

ILLINOIS POLLUTION CONTROL BOARD
July 24, 1975

OTTAWA SILICA COMPANY,)
)
 Petitioner,)
)
 vs.) PCB 75-99
)
 ENVIRONMENTAL PROTECTION AGENCY,)
)
 Respondent.)

MICHAEL REAGAN, Attorney for Petitioner
WILLIAM ERDMAN, Attorney for Respondent

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

Ottawa Silica Company filed its Petition for Variance seeking relief from Rules 203(g)(1)(B) (particulate emissions) and 203(i)(4) (compliance dates) of the Illinois Air Pollution Control Regulations from May 30, 1975 until December 31, 1975. Variance is sought in order to continue operating five coal-fired boilers pending completion of a new operating system which includes replacement of the coal-fired boilers. A public hearing was held in this matter in May 1975. No members of the public were in attendance at this hearing.

Petitioner operates a facility near Ottawa, Illinois for the mining, cleaning, drying, sizing, and grinding of silica sand. Products from this facility are marketed nationally and internationally in the glass, foundry, chemical, oil well, construction and transportation industries. Petitioner's Ottawa facility is one of the largest industrial and producing facilities in the United States. Approximately 210 persons are employed at this facility.

Five coal-fired boilers are used at this facility in order to produce steam heat for sand drying, space heating and other miscellaneous purposes. Four of the five boilers are identical Bros boilers with rated heat inputs of 82.25 million Btu's per hour. Particulate emissions from these boilers are controlled by settling chambers which are estimated to be 50% efficient. Operating permits for these boilers expired on May 30, 1975. The remaining boiler is a Babcock and Wilcox boiler with a rated heat input of 138 million Btu's per hour. Particulate emissions

from this boiler are controlled by a mechanical collector with an estimated efficiency of 88%. The operating permit for this boiler expired on March 21, 1975.

During normal operations Petitioner operates two or three of the five boilers simultaneously. Analysis of the Illinois coal used at this facility shows that it contains 7.5% ash, 3% sulfur and that it has a heat content of 13,250 Btu's/lb. Emissions from the four Bros boilers are vented to a common stack while the Babcock and Wilcox boiler vents to a separate stack. The calculated particulate emission rate from a Bros boiler is 0.70 lbs. per million Btu's. A particulate emission rate of 0.17 lbs. per million Btu's has been calculated for the Babcock and Wilcox boiler. Rule 203(g)(1)(B) requires the four smaller boilers to meet a 0.29 lb. per million Btu particulate emission rate after May 30, 1975. The larger Babcock and Wilcox boiler is required to meet a particulate emission rate of 0.15 lbs. per million Btu after that date.

Petitioner is currently engaged in a compliance program that involves the construction of a completely new process system. Planning for the new system began in January 1971 because of a recognized need to reduce noise and air pollution. One feature of the program will be the replacement and retirement of all five coal-fired boilers. Fluidized bed oil-fired sand drying systems will be utilized in the new process and two small boilers will be installed to meet the space heating requirements. Once the new facility is in operation the coal-fired boilers will be dismantled and sold.

Preliminary engineering for this compliance program was completed in March 1973. The contractor for this project, Hunter Corporation, estimated that the entire project would be completed on or before November 30, 1974. Shortly after construction commenced, the contractor began to encounter difficulty with the purchase and delivery of the 1400 tons of structural steel required for the project. Testimony by Hunter's Project Manager indicates that the steel shortage was nation-wide. Orders placed with the major steel producers were returned cancelled, causing Hunter to search for the steel at various warehouses around the country. A premium price was paid for the "off-the-shelf" steel in order to keep the project going (R. 62).

In addition, a six week strike at the construction site in 1974 caused problems for Hunter, and this delayed issuance of a revised completion date until October 1974. Driers scheduled for delivery in October 1974 were not received on site until April 1975 according to the Project Manager. Hunter now estimates that it can complete the project by August 15, 1975 barring any unforeseen delays. Correspondence between Hunter and Petitioner confirmed that problems had been encountered in steel procurement. (Agency Recommendation, Attachment 2).

According to terms of the construction contract, Hunter will not be penalized for the delays in completing the project. However, testimony indicates that Hunter has incurred costs of \$1.2 million in excess of anticipated costs (R. 93). Robert Lacke, Petitioner's Director and Vice President of Operations, testified that the incentive to complete the project rests with Ottawa Silica because of the cost on borrowed money. It now costs Ottawa Silica between \$140,000 and \$170,000 in carrying costs for each month the project is extended (R. 91).

