

ILLINOIS POLLUTION CONTROL BOARD  
July 24, 1975

IN THE MATTER OF PROPOSED )  
AMENDMENTS TO AIR POLLUTION ) R73-16  
CONTROL REGULATIONS, RULES )  
203(d)(6)(B)(ii)(bb) and )  
203(d)(6)(B)(iv)(aa) )

OPINION AND ORDER OF THE BOARD (by Mr. Dumelle):

Granite City Steel, a wholly-owned subsidiary of National Steel Corporation (Granite City), filed a proposed regulation amendment to Rules 203(d)(6)(B)(ii)(bb) and 203(d)(6)(B)(iv)(aa) of Chapter 3, Air Pollution Control Regulations (Air Regulations) on November 30, 1973. The proposal was published on February 25, 1974 in Board Newsletter #81. Hearings were held on June 21, 1974 in Edwardsville and on October 22, 1974 in Chicago. A public comment period was set until December 20, 1974. Representatives from Granite City and Interlake Steel Company (Interlake) testified in support of the proposal at the Chicago hearing. Representatives of the Illinois Environmental Protection Agency (Agency) appeared at both hearings in opposition to the proposal but did not present any testimony.

Granite City proposed an amendment to two subsections of Rule 203(d) Exceptions to Rules 203(a), 203(b) and 203(c)(6) Coke Manufacturing Processes to the Air Regulations. Specifically, Granite City proposed to first amend the following existing language:

On and after December 31, 1974, all coke oven facilities shall be equipped with enclosed pushing and quenching systems with particulate collection equipment, or shall employ alternative methods of comparable effectiveness in reducing emission during pushing and quenching (Rule 203(d)(6)(ii) Pushing and Quenching (bb)).

Granite City proposed that the Board adopt the following amendment in place of the above language:

On and after July 1, 1975, all coke oven facilities shall be operated to reduce smoke or other particulate matter, other than water, during pushing of coke from coke ovens to an opacity of 30 per cent or less when the opacity of such emission is observed above the top of the coke oven battery against an open sky.

The second proposal was to replace the following existing language:

On and after July 1, 1972, no person shall cause or allow the operation of a coke oven that emits any specified air contaminants into the atmosphere during coking from the coke oven doors for more than ten minutes after commencement of the coking cycle. During such ten minutes the emission shall have an opacity no greater than 30 per cent. Rule 203(d)(6)(iv) (Coke Oven Doors (aa)).

Granite City proposed the adoption of the following amendment:

After December 31, 1973, no person shall cause or allow the operation of a coke oven that emits smoke into the atmosphere during coking from the coke oven doors for more than thirty minutes after commencement of the coking cycle in excess of 30 per cent opacity when observed above the top of the battery against an open sky, except that smoke emitted from any door in excess of thirty minutes shall be suppressed by appropriate means to meet the standard contained in this rule.

The first proposed amendment concerned coke pushing and quenching operations. Dr. Donald Cairns, Vice President of Granite City Steel, testified that:

There is no enclosed pushing and quenching system which has been evaluated so that a rational decision can be made as to what an alternative of equal effectiveness would be... [R. 30].

Rule 203(d)(6)(ii)(bb) required that all coke oven facilities be equipped with such enclosed pushing and quenching systems or employ alternative methods of comparable effectiveness. The opinion of the Board which accompanied the adoption the rule referred to the:

development of a largely enclosed quench car into which the coke could be pushed, with potential emissions captured and treated by a control device mounted on the car itself (R. 2798-2805) (Opinion of the Board, R71-23, page 24 (April 13, 1972)).

Such an enclosed quenching car was originally scheduled for operation by the end of 1972 (Ibid). Based upon such testimony the Board stated:

We believe it reasonable, based upon the timetable, to allow others to await the outcome of Interlake's demonstration, recognizing that pushing control technology is somewhat behind that for charging, and still to install the Allen car or an alternative of equivalent effectiveness by the end of 1972 (Ibid).

Mr. Fred Krikau of Interlake Steel Company testified that their Hanley Allen Car (Halcar) has undergone a series of testing and modification, and was currently "back in operation again and tested" [R. 112]. It is therefore apparent that the initial prediction that the Harley Allen car would be in operation by the end of 1972 has not been brought to fruition.

Dr. John Manda, Director of Environmental Quality Control Department at Granite City, raised the objection that the present rule:

implies that an enclosed pushing and quenching system exists, in operation, and the effectiveness of the system can be measured in its ability to reduce emissions during pushing and quenching (R. 45).

Dr. Manda stated that because there is no enclosed system in operation, "no standard exists to which other alternative systems can be compared, and this fact makes application of the present rule 203(d)(6)(B)(ii)(bb) impossible for any alternative pushing and quenching system" (R. 45).

We agree with the Agency's interpretation of Rule 203 (d)(6)(B)(ii)(bb) to call for the application of state of the art control of particulate and gaseous emissions from the pushing and quenching portion of the coking cycle (Agency Brief, page 7). The Agency states that reference to an enclosed system "qualifies such a system as the state of the art standard to which all other systems must point" (Ibid).

