

ILLINOIS POLLUTION CONTROL BOARD
January 6 , 1977

IMC CHEMICAL GROUP, INC.,)
)
 Petitioner,)
)
 v.) PCB 76-259
)
 ENVIRONMENTAL PROTECTION AGENCY,)
)
 Respondent.)

OPINION AND ORDER OF THE BOARD (by Dr. Satchell):

On October 19, 1976 IMC Chemical Group, Inc. filed with the Pollution Control Board (Board) a petition for variance from Rule 505 of the Chapter 2: Air Pollution Control Regulations to burn twenty-four buildings and four powder ponds located at Petitioner's facilities which have been storage facilities for explosive products. The Environmental Protection Agency's (Agency) Recommendation in this matter was filed December 2, 1976.

Petitioner has had a previous variance at this site in PCB 71-57. Petitioner operates a plant in an area of approximately 608 acres in Marion, Williamson County, Illinois where explosive products are stored for distribution by its Trojan Division. There are twenty-four buildings located at the site that have been used for the storage and/or manufacture of explosives. Eight powder ponds on the premise have also been utilized by Petitioner. For a period of sixteen years these buildings were used for the handling and processing of explosives including the following: nitroglycerin dynamite (DYN), nitroglycerin (NG), nitrocellulose (NC), pentaerythritol tetranitrate (PETN), cyclonite (RDX), trinitrotoluene (TNT), lead azide, lead styphnate and mixtures of the aforementioned such as Torpex, HBX and FNH.

Over the years the buildings and powder ponds have become contaminated with explosives. Respondent's facility is located within Crab Orchard Wildlife Refuge and is leased from the United States Department of Interior, Bureau of Sport Fisheries and Wildlife. Petitioner's lease expires December 30, 1980.

The leasee does have the option of terminating the lease upon giving a year's written notice. A condition for terminating the lease requires the leasee or assigns to neutralize all contaminated sites. The buildings at the site have not been used since 1971. These buildings and four powder ponds are dangerously contaminated despite decontamination procedures attempted by Petitioner. Petitioner states it is necessary to decontaminate the buildings and ponds as they constitute a definite fire and explosion hazard. Petitioner states that the only safe way to decontaminate these facilities is through open burning or flashing. Without burning Petitioner contends that it is impossible to remove or desensitize all explosives from cracks in the concrete or from absorption into the wood or to complete any and all requirements to decontaminate facilities. Any other means of decontamination would create an extreme danger for the workmen involved in the operation.

An Agency representative visited the site on November 1, 1976 to investigate the site concerned in the variance petition. The Agency representative inspected the three types of buildings (designated A, B, and C) expected to be burned. Buildings of Type A contain the more dangerous explosive wastes. The type A buildings are underground igloos constructed of eight inch thick reinforced concrete walls. One-quarter inch thick plywood covers the major portion of the walls, while wood framework and wooden storage cabinets are scattered throughout. Boards separate the upper and lower levels, while the floors are comprised of three-quarter inch plywood covered by three-quarter inch maple flooring. All exposed wood has been painted a number of times. Due to dangerous transfer lines still in place, these buildings are to be burned in place. The contaminated wood will be sprayed with a reducing agent. The floor will be covered with straw and the wood and straw will be soaked with number two fuel oil.

The type B buildings are metal quonset hut structures with internal wooden structure similar to type A. In this case once the reducing agent is applied, all the wooden material is to be removed to the open burning site where it will be burned. The remaining concrete floor will then be covered with straw and soaked with number two fuel oil. This will be flash burned to insure decontamination of the cracks and pockets where explosive material build-up might have occurred.

Buildings of type C have a wood and metal frame with tin roofing. Flash burning alone will be conducted in these buildings to ignite any accumulation of explosives on the floor area.

The ponds are to be drained and allowed to dry. Then the ponds will be lined with six inches of straw and sprayed with number two fuel oil and burned.

Petitioner will have four trained men on the site who will be equipped with adequate fire hydrants and hoses to provide fire protection, and the neighboring fire department will be placed on a standby basis to prevent the spread of fire. The open burning will be conducted under the direction of personnel trained in decontamination procedures and will be conducted between the hours of 8:00 A.M. and 3:00 P.M. The burning and flashing would occur at a maximum of three times per week and amount of material burned would vary from a minimum of three tons to a maximum of fifteen tons. Following this burning schedule and allowing for bad weather conditions Petitioner states the decontamination procedure could be completed in six months.

The Agency contacted the manager of Crab Orchard Wildlife Refuge within which the open burning site is located. He was in complete agreement with the proposal. The Agency has received no citizen complaints in regard to the burning.

