ILLINOIS POLLUTION CONTROL BOARD

February 17, 1971

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| TEXACO, INC. | ) | |
| | ) | |
| v. | ) | #PCB70-29 |
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| ENVIRONMENTAL PROTECTION AGENCY | ) | |

Opinion of the Board (by Mr. Currie):

Texaco requests the extension until October 1, 1971, of a variance granted by the old Air Pollution Control Board to permit further work toward controlling hydrogen sulfide emissions from a brine lagoon near Salem, Illinois. We grant the extension under stated conditions and delineate further proof requirements for any additional extension.

This is a most distressing case in which the record fails to reveal in any satisfactory way how serious a nuisance is caused by the operations in question. We strongly suspect, from the Agency's recommendation, that the nuisance may be serious indeed. But there is little evidence in the record to support this suspicion, and on the record itself, which is all we can rely on, we think Texaco has shown that to require immediate compliance would impose an arbitrary or unreasonable hardship.

Texaco pumps water into the ground in order to push to the surface petroleum that would otherwise be unrecoverable (R.3). The water is separated from the oil and recycled (R.3-4). But in its subterranean course it picks up hydrogen sulfide and barium sulfate, both of which must be removed before the water is returned to the ground. Hydrogen sulfide would corrode the steel pipes if not removed, and barium sulfate would plug them up (R.61, 90, 175). In order to remove these contaminants the water is turned into an uncovered lagoon where the sulfate settles out and much of the hydrogen sulfide escapes to the air (R.4).

Texaco has tried and found wanting a number of possible methods for controlling hydrogen sulfide emissions from the lagoon (R.89-93), pursuant to a program approved by the old Air Board (R.12). In late 1970 the company reported that a pilot facility had been operated to remove "as much as 50%" of the gas by electrolysis (Progress Report #2, attached to EPA Recommendation). The application of this process to oil field wastes under present circumstances is said to be unique (R.97-98, 114, 117-18) and Texaco has applied for a patent (R.115). The company's plan is to proceed "immediately" to seek an installation permit from the EPA (R.120-121, 123) to install an electrolytic unit

for one of the four lines feeding the pond (containing 10% of the water and 20% of the hydrogen sulfide,R.118), at a purchase and installation cost totalling some $57,000 (R.119, 132), and then to determine the unit's success and the necessity for additional facilities (R.121,124,127,131,136). Delivery of the equipment is expected to take two to three months after the order is placed, and installation one month thereafter (R.123). Although 50% removal efficiency was the target of research (R.74), it is "hoped" that virtually all the gas will be removed (R.122).

It is clear that to forbid the emissions today would require the closing of Texaco's 342 wells, (R.175) throw up to 90 people out of work, reduce the $950,000 in goods and services supplied by local companies to Texaco each year, and eliminate $1,300,000 in annual royalties to the landowners (R.169-70). Once the wells were shut off, it would be questionable whether they could ever be economically restored, because of oil movements in the ground during shutdown (R.176-77). The prospect of such hardship we cannot contemplate without serious concern.

What is unclear, however, is the degree of injury that Texaco's continued operation would have on the neighboring public. No one has a right to destroy his neighbors simply because he makes piles of money in doing it. The statutory variance test of unreasonable hardship is not satisfied by proof of hardship alone; it must be demonstrated that the hardships of complying with the law are disproportionately large in comparison to the benefits to the public of so doing. (See EPA v. Lindgren Foundry Co., #70-1 , decided September 25, 1970). And this is not a case involving a dozen or so pounds of inert dust, as in Owens-Illinois Corp. v. EPA (#70-31, decided January 27, 1971) or TAMMSCO v. EPA (#70-28, decided February 17,1971). This case involves hydrogen sulfide, a gas not only highly toxic in high concentrations but also known for its discoloration of paint and for its rotten-egg stench.

The record shows we are not talking here of toxic concentrations, which can cause eye irritation above about 20 ppm, and worse problems at higher levels (EPA Recommendation, P.4). But the Agency found that the emissions "cause a considerable nuisance to residents in the area, both with respect to odor and paint discoloration." Complaints have been received from up to four or five miles away; the company's insurer has paid three claims for paint damage in the area; several people contacted by the Agency described hydrogen sulfide emissions as "heavy" and opposed any extension of the variance; petitions containing 88 signatures were received in opposition to the variance (id., pp. 3-4).

