

ILLINOIS POLLUTION CONTROL BOARD

January 24, 1974

E. I. DU PONT DE NEMOURS AND COMPANY)
PETITIONER)
)
)
v.) PCB 73-533
)
)
ENVIRONMENTAL PROTECTION AGENCY)
RESPONDENT)
)

JAMES C. HILDREW, ATTORNEY, in behalf of E. I. DU PONT DE NEMOURS AND COMPANY
MICHAEL GINSBERG, ATTORNEY, in behalf of the ENVIRONMENTAL PROTECTION AGENCY

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

This action involves a petition for variance filed December 17, 1973. Petitioner seeks relief from Rule 207 (d) (2) of Chapter 2, Part II of the Regulations of the Pollution Control Board, as it pertains to its nitric acid producing facility. Relief is requested until March 1, 1974. The Agency in its recommendation filed January 16, 1974, recommends a grant of variance.

Petitioner owns and operates at Seneca, Illinois, a facility for the production of weak nitric acid (58-65%). The unit in question is termed Nitric Acid Plant #3 and has a full load capacity of 520 tons/day. The plant uses 256,000 lbs/hr. of anhydrous ammonia, air, steam condensate, and natural gas in the proportions of 4.9/89.3/5.5/0.3. The raw materials are passed over a catalytic converter which converts the anhydrous ammonia to nitric acid and water. The resultant gases are cooled, separated, and sent to an absorption column. Final gases are passed through an entrainment separator. Tail gases are then heated and passed through a catalytic abater, which shifts the equilibrium of the gas toward the formation of nitrous oxide (NO). This gas is presently released to the atmosphere.

Emissions Generated and Control Proposed:

The abovementioned gas leaves the catalytic abater with about 32 pounds of nitrogen oxides per ton of acid produced. This is in excess of Rule 207 (d) (2) which was effective January 1, 1974, and which allows 5.5 pounds of nitrogen oxides per ton of acid produced.

Petitioner is in the process of installing a secondary gas-fired catalytic abater which will reduce emissions to the 5.5 lbs/ton level. The cost of this project is \$785,000. A compliance plan for this unit was submitted on February 13, 1973, and called for compliance by January 1, 1974. Petitioner alleges that installation will not be completed before March 1, 1974, and will require a plant shutdown of 15 days in order to tie in the equipment. Petitioner alleges and the Agency agrees that the secondary abater will bring about total compliance.

Reason for Delay:

Petitioner alleges that the reasons for not achieving compliance by January 1, 1974, were caused by various vendors' inability to deliver equipment when promised, and was beyond the control of Petitioner. In a signed affidavit (Pet. Ex. #1 by E. Drowdy) Petitioner attests to the premiums paid in order to expedite delivery of equipment. The Agency has investigated the plant site and noted that most of the control equipment is now on site and work is progressing.

The Board fully agrees with the Agency in their statement (Reco. Pg. 3) that Petitioner has acted in good faith in its attempts to install the required equipment.

Hardship:

Petitioner builds its hardship case on the premise that denial of the variance would necessitate a shutdown of the subject plant. The Board maintains that a variance denial is not equivalent to a shutdown order, but is merely a shield from a possible enforcement action. However, the Board realizes that a shutdown is an option open to Petitioner. If a shutdown were to occur, Petitioner alleges that its hardship would include the following:

1. Loss of production of 34,000 tons of nitric acid with the eventual loss of \$2,890,000.
2. Weakened market position because of failure to supply product to customers.

Environmental Impact:

Petitioner alleges that ambient air sampling over a two-week period in May 1973 shows that while Petitioner operates all three of its nitric acid plants at Seneca, nitrogen oxides are below the primary standard. The Agency reports that they have received no adverse comments from the public concerning the grant of this variance.

Although Petitioner does not verify the above statement, the Board takes note of E.I. Du Pont De Nemours & Company v. Environmental Protection Agency, PCB 73-325, in which said tests were incorporated. The following is a quotation of the paragraphs dealing with environmental impact data as presented in the Board's Order in PCB 73-325:

"Petitioner has done its homework well in this regard. Independent air monitoring conducted by Du Pont has shown the NO_x ambient air qual-

ity level to be below the 1975 standard. Measurements taken over a two-week period resulted in an average concentration of 0.038 PPM against a federal standard of 0.050 PPM. It should be noted that there have been no public objections to the grant of this variance; in addition the nearest resident to Petitioner's plant is 0.4 miles.

The abovementioned Air Quality Standard (.050 PPM) is the National Primary and Secondary Ambient Air Quality Standard. The text "Air Quality Criteria for Nitrogen Oxide" has been referred to in order to ascertain the potential health hazard. The reason for this step is that although a two-week air monitoring program was undertaken by Du Pont, no evidence has been entered as to meteorological conditions or plant emission rates at the time of the survey. As a result of this investigation, the following was found:

- 1) "The two oxides of nitrogen present in ambient air in greatest quantities, nitric oxide and nitrogen dioxide, are potential health hazards" (P. 9-19).
- 2) "A twelve-minute exposure to 2500 PPM of NO was lethal to mice. Doses in excess of 20 PPM of NO produced reversible inhibition of bacterial hydrogenase activity."
- 3) A study in Chattanooga, Tennessee, resulted in the conclusion that an increase in respiratory illness was found to occur in an environment having a mean 24-hour NO₂ concentration, measured over a six-month period, between 0.062 and 0.109 PPM.

The above reference shows that although a significant health hazard does not exist, the variance granted should be of as short a duration as possible so as to avoid a 'potential' danger."

The Board feels the above quotation is directly applicable to the instant case, as the considerations in PCB 73-325 dealt with the three acid plants at Seneca including the plant in question.

The Board feels that Petitioner has generated sufficient grounds to fulfill its requirements for a variance grant. Because of the short duration of the variance and the fact that most equipment is on site, the Board will not require a performance bond.

This Opinion constitutes the findings of fact and conclusions of law of the Board.

ORDER

IT IS THE ORDER of the Pollution Control Board that:

Petitioner is hereby granted a variance from Rule 207 (d) (2) of Chapter 2, Part II of the Regulations of the Pollution Control Board for its nitric acid plant #3 until March 1, 1974, or until the install-

ation of the secondary abater is complete, whichever is sooner, subject to the following condition:

Petitioner shall notify:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Region I Office
4302 N. Main Street
Rockford, Illinois, 61103

upon completion of the secondary abater on nitric acid plant #3.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, certify that the above Opinion and Order was adopted by the Board on the 24th day of January, 1974, by a vote of 5 to 0.

Christan L. Moffett