The Agency estimates that the aggregate of all explosives in the twenty-four buildings will total no more than 240 pounds. The Agency states that this along with the 77,670 barrels of pond residue shown on Petitioner's Exhibit #3 would total no more than 80,000 pounds of explosive wastes.

The Agency states no reliable emission factors are available for the open burning of the materials contemplated by this Petition for Variance: lumber, straw, explosive wastes and fuel oil along with miscellaneous rubber and plastics. However, based on emission factors presented in Table 2.4-1 of AP-42, A Compilation of Air Pollution Emission Factors, published by the United States Environmental Protection Agency and based on Exhibit #3 of Petition, the Agency offers a rough estimate that based on a worse case situation 9.4 tons of particulates would be generated from the open burning of the twenty-four buildings and four ponds. In addition, the Agency estimates that burning the buildings would release 18.3 tons or less of carbon monoxide, 2.8 tons or less of organic material, .56 tons or less of nitrogen oxides and 187 pounds or less of sulfur oxides.

The nearest residence to Petitioner's facility is approximately .48 miles south of the open burning site. Marion, Illinois, population 12,900 is located approximately 5.5 miles northeast of the facility. There are no other similar emission sources in the area. The major portion of the surrounding area is Crab Orchard Wildlife Refuge.

In the 1975 Illinois Air Quality Report, Marion, Illinois is listed as having 46 micrograms/cubic meter (annual geometric mean) with the three highest twenty-four hour samples being 131, 123, and 118 micrograms per cubic meter. This results in no violations of the State and Federal primary particulate emission standard of 75 micrograms/cubic meter (annual geometric mean) with a maximum twenty-four hour concentration of 260 micrograms per cubic meter. There was also no violation of the State and Federal secondary standards, Chapter 2: Air Pollution Control Regulations, Rule 307(a). Other 1975 readings taken at the Marion station include:

	Reading	Allowable State and Federal Standard
Nitrogen dioxide	.011 ppm	.05 ppm
Sulfur dioxide	.006 ppm	.03 ppm

The Agency does not rely on the above information as conclusive that Petitioner's operation will not violate the air quality standards; however, the Agency believes that given the relatively small amount of pollutants and the time period over which they will be released that the possibility of violations of the ambient air quality in the area are minimal. The Agency recommends that the Board grant the variance subject to certain conditions.

The Board finds the IMC Chemical has shown sufficient hardship to warrant the grant of this variance. Other methods available to Petitioner place Petitioner's employees in danger of possible explosions or leave questions of whether all the explosives have been neutralized. The 1975 air quality data indicates that it is not probable that this variance will cause

violations of the ambient air quality. The Board grants Petitioner a variance from Rule 505 of the Chapter 2: Air Pollution Regulations subject to the conditions set out in the order.

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

ORDER

It is the order of the Pollution Control Board that IMC Chemical Group, Inc. is granted a variance from Rule 505 of the Chapter 2: Air Pollution Control Regulations in order to burn twenty-four buildings and four powder ponds in a period of six months subject to the following conditions:

- (a) That no more than one specific site be burned per day.
- (b) That no more than three specific sites be burned per seven (7) day period, and no burning shall occur on a day subsequent to a burning.
- (c) At least three (3) days prior to each scheduled burning, the Petitioner shall notify the Regional Office of the site to be burned and the estimated material involved.

Region IV's office address is:

Illinois Environmental Protection Agency
115A West Main Street
Collinsville, Illinois

- (d) The Petitioner shall notify the Agency's Region IV office via telephone (618 345-0700) on the day of the scheduled burning, but before such burning shall take place. If ambient air quality and/or weather conditions are not favorable to burning, the Agency shall have the right to instruct Petitioner to postpone the burning until improved conditions warrant the scheduling of the burning period.
- (e) Petitioner shall file a written report with the Agency within thirty (30) days after the destruction of each site, giving details of said destruction.

(f) Within fourteen (14) days after the date of this order, the Petitioner shall execute and forward to the Control Program Coordinator at:

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

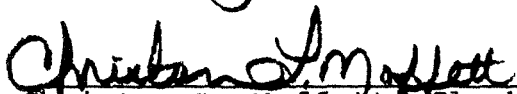
the Certification of Acceptance and agreement to be bound by all terms and conditions of the variance. The form of said Certification shall be as follows:

CERTIFICATION

I (We), _____ having read and fully understanding the Order of the Illinois Pollution Control Board in PCB 76-259, hereby accept said Order and agree to be bound by all the terms and conditions thereof.

Signed _____
Title _____
Date _____

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 6th day of January, 1977 by a vote of 4-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board