Upon completion of the construction phase of the project, Petitioner will immediately implement its start-up procedure in order to bring the new operation on line as quickly as possible. Petitioner's Division Manager, Lester Richards, testified that the start-up procedure will require a minimum of 14 weeks thus pushing the actual start-up date for the new process to late November 1975. Serious problems encountered during start-up could result in delays totalling 59 weeks (R. 44). Variance is sought only until December 31, 1975 in the belief that no serious problems will develop during start-up. Hunter's Project Manager testified that the December 31, 1975 date reflects a very optimistic view on Petitioner's behalf (R. 63).

The coal-fired boilers could be brought into compliance by the installation of additional particulate collecting devices. James Caselton, Petitioner's Chief Engineer, testified that such a project could be completed in 7 to 9 months (R. 81) at an estimated cost of \$200,000 (R. 80). Since the coal-fired boilers will not be used in the new process, none of these control devices would be of serviceable value once the new system is placed on line. Caselton testified that Ottawa Silica agrees with the Agency on maximizing use of the Babcock-Wilcox boiler during the variance period sought because of its lower particulate emission rate.

Data obtained from the Agency's Ottawa monitoring station show that for the period from August 1974 through March 1975 a geometric mean of 41 ug/m^3 was achieved. Monthly geometric means during this period ranged from 27 to 66 ug/m^3 . The highest reading during this period, 139 ug/m^3 , occurred one day during August 1974. Petitioner was operating its coal-fired boilers during the sampling period. Petitioner has not received any complaints about emissions from the facility for the last operating year (R. 41).

Petitioner calculates that particulate emissions from its Babcock and Wilcox boiler exceed the allowable emission rate by 2.77 lbs./hr. An excess emission rate of 23.88 lbs./hr. is calculated for each of the Bros boilers. Petitioner operates eight months of the year using the Babcock-Wilcox boiler and one of the Bros boilers. Based on theoretical calculations,

Ottawa Silica submits that operation of the coal-fired boilers during the variance period sought would result in a 4.6 ug/m^3 burden on the air at its property line and 0.79 ug/m^3 at the Agency's Ottawa monitor.

The Agency questions whether Petitioner could accurately predict the plume rise from the stacks on the basis of only five observations and whether the wind speed used in the calculations, 5 miles per hour, was accurate. The Agency suggests that Petitioner should have used information from the National Climatic Center showing a "most common wind speed" of 8.0 to 11.5 mph for all major weather reporting stations in Northern and Central Illinois. In the Agency's opinion, a sampling period of eight months may not be sufficient upon which to base conclusions concerning the annual geometric mean for particulates in the Ottawa area. Both the primary and secondary ambient air quality standards for particulates are expressed in annual geometric means and 24-hour maximum concentrations. However, the Agency does not totally reject Petitioner's calculations and recommends that the variance be granted, subject to certain conditions, until December 31, 1975 (R. 97).

It is the finding of the Pollution Control Board that Petitioner has met its burden of proof. Delay in completion of construction on the new system was beyond the control of Petitioner. The Board is satisfied that Petitioner has made and will continue to make every reasonable effort to complete the project as quickly as possible. The evidence indicates that ambient air quality standards will not be violated by the grant of variance in this case.

The Babcock and Wilcox boiler at Petitioner's facility exceeds the allowable emission rate only slightly. Each of the Bros boilers emits particulate matter considerably in excess of the allowable rate. Petitioner admits that it could bring the coal-fired boilers into compliance. However, to require control devices to be installed on the boilers at this time would clearly be an unreasonable measure and it is most doubtful whether the boilers could be brought into compliance before they reach the end of their useful life.

Ottawa Silica is near the end of a major project which will bring the activity into compliance with the particulate emission limitations. The Company, its employees and neighbors will benefit considerably from this project. In consideration of the fact that Petitioner began planning this compliance program at a time preceeding many environmental regulations, the Board commends Petitioner for its foresight and diligence.

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

ORDER

It is the Order of the Pollution Control Board that Ottawa Silica Company be granted variance from Rule 203(g)(1)(B) and Rule 203(i)(4) of the Illinois Air Pollution Control Regulations from May 30, 1975 until December 31, 1975 for its Ottawa Silica plant. Variance is granted subject to the following conditions:

1. During the period of this variance, Petitioner shall make every effort to maximize use of the Babcock and Wilcox boiler and minimize use of the Bros boilers.

2. Petitioner shall submit monthly progress reports to the Environmental Protection Agency. Said progress reports shall commence on August 15, 1975 and shall provide details of Petitioner's programs toward completion of the fluidized bed drying system.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order was adopted the 24th day of July, 1975 by a vote of 5-0.


Christan L. Moffett, Clerk
Illinois Pollution Control Board