

ILLINOIS POLLUTION CONTROL BOARD  
October 14, 1971

TEXACO, INC. )  
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 v. ) # 71-235 (70-29)  
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 ENVIRONMENTAL PROTECTION AGENCY )

Philip R. Wimbish, for Texaco, Inc.  
Delbert D. Haschemeyer, for the Environmental Protection Agency

Opinion of the Board (by Mr. Currie):

Texaco was granted a variance February 17, 1971, to complete the installation of equipment designed to bring under control emissions of hydrogen sulfide from a brine lagoon at its oil production facility near Salem. The order required the company to determine ambient concentrations of the gas, to evaluate the efficiency of its new equipment, and to apply by August 1 for an extension if more time was needed. It was recognized that the application of the electrolytic technology then under consideration to oil field wastes was experimental, and that even if the unit worked well it might be necessary to install additional units in order to achieve an acceptable level of air quality.

Texaco filed a timely request to extend the variance until December 1 of this year, and we held a second hearing. The Agency recommends we grant the brief extension on conditions, and we agree.

The evidence established that the electrolytic installation was completed in June; that while it removed a considerable amount of hydrogen sulfide it was only 50-60% as effective as anticipated; that its operation resulted in a low pH that required large quantities of caustic to avoid corrosion; that there were severe scaling and plugging problems impairing dependability; and that in sum the unit proved unsatisfactory (R. 19-28). Texaco immediately developed an alternative plan that has been demonstrated successful in field experiments. The new system involves the oxidation of hydrogen sulfide to elemental sulfur by the introduction of compressed air in the presence of nickel chloride as a catalyst (R. 57-60). Complete removal of the hydrogen sulfide from the water--an estimated 7500 pounds per day (R. 74)-- is expected (R. 53, 68). As much as 65 to 130 pounds of the gas will be stripped from the water by the rising air, but this will be collected in a closed vessel and introduced into a second pair of tanks

where further oxidation will take place, and the ultimate emissions of hydrogen sulfide to the atmosphere from these second tanks are expected to be on the order of six and one half pounds per day (R. 68-72). This compares extremely favorably with the estimated pre-control emissions of 3,000 pounds a day.

The construction of the new system has already begun (R. 113). The company first estimated that it would be able to complete this completely revised and much more effective program within the time allotted for finishing the single electrolytic unit, but minor delays have interfered that cannot be blamed upon Texaco, such as difficulties with the soil in excavation (R. 114). Completion is now expected in the first half of November (R. 150), but could be delayed by seasonal rains (R. 151). We think the December 1 date entirely reasonable and commend Texaco for its application to the solution of this difficult problem. The company has provided a large number of sampling reports that demonstrate that in the meantime there should be no serious health danger, although at times the concentrations near homes within a mile of the lagoon reach the level of detectible odor (R. 121).<sup>1</sup> Several of the lagoon's nearest neighbors, stressing that odors have been something of a problem, have submitted statements indicating they do not object to this brief extension (E.g., Petitioner's Ex. 2). To close down production for this period could have enormous adverse consequences, as detailed in our earlier opinion, and it would not be warranted by the seriousness of the pollution problem.

We shall condition this extension on the posting of further security, as required by statute, and on the company's performing additional ambient tests after completion of the project.

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1. The Agency's sampling showed that concentrations tend to be highest with low wind in the evening or early morning, with the highest two-hour concentration 0.019 ppm (EPA Ex. 1). The Litton report to the federal air pollution authorities (NAPCA Publication APTD 69-37, p. 83, Petitioner's Ex. 15) recites "no reported injury to health" at levels up to 0.030 ppm, though the "odor threshold" is said to be lower. Texaco reported a number of readings above 0.1 ppm, ranging up to about 0.8, but generally for periods of only two to five minutes (Petitioner's Exs. 20-25). Litton reports that smell is "slightly perceptible" at 0.100 ppm and "definitely perceptible" at 0.330, while giving 10 ppm as the "minimum concentration causing eye irritation."

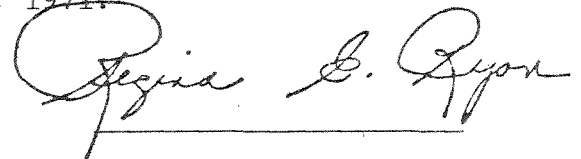
This opinion constitutes the Board's findings of fact and conclusions of law.

ORDER

Texaco, Inc., is hereby granted an extension of the variance of February 17, 1971, to emit hydrogen sulfide gas from its brine lagoon near Salem, Illinois, until December 1, 1971, on the following conditions:

1. Production at the facilities in question shall not be increased during the period of this variance;
2. The \$10,000 security required by the February 17 order shall be extended to secure compliance with the terms of this order;
3. The nickel catalyst oxidation facility described in this opinion shall be in full operation by December 1, 1971;
4. Monthly progress reports shall be filed with the Agency and with the Board, and a final report within thirty days after completion of the facility;
5. Texaco shall submit to the Agency and to the Board the results of an independent sampling of ambient air quality in the lagoon area and in nearby inhabited areas within thirty days after completion of the facility.

I, Regina E. Ryan, Clerk of the Pollution Control Board, certify that the Board adopted the above Opinion of the Board this  
14 day of October, 1971.



Regina E. Ryan