

ILLINOIS POLLUTION CONTROL BOARD

August 1, 1974

TEXACO, INC. (Lawrenceville Refinery),)
Petitioner,)
)
v.) PCB 74-135
)
ENVIRONMENTAL PROTECTION AGENCY,)
Respondent.)

James P. Peyton, attorney for Petitioner.
John Palinscar, attorney for Respondent.

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

On April 11, 1974, Texaco, Incorporated (Texaco) filed with the Illinois Pollution Control Board (Board) a Petition for Variance from Rule 206(c) of Air Pollution Regulations, Chapter 2 (Chapter 2) until September 15, 1974.

Texaco operates a petroleum refinery adjacent to the southern boundary of Lawrenceville, Illinois, which has a population of 5,900. This refinery manufactures principally liquified petroleum gas, motor gasolines, aviation fuels, diesel and heating oils, heavy fuel oil, and asphalt, utilizing approximately 84,000 barrels of crude oil per calendar day in the manufacturing process. The refined products are distributed for consumption in southern Illinois, as well as in Indiana, Kentucky, Ohio, Missouri, and other states. Approximately 600 persons are employed at this refinery.

The specific emission source which is the subject of this Petition for Variance is the catalyst regeneration section of a Fluid Catalytic Cracking Unit. By a combination of thermal and catalytic cracking, this unit converts high boiling-range gas oils into LP gas, gasolines, furnace oil, fuel oil, and coke. The conversion is accomplished by mixing the gas oils with air and burning them in a regenerator vessel. During this process carbon monoxide is released to the atmosphere in a concentration of 62,000 parts of CO per million parts of air.

Texaco is installing a Carbon Monoxide Boiler, at a cost of \$3,270,000, to control the carbon monoxide emissions which are the subject of this Petition for Variance. Originally, Texaco had planned to have its Carbon Monoxide Boiler operative by December 31, 1973. However, equipment delivery delays and scarcity of critical craft manpower has revised Texaco's time schedule as follows:

| | |
|--------------------|-------------------------------|
| January 20, 1972 | Awarded construction contract |
| October 18, 1972 | Commenced construction |
| June 15, 1974 | Complete construction |
| September 15, 1974 | Commence operation |

Texaco alleges that the period from June 15 to September 15, 1974, is needed to inspect and test the new equipment to avoid possible injury to personnel or the equipment.

Petitioner stated that the construction delays, which were due to tardy equipment deliveries and scarcity of critical craft manpower, were beyond the control of Texaco and their construction contractor, Bechtel. Texaco alleges that compliance with "Rule 206(c) prior to the forecasted operational date (September 15, 1974) of the Carbon Monoxide Boiler would necessitate shutdown of the Fluid Catalytic Cracking Unit" because of limited storage for charge stock for the latter Unit. "Cessation of operations would result in a most unreasonable and arbitrary hardship not only on Petitioner, but also on Texaco's distributors and retailers, its employees, and the general public." Petitioner claimed that granting this Variance would have no adverse effect on the public because there is very little difference in the carbon monoxide concentration upwind and downwind from the refinery, as shown by the following results from a survey by an outside firm, Air Resources Incorporated, of ambient air at the perimeter of the plant:

| <u>Carbon Monoxide Concentration (ppm)</u> | | |
|--------------------------------------------|---------------------------|-----------------------------|
| <u>Time interval</u> | <u>Upwind of refinery</u> | <u>Downwind of refinery</u> |
| 1 hour max. | 3.293 | 4.255 |
| 8 hour max. | 2.155 | 2.153 |
| 15 min. arithmetic mean | 1.108 | 1.144 |

A Recommendation was received from the Environmental Protection Agency (Agency) on June 10, 1974. On the basis of the catalytic unit charge of 45,000 barrels per day of gas oil, the Agency calculated carbon monoxide emissions as 25,800 pounds per hour in a concentration of 62,000 parts of carbon monoxide per million parts air. Thus, Petitioner currently operates in violation of Rule 206(c). However, Petitioner is installing a Carbon Monoxide Boiler to control its emissions by September 15, 1974. There are no other similar CO sources in the area, and no citizen interviews were conducted by the Agency because carbon monoxide is odorless and can be detected only by instrumentation. "The Agency is of the opinion that the proposed control program, if properly designed and operating, will achieve compliance with Rule 206(c)." The Agency (1) denies Petitioner's alleged economic hardship in this case, but (2) recognizes that "the hardships caused by a plant shutdown would be a loss of earnings for Petitioner's employees, and a disruption of gasoline and other important fuel supplies for the public." The Agency recommended that Petitioner be granted a Variance from Rule 206(c) until September 15, 1974, subject to certain conditions.

A hearing was held in Lawrenceville, Illinois, on June 13, 1974. Three Texaco employees testified concerning the operation of the refinery. Robert E. McBride, Chief Engineer, explained the delays in the construction of the Carbon Monoxide Boiler. The first notification of delay from the construction contractor (Bechtel) was in their progress report for the month ending September 30, 1973 (Exhibit 2; R.9). At this late date, no alternate solution was available except to complete installation of the CO Boiler as soon as possible.

Mr. Joe W. Garrison, Supervisor of Air and Water Conservation, described the ambient air survey that was conducted at the refinery by Air Resources Incorporated. The samples were taken over a 30-day period on the top of a van, both upwind and downwind, around the perimeter of the refinery (R.19, 21). The amounts of carbon monoxide measured (with a gas chromatograph) were considerably below levels which would be dangerous to human health (R.20). The carbon monoxide is dispersed from stacks approximately 200 feet tall.

Mr. A.L. Bishop, Plant Manager, explained the highly integrated operation of the refinery and, therefore, if the Fluid Catalytic Cracking Unit were shut down cessation of all operations would necessarily soon follow.

The "Agency is convinced of Petitioner's good faith efforts" and recommends that the Variance be granted "subject to the conditions expressed in the Agency Recommendation as amended" (R.30).

The Board concurs except that the suggested condition concerning a Performance Bond does not seem necessary at this time. Texaco committed itself in 1972 to installing a \$3,270,000 Carbon Monoxide Boiler and construction of it was to be completed by June 15, 1974, according to the record in this case. The main objective now is proper operation of the equipment to adequately control carbon monoxide emissions. This Opinion constitutes the findings of fact and conclusions of law of the Board.

ORDER

IT IS THE ORDER of the Illinois Pollution Control Board that Petitioner is hereby granted a Variance from Rule 206(c) of Air Pollution Regulations, Chapter 2, for its Fluid Catalytic Cracking Unit at Lawrenceville, Illinois, from January 1, 1974, to September 15, 1974, subject to the following conditions:

- (a) Petitioner shall make timely application for all necessary operating permits.
- (b) Petitioner shall submit a progress report on August 10, 1974, to the Agency at the following address:

Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 1st day of August, 1974, by a vote of 5 to 0.


Christan L. Moffett