

ILLINOIS POLLUTION CONTROL BOARD
June 29, 1984

MEYER STEEL DRUM, INC.,)
(Kilbourn Street Plant),)
)
Petitioner,) PCB 84-28
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by W. J. Nega):

This matter comes before the Board on the petition for variance of Meyer Steel Drum, Inc. (Meyer) filed on March 1, 1984. The Petitioner has requested a variance until December 31, 1985 from the volatile organic compound (VOC) emission limitations delineated in Rule 104(h)(1) of Chapter 2: Air Pollution Control Regulations (now 35 Ill. Adm. Code 215, Appendix C), Rule 205(j)(1) of Chapter 2 (now 35 Ill. Adm. Code 215.211), and Rule 205(n)(1)(J) of Chapter 2 (now 35 Ill. Adm. Code 215.204(j)).

On March 8, 1984, the Board entered an Order which noted that more information on ozone ambient air quality end on the level of VOC emissions was necessary.

On April 10, 1984, the Petitioner filed an Amended Variance Petition which provided the requested additional information and filed a motion for expedited hearing and consideration of its variance request.

On May 25, 1984, a hearing was held and the Illinois Environmental Protection Agency (Agency) filed its Recommendation that variance be granted subject to certain conditions.

The Petitioner owns and operates a container manufacturing plant which produces new steel drums which are used for the shipment of flammable liquid, paints, adhesives, oils, foods and other products. (Pet. 2). The company is in the process of relocating its drum manufacturing operations from 5303 S. Keeler Avenue in Chicago, Cook County, Illinois to a new location in an industrial and commercial area at 2000 S. Kilbourn Avenue in Chicago. (Pet. 4). This relocation is pursuant to an agreed order of the Circuit Court of Cook County which required termination of all painting operations at the Keeler Avenue plant by May 30, 1984. (Rec. 2; Pet. 4). The new Kilbourn Avenue facility is expected to employ about 40 people and will have a plant area of about 60,000 square feet including office space. (Pet. 4).

The manufacture of both open-head or tight-head 55 gallon new steel drums at the Petitioner's Kilbourn Avenue plant will involve the following operations: (1) steel sheets (which are precut for 55 barrel drums) are rolled into a cylinder shape and are then welded, ribbed, and flanged; (2) special bottoms which are stamped from the steel sheet are then installed on the cylinders; (3) the drums are pressure tested; (4) the interior coatings are first sprayed and then cured; (5) the lids, which are lined separately, are then installed; (6) the exterior is coated, and (7) the drums are dried in a bake oven. The company has equipped the coating spray booths with dry filters or water wash systems to control particulate overspray. (Rec. 2). The company intends to process about 150 to 400 drums per hour at its new Kilbourn Avenue facility. (Pet. 15).

The Petitioner, which has highly specialized paint requirements for its steel drum coating operations, has requested a variance from the applicable air pollution rules to allow container production using the existing tested coatings which are presently applied to the drums by means of spraying. The company anticipates that it will apply about 27,000 gallons of coating materials annually, including clear coating (liner) and extreme performance coating, in the drum manufacturing process during 1984. (Pet. 4).

Section 215.204(j), which has an effective date of December 31, 1983, requires that volatile organic compounds contained in the coatings used by the company be limited to 3.5 pounds per gallon (lb/gal) for exterior (extreme performance) coating and 4.3 lb/gal for interior (clear) coating. (Rec. 2). At the Keeler Avenue facility, Meyer applied 2,765 gallons of interior coatings in 1983 which had an average VOC content of 5.05 lb/gal. According to the Agency's calculations, the resultant VOC emissions in 1983 from interior coating operations at the Keeler plant were 14,025 pounds per year (lb/yr) or 7 tons per year. In 1983, Meyer applied 16,830 gallons of exterior coating at its Keeler Avenue plant which had an average VOC content of 4.55 lb/gal and resulted in VOC emissions, as estimated by the Agency, of 76,575 lb/year or 38.28 tons per year. (Rec. 2-3)

In its Recommendation, the Agency has noted that, applying the usage figures during 1983 from the Keeler Avenue facility, the allowable VOC emission limitation for interior coatings would be 8,351 lb/yr or 4.17 tons per year, while the allowable VOC emission limitation for exterior coatings would be 41,300 lb/yr or 20.65 tons per year. (Rec. 3). Accordingly, the Petitioner will have to reduce emissions from interior coatings by 40.42% and reduce VOC emissions from exterior coatings by 46.05%. (Rec. 3).

