

ILLINOIS POLLUTION CONTROL BOARD
August 18, 1983

OLIN CORPORATION, Joliet Plant,)	
)	
Petitioner,)	
)	
v.)	PCB 83-44
)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)	
)	
Respondent.)	

OPINION AND ORDER OF THE BOARD (by J.Theodore Meyer):

On March 31, 1983, Olin Corporation (Olin) filed a Petition for Variance from the emission limitations imposed by Rule 204(f), now of the Board's Chapter 2: Air Pollution Rules and Regulations. That rule establishes a limit of 1.8 pounds of sulfur dioxide per million British Thermal Unit heat input (1.8 lbs/mBtu) on Olin's boilers unless an alternative limit is set by the Board in a site-specific exemption proceeding. Olin filed an exemption proceeding (PCB 83-46) pursuant to Rule 204(g) on the same date. The variance requested in this proceeding was for five years or until the site-specific emission limitation is granted.

From April 14, 1983 to April 21, 1983, a total of 6 objections to the variance were filed by various residents near the Joliet plant. On June 16, 1983 a hearing was held in the Joliet YWCA, Joliet, Illinois. Olin's Brief was filed on July 20, 1983; the Illinois Environmental Protection Agency (Agency) filed a Recommendation on June 8, 1983, and a Brief on August 3, 1983.

This variance petition and the companion exemption proceeding were instituted by Olin to seek permission to increase the allowable SO₂ emissions for the boilers at the Joliet plant from 1.8 to 6.0 lbs/mBtu. This increase would allow Olin to burn Illinois coal. It is clear that the variance petition was intended to stay the effect of the newly adopted Rule 204(g) until a determination was made on the site-specific emission limitation.

At its Joliet plant, Olin produces industrial sodium phosphates, including orthophosphates and condensed phosphates. It also produces sodium silica fluoride and sodium fluoride. To produce the sodium phosphates Olin uses a wet acid process. To reduce this product to a granular or powder form, the plant must evaporate about 600 gallons of water per minute. Half of this

water is evaporated by direct contact with air heated by natural gas, and the other half is evaporated by indirect contact with steam. The steam necessary, approximately 225,000 pounds per hour, is generated primarily by three coal-fired utility boilers. Each is equipped with chain grate stoker boilers. (R.26-29) Boiler No.1 has a rated capacity of 104.0 of a million Btu per hour (mBtu/hour); Boiler No.2, 141.7 mBtu/hour; and Boiler No.3 141.7 mBtu/hour. (Pet. at page 4) Their combined heat input is 387.4 mBtu/hour. Boilers Nos. 2 and 3 are vented through a common stack. Boiler 1 which operates as a reserve is vented through another stack. All three are equipped with multiclones to control particulates.

By burning low sulfur coal, Olin previously met a mass emission limit of 1.8 lbs/mBtu for SO_2 and .2 lbs/mbtu for particulates, emitting no more than 697.32 pounds of SO_2 and 77.48 pounds of particulate per hour. (R.33). All three boilers were originally designed to use coal containing approximately 3.5% sulfur. (R.32) As stated before Olin seeks to burn coal of a higher sulfuric content, therefore it requests variance from the 1.8 lbs/mBtu emission limit. Given a new, higher emission rate of 6.0 lbs/mBtu, Olin estimates that the three boilers will collectively emit a maximum of 2,324.4 lbs of SO_2 per hour.

The record is not clear as to the annual coal usage used by Olin. However estimated cost savings should Olin is allowed to burn medium sulfur coal (Illinois coal) are consistently based on 100,000 tons per year figure. (R.36,51) (R.33). Olin estimates that it can obtain coal with a sulfuric content to meet the 6.0 lbs/mbtu limit at \$35 per ton. (R.36)

Using the dispersion model, MPTER, Olin sought to determine the impact on air quality should its boilers be allowed to emit up to 6.0 lbs/mBtu of sulfur dioxide. This analysis used as a base the Agency's modeling analysis of the Chicago major metropolitan area. The Agency's analysis used worst case meteorology (i.e. 1975 data) and included Olin's three Joliet boilers at 1.8 lbs/mBtu. Therefore, in its analysis the incremental increase of 4.2 lbs/mBtu was added to the Agency's modeled concentrations. Olin concluded that no concentrations greater than 80% of the either 3 hour or 24 hour SO_2 ambient air quality standard would result at any of the modeled receptors. Olin also performed two supplemental analyses. The first considered fifty-nine receptors that the Agency's study had not; the second considered the possible wake effects of buildings. In the latter only one building was found to possibly effect the stack's emissions and further analysis found its effects to be of a minimal percentage increase.

On June 2, 1983, Dr. Herman Sievering wrote a letter to the hearing officer in the Olin proceeding with copies to the Olin attorney, the Agency attorneys and the Board Chairman. Enclosed was a copy of a report authored for the Department of Energy and

Natural Resources entitled "Risk Assessment for Energy Management: A Case Study of Fuel Switching at Illinois Power Plants", Document No. 82/14. Dr. Sievering requested that his letter be included in the Olin variance proceeding record. On its own motion, the Board orders that Dr. Sievering's letters and report be included in the record for this case.

The Agency Recommendation found the modeling analysis performed by Olin to be accurate. However, it qualified its recommendation that Olin could be granted a relaxed emission limit. Noting that Olin was in an industrial area with at least nine other major sources of SO₂, any relaxation of these sources emission limits pursuant to the Rule 204(g) process could cause problems in maintaining the ambient air quality standards.

Board regulations at 35 Ill. Adm. Code Section 104.121, specify the required contents of a variance petition. Subsection (g) requires:

An assessment, with supporting factual information, of the environmental impact that the variance will impose on human, plant and animal life in the affected area, including, where applicable, data describing the existing air and water quality which the discharge may affect.

Olin has not provided information on the maximum calculated ground level concentrations of SO₂ should the variance be granted. Nor has Olin provided information on where such maximums would occur or how human, plant and animal life in that area would be affected. A bare assertion by Olin that granting the variance would not cause a violation of applicable air quality standards is inadequate to fulfill the requirements of Section 104.121(g).

Furthermore, Olin did not include a plan or schedule to achieve compliance with Rule 204(f). This is because Olin is not requesting a period of time to make progress towards compliance. Rather it is seeking to go out of compliance to save money and possibly increase the use of Illinois Coal.

Title IX of the Act provides for relief from compliance with the Act or Board regulations in order to avoid a Petitioner suffering arbitrary or unreasonable hardship. Since variances under the Act are limited to five years, a Petitioner must demonstrate that timely compliance would impose hardship unique to its facility, that is, not by sources likewise regulated. Olin has failed to demonstrate that if not now granted variance the resulting hardship, primarily characterized as financial, is unique to its facility.

Finally, Olin seeks variance in order to burn Illinois coal until such time as the concurrently filed alternate standard petition is decided. The relief sought therein is consistent

with Section 9.2 of the Act, not Title XI. The Board therefore finds that Olin's petition or a site-specific rulemaking is the more appropriate forum for the relief Olin is seeking. The request for variance is denied for of the three reasons set out above. This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

1. Dr. Herman Sievering's two letters dated June 2, 1983 and the Department of Energy and Natural Resources Document No. 82/14 is incorporated into this record.
2. The Olin Corporation Petition for Variance for boilers 1, 2, and 3 at its Joliet facility from Rule 204(f) of Chapter 2: Air Pollution is hereby denied.

IT IS SO ORDERED.

Chairman Dumelle concurred.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 18th day of August, 1983 by a vote of 5-0.


Christan L. Moffett, Clerk
Illinois Pollution Control Board