ILLINOIS POLLUTION CONTROL BOARD
December 5, 1974

OLIN CORPORATION, Petitioner, vs. ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	PCB 74-335

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

On September 10, 1974, Olin Corporation filed its Petition For Variance seeking therein relief for a period of one year from the provisions of Air Pollution Control Rules 203(e) (Particulate Emission Standards and Limitations for Incinerators) and 206(b) (Carbon Monoxide Emission Standards and Limitations, Incinerators) in order to allow continued operation of its experimental combustion device. In the alternative, Petitioner requests a variance from the provisions of Rule 502(Open Burning Prohibition) and Section 9(c) of the Environmental Protection Act, relating to open burning. Petitioner further seeks clarification as to whether a permit will be required under Rule 103 to continue the operation of this device, and, if so, Petitioner seeks relief from Rule 104, requiring a compliance program.

Petitioner manufactures various propellant and pyrotechnic products at its facility located within Williamson County, near Marion, Illinois. The subject of the Petition is the disposal of explosive and pyrotechnic wastes generated during the manufacturing process.

The products manufactured by Petitioner vary from year to year. However, all of its products are related to a propellant or pyrotechnic technology. The United States through its Department of Defense is the major customer for such products. The quantity and type of raw materials processed by Petitioner may vary widely depending upon Petitioner's success in bidding for Government contracts. Actual amounts of explosive wastes generated are directly related to production volume. While Petitioner cannot state with certainty what its product line or volume will be in 1975, it is estimated that the maximum amount of explosive waste generated weekly will not exceed the following amounts:

Ammonium Nitrate Propellant	500 lbs.
Double Base Propellant	300 lbs.
RDX Type Explosive	200 lbs.
Single Base Propellant	20 lbs.
Ammonium Perchlorate Propellant	20 lbs.
Boron-Potassium Nitrate Propellant	200 lbs.
Black Powder	10 lbs.
Nitroglycerine in Sawdust	25 lbs.
Potassium Perchlorate Propellant	20 lbs.
Firecracker Mix	50 lbs.
Colored Smoke Mix	100 lbs.
Contaminated Packaging	200 lbs.
Pyrotechnic Flare Scrap	50 lbs.

This waste is generated by activities such as machine cleaning, floor sweepings and rejected product. Petitioner proposes to dispose of the scrap in its experimental combustion device which is operated two days a week. This device will handle a maximum scrap rate of 400 lbs. per hour. Normally the scrap is fed in 2 to 3 lb. increments and each increment is fully consumed before another is added.

The quantity and type of contaminants discharged by Petitioner's experimental combustion chamber are estimated to be less than 24 grains of particulate matter and less than 0.001 cubic feet of carbon monoxide per pound of scrap burned. The device here involved is designed to operate with approximately 3000% excess air to insure that the rapidly expanding gases from the combustion of explosive wastes are pulled through the scrubbing devices rather than puffed out the various openings of the combustion chamber. Further, the explosive scrap burned has a low carbon content. Thus, when the particulate emission calculations of rule 203(e) are applied to this device with the required adjustments eliminating excess air and correcting to 12% CO_2, it does not meet the applicable regulations. It does, however, remove 99.74% by weight of the particulate emissions generated.

The carbon monoxide emissions limit of rule 206(f) is also exceeded by this device when the required correction to 50% excess air is made. Charcoal at the base of the combustion chamber is utilized as an ignition source for the explosive scrap and as a refractory material for the extremely high flame temperature resulting from the burning of this scrap. While the flame temperature is high, the heat value of this material is low, and it is rapidly cooled by the excess air required. Petitioner believes that this sequence of events generates the unacceptably high amounts of carbon monoxide. Petitioner notes, however, that the maximum carbon monoxide produced is 1.6 lb. per hour of operation.

Petitioner has no program to bring this device into compliance with existing regulations. It is Petitioner's contention that this device represents an advance in the state of the art which is not recognized by present regulations.

Petitioner has been before this Board several times due to explosive waste disposal problems. (See PCB 71-60, PCB 71-231, PCB 72-357, 72-517, and PCB 73-395.) Initially, Petitioner obtained a variance from the Board in order to allow open burning of pyrotechnic and explosive wastes while controlled methods of thermal destruction were investigated. Eventually, Petitioner developed the combustion device described above.

On September 13, 1974 an Agency representative visited Petitioner's plant to observe the operation of the device. During that visit, emissions were 5-10% opaque and all operations were found to be in order. The Agency is aware of only one malfunction that has occurred during the operation of the device and has no information to indicate that Petitioner has failed to abide fully with prior orders of the Board.

The Agency calculates that the actual carbon monoxide emissions from the combustion device approach .05 cubic feet per pound of scrap burned, and that the particulate emissions are approximately 24 grains per pound of scrap burned. An important aspect of Petitioner's operation is that 99.7% by weight of the particulate emissions is removed.

The Agency agrees that the existing emission standards are not well suited to apply to Petitioner's device and that regulatory changes are in order to correct that problem. The parties are currently seeking a mutually acceptable proposed amendment to existing regulations which will cover the device and bring Petitioner into compliance.

The proposed date for the variance extends beyond May 30, 1975. We are aware that action by this Board may not stay the impact of a federally-approved implementation plan. However, at the least, a variance does grant protection from the state regulation.

We are disposed to grant relief. Petitioner's combustion device represents an advance in the state of the art which greatly reduces the particulate emissions from the disposal process and is vastly preferable to open burning. The device is operated in an isolated strip mine area, thereby minimizing possible injury to the public and to the environment. Variance will be granted from the provisions of Rule 203 (e) and 206 (b) in order to allow continued operation of the combustion device. Variance from Rules 103 is not necessary since the Agency can grant a permit based upon the variance contained herein.

Mr. Henss dissents.

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

IT IS THE ORDER of the Pollution Control Board that Olin Corporation be granted a variance for a period of one year from the date of this Order from the provisions of Rules 104, 203 (e) and 206 (b) of Chapter 2 of the Pollution Control Board Rules and Regulations in order to permit continued operation of its combustion device, subject to the following conditions:

1. Olin Corporation shall apply for an operating permit for its combustion device from the Agency; and

2. Olin Corporation shall not operate its combustion device to exceed a maximum scrap incinerating rate of 400 pounds per hour.

3. Olin Corporation shall file a compliance plan with the Agency incorporating its research and development program into the plan and report quarterly to the Agency on progress.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, do hereby certify that the above Opinion and Order was adopted on this 5th day of December, 1974 by a vote of 4-1.

Christan L. Moffett (gn)
Christan L. Moffett, Clerk
Illinois Pollution Control Board