Dr. Manda points out the Granite City's misinterpretation of the standard when he stated that:

there exists no quantitative or qualitative measurement techniques by which the effectiveness of an enclosed pushing and quenching system can be determined, nor the effectiveness in reducing pushing and quenching emissions from an alternative system (R. 46).

Dr. Manda testified that measurement of particulate concentrations cannot be performed to arrive at accurate and reproducible results because of the short-term transient process emissions during pushing and quenching (R. 47). He therefore recommends adoption of the alternative opacity standard proposed by Granite City (R. 48).

We disagree with Dr. Manda in that the opinion accompanying the Rule states that:

Performance standards for such installations, as well as more specific ones for charging controls, will have to await testing results. For now the important thing is to get the control equipment installed and in operation (Opinion of the Board, R71-23, page 24 (April 13, 1972)).

We recognized when we adopted the rule that performance standards for the Hanley Allen car would have to await the successful operation and testing by Interlake. In addition, the opinion refers to the development of standards for enclosed pushing and quenching systems, as well as more specific ones for charging controls, will have to await testing results" (emphasis added) (Ibid). We recognized the potential difficulty in developing such performance standards for pushing and quenching systems.

What the Board adopted when we enacted this rule was a "state of the art" technology requirement. At the time of adoption the Hanley Allen car constituted the most promising control strategy. It is now clear that other technologies exist such as the Weirton system, Coke Sheds, Mitsubishi Mobilehoods, and Granite City's proposed mobile hood with a water spray. Dr. Cairns presented some testimony regarding what he believed to be the benefits and draw backs of such systems (R. 30 through 37). Granite City is proceeding with the development of a mobile hood it has developed. Interlake is continuing the development of the Hanley Allen car. Republic Steel has completed final specifications and has placed an order to build a shed over the coke side of the coke battery to control pushing emissions (comment letter from Republic Steel, November 19, 1974). Nothing was introduced as to what control Wisconsin Steel and International Harvester, two of the major Illinois coke makers, were utilizing.

Given the development of three different control devices by three out of the four major Illinois coke producers, the Board is convinced the state of the art approach is correct for controlling coke pushing and quenching emissions. Individual companies are to develop the control strategy best suited for their existing coke ovens after consultation with the Agency.

The plans for the proposed control equipment would then be submitted by the Agency for the appropriate permits. In the event that the Agency disagreed that what an individual company had proposed would adequately reduce emissions during pushing and quenching, then the company would appeal the Agency permit denial to the Board in accordance with Title 10 of the Environmental Protection Act (Act). If additional time beyond December 31, 1974 is needed to develop and install equipment, individual companies have the variance procedure of Title 9 of the Act available. We are not discussing a rule with broad application, but rather a rule designed to allow for developing technology by the few coke manufacturers located in Illinois.

The second amendment proposed by Granite City related to the requirement that coke oven doors be sealed within 10 minutes after the start of the coke cycle and that the leakage be limited to 30% opacity. Dr. Cairns testified that in his opinion coke oven self sealing doors took 30 minutes to seal given the present state of the art (R. 63). Mr. J.D. Burroughs, Manager of Environmental Control, Granite City, testified that the opacity measurements should be made with the open sky behind the plume (R. 70). Interlake presented testimony that would have measured all coke oven emissions, including types from leaking doors, some thirty feet over the battery against the open sky (R. 103). Republic Steel agreed that a change in Rule 203(d)(6)(B)(iv)(aa) was in order, but proposed an alternative changes (Public comment, November 19, 1974).

An analysis of the record indicates that a potential exists for amendment to Rule 203(d)(6)(B)(iv)(aa), but the Board finds that Granite City has failed to develop a record which would allow the Board to adopt a revision in accordance with Section 27 of the Act. It is suggested that representatives

from Granite City, Interlake, Republic Steel, the Agency and any others interested, meet and develop a mutually acceptable proposal and submit it to the Board. The restriction that a regulation proposal not have been heard within the proceeding 6 months is not mandatory, but is within Board discretion to waive (Section 28 of the Act). If any additional proposal is made, the proponents should carefully consider the problems and objections outlined on pages 15 through 18 of the Agency's Brief dated December 23, 1974.

In summary, the Board finds that no change is warranted to Rule 203(d)(6)(B)(ii)(bb) of Chapter Three and that Granite City Steel Company has failed to provide the Board with an adequate record to adopt the suggested change to Rule 203(b)(6)(B)(iv)(aa).

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

ORDER

In accordance with the above Opinion, the proposed amendments to Rule 203(b)(6)(B) of the Air Pollution Control Regulations, entitled R73-16, are hereby dismissed.

IT IS SO ORDERED.

I, Christian L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 24<sup>th</sup> day of July, 1975 by a vote of 5-0.

Christian L. Moffett (g-)  
Christian L. Moffett, Clerk Illinois  
Pollution Control Board