tee-Pak. The sample will be drawn and a qualitative and quantitative analysis will be prepared thereon by Leon Kirschner, Tee-Pak's Consultant, in such a scientific manner as shall be acceptable to EPA.

3. Continuous Stack Measurements. Utilizing the monitoring equipment Tee-Pak will continuously measure its stack emissions of H_2S and will provide monthly reports of such measurements to the EPA.

4. Ground Level Measurements. The EPA and Tee-Pak Inc. will throughout the test period jointly measure ground level concentrations of H_2S at mutually agreeable locations in residential areas. The measurements will be made in a manner mutually acceptable to the parties.

5. Additional testing. Beginning thirty days after the commencement of the test period, and continuing through the remainder of the test period, Tee-Pak and the EPA will implement and carry out additional testing procedures to be mutually agreed upon, including those steps and procedures outlined and defined in a letter dated July 31, 1972 from Tee-Pak's attorneys to the Attorney General of the State of Illinois (Representative of the EPA). Such testing procedures shall be conducted in a scientific and acceptable manner designed to measure and determine the existance of an odor nuisance (or lack thereof) deriving from Tee-Pak's emissions of H_2S and the effectiveness of Tee-Pak's emission control program.

6. Within sixty days after the conclusion of the test period Tee-Pak and the EPA shall either submit a Proposal for Final Settlement of this matter or a hearing shall be held for determination of the issues.

7. Following the testing period reports of the stack analysis, stack emission measurements, ground level measurements and other odor testing shall be filed with the Pollution Control Board and at that time a determination shall be made as to the confidential nature of the test results.

8. Within ten days from the date of this Order Tee-Pak will post a bond with the EPA signed by the appropriate corporate officers, in an amount sufficient to cover its equipment purchase obligations under this Order.

9. This Order shall constitute a variance allowing Tee-Pak Inc. to proceed with emission and control practices which are not inconsistent with this Opinion and Order until November 8, 1973.

Mr. Dumelle dissents.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board certify the above Opinion and Order was adopted this 3rd day of November, 1972 by a vote of 5 to 1.

Christan L. Moffett, Clerk
Illinois Pollution Control Board