But the Agency's recommendation is in the nature of a pleading; it cannot stand as conclusive evidence of the matters alleged. The

Agency presented neither witnesses nor other evidence as to either the adverse effects of Texaco's emissions or the gas concentrations found in the vicinity. None of the citizens who allegedly opposed the variance petition appeared at the hearing; so far as the record shows, no attempt was made to tell them when or where the hearing was to be held (R.9). This is indeed a case in which the carefully contrived machinery for ascertaining the effect of a variance on the public seems to have broken down. The difficulty is that variance proceedings are typically non-adversary; the public, which may be adversely affected if emissions continue, must be notified and encouraged to participate. The statute (Section 37) places the burden of stimulating public participation on the Agency as a sort of public defender. In our view this function requires affirmative efforts to put evidence in the record, in troublesome cases such as the present one, as to the extent of adverse effects on the public. The present record is lacking on that score.

Apart from the Agency's unproved allegations, the record contains only Texaco's assessment of the extent of the nuisance, which quite naturally minimizes the problem. One Texaco witness offered the flabbergasting observation that he found the odor of hydrogen sulfide "not really" objectionable (R.131). Others testified that the odor was not always very strong even right beside the lagoon and that the nearest homes were half a mile away, in an upwind direction with regard to the "prevailing" winds (R.38,82,84); that no complaints had been heard from the nearest neighbors (R.36); that the paint damage in question probably was attributable to other sources because of wind direction and other possible $H_2S$ sources in the area (R.23-26, 32-35); and that its settlement of paint damage claims did not constitute an admission of liability (R.33,180). Texaco thus testified that its emissions had no significant adverse effects (R.33).

At the same time Texaco testified that perhaps 3,000 pounds of hydrogen sulfide were emitted from the lagoon daily (R.36); that the odor could sometimes be detected in the company's Salem office, five miles away (R.23,31,44); that $H_2S$ could be smelled at concentrations ranging from less than one to fifteen parts per billion (R.66); that an unsatisfactory study done by a reputable Texaco consultant had originally discovered ambient concentrations at least as high as 0.17 ppm (R.159), but that the consultant had since retracted its opinion that such readings were attributable to the lagoon (R.146), in light of the company's discoveries as to wind direction and low readings at closer sampling points at the times in question (R.158,159).

All this leaves us in great doubt as to the seriousness of the nuisance caused by Texaco's operations. We have no numerical air quality or emission standards for hydrogen sulfide; an air quality standard of 0.03 ppm was proposed by the staff of the old Air Pollution Board, but no action was taken on the proposal because no

evidence was presented in its support. Hydrogen sulfide emissions of course could violate the statutory ban on "air pollution" (Environmental Protection Act, section 9 (a)), which requires proof that emissions be "injurious to human, plant, or animal life, or to property" or "unreasonably interfere with the enjoyment of life or property" (section 3 (b)).[1] The evidence, however, is not sufficient to permit a determination whether Texaco is in violation of this provision.

The burden of proof is on the petitioner to prove unreasonable hardship. Texaco's evidence, unrebutted except by allegations in the Agency's pleading, is that the emissions do not cause serious problems. We have grave suspicions that an adequate record would show something quite different; the company itself concedes the odor can sometimes be detected for five miles. But the proof of hardship far outweighs the injury to the public as described by Texaco in the present record, especially since a temporary shutdown might destroy the productive capacity of Texaco's wells forever.

We are also persuaded that Texaco has made strenuous and good faith efforts during the past year or so to discover a means of reducing its emissions, and that it has come up with a promising new solution for at least part of the problem. If the proof of nuisance were greater, we might consider requiring Texaco to install the new device at once on its entire facility, rather than only on one of its four lines as scheduled. But, as in Owens-Illinois Corp. v. EPA, #70-31 (decided January 27, 1971), we recognize the risk of failure involved in the application of new technology and will allow the first unit to be evaluated before others are required.