The Agency has indicated that, although the Petitioner has been diligently working both internally and with its coating suppliers to develop the requisite technology to reduce VOC

emissions, the efforts to date have been partially successful but have not produced great enough reductions to achieve compliance with Section 215.204(j) by December 31, 1983. (Rec. 3). The company has considered various alternative methods of compliance including; (1) the use of high solids, water-based, low solvent and powder coatings; (2) ultra-violet curing; (3) electrostatic paint application techniques; (4) fume incineration and the installation of afterburners; and (5) carbon adsorption and condensation techniques. (Pet. 11-56). However, these alternative methods were rejected because the resultant product was unacceptable, maintenance and installation costs were prohibitive, and the technology was not technically or economically feasible. (Rec. 3).

In reference to its ongoing compliance efforts, the Petitioner has stated that it "is a small privately held organization...does not have any engineering or research and development force and is simply too small to be able to afford such a force...The operations of the plant are carried out by the owners...When they have engineering problems or are installing new equipment, they either call on outside consulting engineers or vendor supplied engineering or combinations of both...the Company has depended on their vendors to supply them with materials which the vendors claim to be adequate...modifying equipment as necessary by adding heaters, changing paint guns, nozzles, pressures and temperature in an effort to get these materials to perform properly on the drums and to develop a successful compliance program..." (Pet. 2-3).

In fact, it was brought out at the hearing that the Petitioner has recently hired a consultant to work with the company in constructing, designing, and putting into operation the requisite spray painting facilities at its new Kilbourn Avenue plant to continue efforts to reduce the level of solvent emissions. (R. 4-5).

While the company is in the process of investigating various alternative methods of compliance to achieve the necessary reduction in emission levels, it has proposed to achieve compliance by reformulating as many of its coatings as possible to low solvent, high solids and/or water base coatings. (Rec. 3).

Meyer has calculated that the future solvent content in the exterior coatings will meet the following schedule until final compliance can be achieved:

<u>Month</u>	<u>Solvent Content (lb/gal)</u>
July, 1984	4.0
December, 1984	3.8
July, 1985	3.5
December, 1985	3.1

Because it believes that the only method of achieving immediate

compliance is through the installation of controls which are prohibitively expensive, the company has alleged that denial of its variance request would result in an arbitrary and unreasonable hardship. (Rec. 4).

In its Recommendation, the Agency indicates that, at a meeting on December 13, 1983 with representatives of the the United States Environmental Protection Agency (USEPA) and the drum and barrel manufacturing industry, the USEPA expressed its opinion that there is presently no practical way of achieving compliance with VOC emission limitations on interior coatings. (Rec. 4).

Moreover, the Agency believes "that Petitioner's compliance program is reasonable in that it is both cost effective and should achieve the necessary VOC reductions." The Agency has noted that the only means of achieving immediate compliance involves the installation of afterburners. Such afterburners, in addition to being extremely expensive to install, operate, and maintain, also consume vast amounts of sometimes scarce natural gas. (Rec. 4). Additionally, the provisions of Section 215.106 would limit the operation of these afterburners to only seven months a year, so that annual VOC emissions are likely to be greater if afterburners are used to achieve compliance rather than the proposed reformulation program. (Rec. 4-5). The Board points out that it is immaterial if VOC emissions are greater on an annual basis so long as they are reduced during the ozone season. Thus, the Agency believes that the Petitioner's efforts to develop low solvent coating technology should be encouraged and feels that Meyer's variance request is reasonable. (Rec. 4-5).

The Agency has indicated that Meyer's new facility is located in a 100% light-medium industrial/commercial area with no family residences in the immediate vicinity (i.e., the nearest residences are located directly east of the facility about one-fourth mile away). Because the plant is not in operation at the present time, the Agency has not received any complaints from area residents pertaining to the Petitioner's requested variance. (Pet. 5).

