

ILLINOIS POLLUTION CONTROL BOARD

January 31, 1974

UNION CARBIDE CORPORATION,)
)
 Petitioner,)
)
 v.) PCB 73-313
)
ENVIRONMENTAL PROTECTION AGENCY,)
)
 Respondent.)

J. A. Lipe, Attorney for Petitioner
Thomas A. Cengel, Assistant Attorney General for the EPA

OPINION OF THE BOARD (By Mr. Henss)

Union Carbide Corporation requests variance from certain of the Illinois Air Pollution Control Regulations in the operation of its coke manufacturing plant at Robinson, Illinois. The parties are in agreement that we should consider this action as a request for variance from Rules 103(b)(2), 103(b)(6)(E), 104 and 203(a) of the Illinois Air Pollution Control Regulations. The variance was granted by our order of December 20, 1973. This opinion gives the rationale for that decision.

A detailed history of this case is found in our interim opinion of November 8, 1973. Our prior opinion gave the parties additional time in which to file additional pleadings, factual stipulation or written argument. The parties did file additional argument but no new evidence was submitted nor were there any amendments to the pleadings. The facts are as stated in our November 8, 1973 opinion.

The Union Carbide Plant manufactures coke from petroleum by-products. Two kilns heated to a temperature of 1,450° F. are used to drive off volatile hydrocarbons and water during the manufacturing process. Particulate matter is also emitted during the manufacturing process and is discharged to the atmosphere through two stacks. If each kiln is considered a separate emission source, then Union Carbide will have to meet a limitation of 11.86 lbs./hr. of particulate matter for each of the two kilns or a plant total of 23.72 lbs./hr. If Petitioner's

two kilns are adjudged "similar" under Rule 203(a), Petitioner will be required to meet a total emission rate of 17.2 lbs./hr. Union Carbide has proposed to install a control system which will reduce emissions to 23.72 lbs./hr. The proposed system cannot meet the stricter requirement which the Agency would impose through "aggregating" the two kilns.

It is our decision that, in this instance, the theory of "aggregation" should not be applied and therefore the standard to be met under Rule 203(a) is 23.72 lbs./hr. of particulates.

The old regulations (Rules and Regulations Governing the Control of Air Pollution) did not contain any rule "aggregating" similar emission sources for the purpose of determining the total allowable emission. This is a feature which was added to the Illinois Air Pollution Control Regulations for the first time in 1972. In adopting the Rule regarding "similar" sources, the Board said more effective controls are required on the larger units. . . "because of their greater potential for harm. . . ." Multiple units of the same kind on the same premises were to be treated as one "both to prevent circumvention by building several small units instead of one large one and because of the practicality of applying a single large control device to a number of small like sources."

It is obvious that the intent is to improve the environment -- to reduce the "greater potential for harm" which may come from larger units or multiple units. When it can be shown that aggregation of similar sources for the purpose of determining applicable process weight rate will not actually improve the environment but instead will cause damage to the total environment, we believe that the aggregation principle should not be applied.

From the record, we find that the settling chamber -- combustion chamber proposed by Petitioner is the most feasible control system and will do the best job of improving the total environment. Other systems under discussion cost substantially more -- not only in dollars but also in energy and in creating other environmental problems.

If a fabric filter system were installed, 4700 tons of Illinois coal would have to be burned to supply 8.5 million KWH annually; 1400 gallons per minute of water would be required to lower the temperature of the gasses prior to entrance

into the filter; and 33 tons per day of solid material would have to be disposed of in a landfill. If an electrostatic precipitator were installed about 4.3 million KWH of electrical power would be required annually; this system would produce 33 tons per day of solid material with attendant landfill costs; and would require an extensive water cooling system. A wet scrubber system would require 500 gallons per minute of water (which could create a new water pollution problem); an additional 12.8 million KWH of electrical power annually from the burning of 7,000 tons of coal; and disposal of 66 tons per day of wet filter cake would require 14 acres of land over a five year period.

When viewed in the light of the additional burden (large energy consumption, solid waste disposal, and in the case of the wet scrubber a water pollution problem) to be placed on the environment to achieve a minimal reduction of 3.26 lbs./hr. (0.88 per cent) from each kiln, the Board cannot find aggregation in this case to be practical or warranted.

The Agency expressed concern that it might have problems in application of the principle that similar sources will not be aggregated when to do so would cause damage to the total environment. The Agency concern stems from the possibility that an Agency employee may be expert in the limited field which is pertinent to the permit application but might not have the background to immediately determine the impact of other possible environmental problems. (Rule 103(b)(3) allows the Agency to adopt procedures to require data and information in addition to the standard permit application requirements in order to insure that the permit applicant will be in compliance with all applicable rules and regulations. Thus, the Agency already has at hand a procedure whereby the burden could be clearly placed on any permit applicant to show that aggregation would cause damage to the total environment.

In the instant case, the evidence introduced by Petitioner convincingly shows:

1. That aggregation of Petitioner's sources would force the construction and operation of additional control equipment costing millions of dollars.
2. That this additional equipment would produce a minimal reduction in air pollution at the plant site (6.52 lbs./hr. of particulates) but would place added burdens on the total environment.
3. That it would be impractical to aggregate the two emission sources since it would be done only at great cost and the total environment would not thereby be enhanced.

4. Construction of two separate kilns was not done to circumvent the Regulations. Construction of a single incinerator-settling chamber for both kilns would not achieve any economies of scale.

5. It would be an unreasonable hardship to require Petitioner to comply with the particulate standards prior to installation of its control equipment, if that installation proceeds on the 16 month schedule ending June 1, 1975.

The factual situation here seems unique. Our decision is limited to the factual situation and the Regulations which are involved in this case, and should not be regarded as establishing a broad precedent. On the narrow issue presented to us in this particular matter we find that Union Carbide has carried its burden and that the principle of aggregation should not be applied. For those who would raise similar issues in the future we must emphasize that each case will be decided on its own merits.

Mr. Dumelle dissents.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion was adopted this 31st day of January, 1974 by a vote of 4 to 1.

Christan L. Moffett