Because the record is so incomplete, we are tempted to grant an extremely brief variance in order that we might base further action on more adequate evidence, for if it should prove that continuing emissions will condemn much of the county to the sickening stench of rotten eggs, it would take an overpowering showing of hardship to justify it, if it could be justified at all. But another three months would in all likelihood be consumed in hearing and deciding the new petition, and we still would not know the efficiency or feasibility of the new process. Therefore it seems preferable to grant the variance for the full time requested, in order that we can resolve all questions relevant to any further variance request or

1. Whether Rule 3-3.284 of the Rules and Regulations Governing the Control of Air Pollution prescribes an additional test for odors of all kinds or merely relates to rendering plants we need not decide, since there is no proof that the odor thresholds there specified were exceeded.

enforcement proceeding on the basis of a full record.

As a condition of the variance we shall require not only the statutorily required bond, and monthly reports, to assure progress toward emission control but a study of atmospheric $H_2S$ concentrations attributable to Texaco and adherence to a specific timetable, based largely on Texaco time estimates, to achieve reduction of emissions as rapidly as can be. If an extension of this variance is sought, a hearing will be held as expeditiously as possible and we shall expect detailed proof, from both the company and the Agency, as to the concentrations of hydrogen sulfide attributable to Texaco at various inhabited points affected by the lagoon, as to the seriousness of the odors perceived by the neighboring citizens, as to the concentrations at which adverse effects are noted in the literature, and as to the degree of control required to reduce emissions to an acceptable level. Texaco will be required at that time to produce a firm plan for achieving the necessary reductions; it will not be enough to say, as presently, that further study will be made.

It should be noted that the company agreed to waive the section 38 requirement that we act within ninety days after receipt of the petition.

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

ORDER

1. Texaco, Inc. is hereby granted a variance from section 9(a) of the Environmental Protection Act to permit the emission of approximately 3,000 pounds per day of hydrogen sulfide from its brine lagoon near Salem, Illinois, until October 1, 1971, on condition that the following requirements are met.

2. Production at the facilities in question shall not be increased during the period of this variance.

3. Texaco, Inc. shall within 30 days after this order post with the Environmental Protection Agency a bond or other sufficient security in the amount of $10,000, which shall be forfeited in the event that the terms of this order are violated, or that emissions in violation of section 9 (a) of the Environmental Protection Act occur after October 1, 1971, without an extension of this variance.

4. Texaco, Inc. shall proceed immediately to install the electrolytic facility described in the record to control hydrogen sulfide emissions, in accord with the following schedule:

   (a) Firm order to be placed for purchase and delivery by March 1, 1971;

(b) Delivery by June 1, 1971;

(c) Installation and operation by July 1, 1971;

(d) Evaluation of efficiency and adequacy and submission of petition for variance containing firm plan for controlling remaining emissions, by August 1, 1971.

5. Texaco, Inc. shall file monthly progress reports with the Agency, from March 15, 1971, until October 15, 1971.

6. Texaco, Inc. shall comply with the permit requirements of Rule 3-2.110 of the Rules and Regulations Governing the Control of Air Pollution in regard to control equipment at the lagoon in question.

7. Texaco, Inc. shall file with the Agency on or before April 15, 1971 the results of a competent and thorough study of ambient air concentrations attributable to its Salem facilities at various inhabited points in the vicinity, and a statement of the maximum degree to which production could be curtailed, if necessary, without jeopardizing the ultimate productivity of its wells.

8. Texaco, Inc. shall pay reasonable compensation for any paint discoloration caused by emissions from Texaco's facilities during the period of this variance.

9. If a petition for extension of this variance is filed pursuant to paragraph 4 (d) of this order, a hearing shall be held upon notice but without further authorization, in order to facilitate decision on such petition by October 1, 1971. Failure to comply with the conditions of this order shall terminate the variance.

10. Notwithstanding paragraph 1 of this order, this variance shall be terminated whenever it is shown, after hearing, that hydrogen sulfide emissions permitted by this variance create a hazard to human health.

I, Regina E. Ryan, do hereby certify that the Board has approved the above opinions this 17th day of February, 1971.

Regina E. Ryan
Clerk of the Board

I Concur

I Dissent

concurs with the supplemental opinion attached