The Agency believes that the extension of the deadline for compliance which is sought by the company will not cause any increased or detrimental health effects on the general populace and states that Meyer will be expected to comply with its episode action plan which requires a reduction of emissions during periods of high ozone concentration to eliminate potentially adverse health effects on the elderly and persons with respiratory and cardiac problems. (Rec. 6).

Meyer's plant is located in an area which is classified as nonattainment for ozone and the closest ozone monitoring station is to the southwest at 1850 South 51st Street in Cicero, Illinois. Ozone levels in excess of the ambient air quality standard of 0.12 parts per million (ppm) were recorded four times at that monitor during 1983. (Rec. 6).

The Agency has stated that the estimated actual VOC emissions used in its numerical data base are calculated from the solvent content in the coatings. During the Petitioner's operations, solvent vapors are exposed to a flame in a direct fired curing oven which consumes an unknown portion of the solvent before release into the atmosphere. (Rec. 6).

The Agency has indicated that it agrees with the Petitioner that a denial of the requested variance would constitute an arbitrary and unreasonable hardship because: (1) Meyer has been diligently working with its suppliers to reduce its VOC emissions for several years; (2) the company is presently engaging in good faith, diligent efforts to achieve compliance; (3) Meyer is continually working to increase the transfer efficiencies of its coatings (i.e., the greater the coating transfer efficiency, the lesser the volume of coatings utilized, thereby resulting in a reduction of VOC emissions); (4) installation of afterburners may not be the most environmentally sound solution in the long run, and would be extremely expensive and wasteful of natural gas; (5) during periods of high ambient ozone levels, the Petitioner's facility would still be subject to the applicable episode regulations, and (6) when the Board initially adopted the VOC emission limitations in R80-5, it was realized that the regulations were "technology forcing" and it was anticipated that variances for some facilities would be needed. (Rec. 5).

Accordingly, the Board finds that denial of variance would impose an arbitrary or unreasonable hardship upon the Petitioner and will grant the requested relief, subject to the conditions delineated in the Order.

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

ORDER

The Petitioner, Meyer Steel Drum Inc., is hereby granted a variance for its facility at 2000 S. Kilbourn Avenue in Chicago, Cook County, Illinois until December 31, 1985 from the volatile organic compound emission limitations delineated in 35 Ill. Adm. Code 215, Appendix C, 35 Ill. Adm. Code 215.211, and 35 Ill. Adm. Code 215.204(j), subject to the following conditions:

1. The Petitioner shall submit written reports to the Agency by August 3, 1984, and every third month thereafter, detailing all progress made in achieving compliance with Section 215.204(j). Said reports shall include information on the names of replacement coatings and the manufacturers' specifications including per cent solids by volume and weight, per cent VOC by volume and weight, per cent water by volume and weight, density

of coating, and recommended operating parameters, detailed description of each test conducted including test protocol, number of runs, and complete original test results; the quantities and VOC content of all coatings utilized during the reporting period; the quantity of VOC reduction during the reporting period; and any other information which may be requested by the Agency. The reports shall be sent to the following addresses:

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

Environmental Protection Agency
Division of Air Pollution Control
Manager, Field Operations Section
1701 South First Avenue
Suite 600
Maywood, Illinois 60153

2. The Petitioner shall apply to the Agency for all requisite operating permits by August 3, 1984 pursuant to Section 201.160(a).

3. Petitioner shall maintain a daily log of drum production as indicated on p. 53 of their variance petition.

4. The Petitioner shall meet the following compliance schedule pertaining to the solvent content of its exterior coatings:

<u>Month</u>	<u>Solvent Content (lb/gal)</u>
January, 1985	3.8
July, 1985	3.5
December, 1985	3.1

5. Within 45 days of the date of this Order, the Petitioner shall execute and forward to the Illinois Environmental Protection Agency, Division of Air Pollution Control, Compliance Assurance Section, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This 45 day period shall be held in abeyance for any period this matter is being appealed. The form of the certificate shall be as follows:

CERTIFICATE

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 84-28

dated June 29, 1984, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

Meyer Steel Drum, Inc.

By: Authorized Agent

Title

Date

IT IS SO ORDERED.

Board Member B. Forcade concurred.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 29th day of June, 1984 by a vote of 5-0.

Dorothy M. Gunn
Dorothy M. Gunn, Clerk
Illinois Pollution Control Board