ILLINOIS POLLUTION CONTROL BOARD April 14, 1971

Sandoval Zi	nc Company)		
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V.)	PCB 71-1	_0
)		
Environment	al Protection	Agency)		

Opinion of the Board (by Mr. Kissel):

Sandoval Zinc Co. (Sandoval) requests a variance to operate its rotary kiln in violation of Sec. 9(a) of the Environmental Protection Act and Rule 3-3.111 of the Rules and Regulations Governing the Control of Air Pollution, until July 27, 1971. Sandoval admits to a particulate emission rate of 23 lbs/hr; the allowable rate is 4 lbs/hr. The Environmental Protection Agency (Agency) opposed the grant of the variance on the grounds that Sandoval was dilatory in filing its Letter of Intent under the Air Contaminant Emission Reduction Program (ACERP) and that granting the variance will impose substantial hardship on the nearby residents.

Sandoval is engaged in the manufacture of zinc oxide. The company purchases secondary zinc residue produced by steel companies and galvanizers; it demetalizes this combination of zinc metallic, zinc oxide, and chlorides by crushing and screening. (R. 20) The material is then smelted in the rotary kiln at a temperature of over a thousand degrees in order to drive the chlorides out. After the smelting, the zinc oxide remains and it is ball milled and then sold as a fertilizer additive. (R. 42)

The zinc skimmings processed in the plant contain between 65 and 85 per cent zinc, from 1 to 9 per cent chlorides, .02% aluminum, .1 to .2% lead, with any remainder silica and oxygen. (R. 62) Sandoval estimated that its fume was 92 per cent zinc oxide, 8 per cent zinc chloride. (R. 69) Albert Haas, president of Sandoval, indicated that he had begun to search for proper control equipment in 1969; after examining various installations throughout the country, Sandoval decided on an electrostatic precipitator. In September, 1969, Sandoval entered into a contract with Precipitair (a subsidiary of Advance Ross) for the rental of a scale model unit guaranteed to remove 98.5% of the emissions. (R. 28) Upon receipt of the unit in January, 1970, Sandoval filed a letter of intent with the Air Pollution Control Board. On May 27, 1970, the APCB approved a 14-month period for Sandoval to implement it Air Contaminant Emission Reduction Program (ACEPP) using an electrostatic precipitator. In August, 1970, after

several months of engineering work on the equipment, Precipitair concluded that, due to the high resistivity of Sandoval's emissions, the electrostatic precipitator was not the proper control device and recommended instead installation of a wet precipitator. (F. 31, 89)

Haas again commenced his search for control equipment; in Akron, Ohio, he discovered a secondary aluminum skimmings processor successfully using a wet-wash scrubber to control chloride fumes. (R. 33) Sandoval adapted the wet-wash scrubber to its facilities and has already begun the \$35,000 program. Only \$15,000 remains to be spent; the majority of that for a blower on which Sandoval has contracted for expedited delivery. (R. 36, 40)

The Agency asks us to deny the variance since Sandoval was dilatory in submitting its original ACERP. An Agency engineer testified that the control technology for the secondary metals industry was available in 1967. (R. 159) Any dilatoriness on the part of Sandoval, however, was excused by the APCB when it granted the original ACERP. In EPA v. Commonwealth Edison, PCB 79-4, the Board ruled that an ACERP could legally have been granted only for a period of a year. The Board has also approved a variance for a company proceeding to implement its ACERP, especially when it was employing more efficient control equipment. Cf. Medusa Portland Cement v. EPA, PCB 70-27. In the instant case, Sandoval intends to complete its installation by the original deadline, July 27, 1971, also using a more effective control device than that originally proposed. We would note, however, that the orders or programs approved by our predecessor Boards remain in effect only until superseded by actions of this Board. (See Section 49(d) of the Environmental Protection Act.) Thus, just because a party is operating under an ACERP or similar implementation program approved by one of our predecessor Boards does not prevent this Board from denying the variance request even though it is for the same or lesser period of time. Section 49(d) guarantees the Board's right to re-examine and to revoke, if necessary.

We are convinced that immediate compliance with the applicable rules and regulations would impose an arbitrary and unreasonable hardship upon Sandoval. The spring of the year is the peak season for this small company. (R. 39) Due to the nature of its market, it would stand to lose its customers. (R. 54, 56) Sandoval draws most of its nineteen employees from the local area; to deny the variance would mean the virtual cessation of operations at Sandoval. With its program due to be completed within four months, Sandoval is well on the way toward compliance.

In granting the variance the Board is admittedly imposing a hardship upon the residents of the community. The several residents who testified and the numerous residents who entered written objections to the grant of the variance all spoke to the obnoxious nature of the fumes emitted from the plant. The testimony indicated that it was often difficult to drive without headlights or to sit outside when the fume was pouring forth. A mother indicated that her children could not play at school recess because the smelter smoke was so thick they could not breathe well. The company itself shuts down on halfhour notice whenever the neighboring outdoor movie theater is open and the wind is from the south. (R. 129) The United States Department of Health, Education, and Welfare report, the so-called Litton study, Preliminary Air Pollution Survey of Zinc and its Compounds, indicates that health hazards may occur from the inhalation of zinc oxide fumes, resulting in metal fume fever, and of zinc chloride fumes, resulting in irritation and damage to mucous membranes. The threshold limit values (TLV) for zinc oxide has been set at 5000 ug/m³ averaged over the eight-hour work day by the American Conference of Government Industrial Hygienists; a tentative TLV for zinc chloride has been set at 1000 ug/m³. The large amount of zinc discharged may also be toxic to vegetation near Sandoval. Since the company is proceeding with an implementation program and that program will be completed within four months, the Board believes that the variance should be granted. Sandoval, though, is no small polluter. Therefore, we will require stack tests to be conducted upon the installation and operation of the wet-wash scrubber.

The testimony also established that there may be other sources of air pollution within the plant. The furnace for the kiln and the milling process also may be emitting particulates to the atmosphere in violation of the applicable regulations. (R. 69, 72) Sandoval should undertake to study and control these possible sources of contaminants if they are in violation of the applicable Rules and Regulations.

The above constitutes the Board's finding of fact and conclusions of law.

Order

- 1. Sandoval shall not operate its rotary kiln after July 27, 1971, without the wet scrubber installed and in operation; the emissions from the kiln shall be in compliance with the applicable Rules and Regulations Governing the Control of Air Pollution.
- 2. Sandoval, for the period of the variance, shall not exceed the monthly rated capacity of the kiln.
- 3. Sandoval shall post with the Environmental Protection Agency by April 30, 1971, in a form agreeable to the latter, a bond or other security in the sum of \$15,000, to assure compliance with this order.
- 4. Sandoval shall submit to the Agency within 60 days of the entry of this order plans to control other sources of emissions at its Sandoval plant.
- 5. Sandoval shall furnish to the Environmental Protection Agency progress reports 60 days from the entry of this order and upon the completion of the installation.
- 6. Within 30 days of the installation and operation of the wet scrubber, Sandoval shall conduct a stack test for zinc oxides and zinc chlorides and furnish said results to the Agency.
- 7. Failure to adhere to any of the conditions of this variance shall terminate the variance.

I, Regina E. Ryan, Clerk of the Pollution Control Board, certify that the Board adopted the above opinion and order this 14th day of April, 1971.