

ILLINOIS POLLUTION CONTROL BOARD
August 2, 1984

AMERICAN STEEL CONTAINER COMPANY,)
Drum Shop,)
)
Petitioner,)
)
v.) PCB 83-114
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by J. Theodore Meyer):

On August 19, 1983, American Steel Container Company (American Steel) filed a Petition for Variance for its drum shop operation. Specifically American Steel requests variance from Sections 215.204(j) and 215.211 and Appendix C found in 35 Ill. Adm. Code 215 (formerly Rules 205(n)(1)(J), 205(j)(1) and 104(h)(1), respectively, of Chapter 2: Air Pollution). Those regulations contain the emission limitation, compliance plan requirements and compliance date of December 31, 1983 for coating operations such as American Steel's. With its Petition, American Steel requests until December 31, 1985 to comply. On March 5, 1984 American Steel filed an Amended Petition for Variance. The Illinois Environmental Protection Agency (Agency) filed its Recommendation on May 9, 1984. Hearing was held on May 11, 1984 in Chicago. At hearing, Petitioner reserved right to an evidentiary hearing if variance is not granted in accordance with the Agency's Recommendation, to which the Respondent agreed. (R. 6). The Board notes that Petitioner is not entitled to a hearing in addition to that already held. No members of the public were present at that meeting, and no public comments have been received by the Board in this matter.

American Steel employs approximately forty-five persons in its pail shop located at 4445 West 5th Avenue Chicago, Illinois (Cook County). Part of its pail shop operation include the manufacturing and reconditioning of metal industrial fifty-five gallon drums. The residue on those drums to be refurbished is removed by incineration. They are then shot blasted and dents and other defects removed before testing. Exterior coatings for weatherability and interior coatings which act as chemical barriers between the product and steel package are applied by spray, followed by baking. The coatings used must meet various customer

specifications since the new and refurbished drums are used for storing paint, oil, adhesives, flammable liquids, food products and other materials. Those used to store hazardous material are also subject to federal regulation (Title 49 of the Code of Federal Regulations).

In 1981, American Steel produced 400,000 drums; in 1982, 410,000 drums; and in 1983, 417,000 drums. The company predicts that over the next three years its production rate should increase by approximately 25,000 drums. (Am. Pet., Table 1). In producing these drums, American Steel uses forty different types of coating, which currently are formulated to comply with Section 215.301, the general rule adopted in 1972 for controlling emissions of photochemically reactive materials. The average VOM content of the exterior coatings used in 1982 was 4.88 pounds per gallon (lbs/gal). Pursuant to Section 215.204(j) the VOM content of exterior extreme performance coatings should be no greater than 3.5 lbs/gal. The Agency figured that in applying 29,330 gallons of exterior coatings in 1983, the resultant emissions were 71.55 tons per year (t/yr). Based on 1983 usage, the allowable emissions would have been only 30.2 t/yr. The average VOM content of the interior coatings used by American Steel in 1982 was 5.15 lbs/gal; the maximum limit being 4.3 lbs/gal pursuant to Section 215.204(j). Again based on 1983 usage figures the Agency calculated that in applying 12,879 gallons of interior coatings, 30.04 t/yr of VOM were emitted; the allowable emissions would have been only 18.68 t/yr. Thus, emissions attributable to the exterior coatings need to be reduced by 57%, and by 43% at the interior coating operation. Combined emissions need to be reduced by 53% in order to be in compliance. (Rec. 2-3)

American Steel has investigated achieving compliance with its coating suppliers. Powder coatings tested to date were unacceptable because they proved insufficiently resistant to the harsh chemical exposure. Acceptable water-based coatings are also not yet available as substitutes for three reasons. The equipment necessary, the curing time and temperature required and the odor associated with available water-based coatings, prohibits their use at this time. Substitute coatings containing 1,1,1-trichloroethane and methylene chloride, which are exempt VOM, are not possible since direct exposure of these materials to the necessary baking temperatures produces hydrochloric acid, and possibly phosgene gas, which are toxic and corrosive. New ovens would be necessary in order to switch to these exempt halogenated solvents. Afterburners proved economically unreasonable to install and operate. Vapor recovery was not feasible due to the various blends of solvents needed for the wide variety of coatings. Carbon adsorption was also not feasible due to the high volume of air used by the equipment, and due to insufficient space for such a system. Electrostatic spray equipment was not economically reasonable due to high installation and maintenance costs relative to marginal reduction in emissions. American Steel, along with its suppliers, is still investigating powder coatings and ultra-

violet curing systems. (Pet. 11-14) Until either of these, or other low solvent coatings are developed and tested, American Steel claims that implementation of any of the other alternatives listed above would impose an arbitrary and unreasonable hardship.

In its Recommendation, the Agency agreed that until reformulated coatings are available, compliance can only be achieved by the installation of afterburners. In addition to agreeing that the costs and fuel consumption are high, the Agency noted that afterburners would only be used during the ozone season pursuant to Section 215.106. Therefore, annual emissions would be further reduced if low solvent coatings are developed and used as opposed to afterburners. (Rec. 4). The Board agrees that annual emissions would thus be reduced, but finds this not as relevant as reductions in daily emissions

American Steel highlighted three test runs it undertook with high solids coating. Each proved unacceptable, first, because they did not meet its quality standards and secondly, because they required increased baking time. To accommodate increased curing, extensive modification would have to be made at its facility. (Am. Pet., 2-3) American Steel anticipates that it will test coatings from its suppliers in the near future which will allow it to comply. It also acknowledges that switching to the same will require some equipment modification. By December, 1984 it expects to reduce the average VOM contents of the exterior coatings to 4.2 lbs/gal, and of the interior coatings to 5.0 lbs/gal. Finally by December of 1985, the exterior coatings average VOM content should be reduced to 3.0 lbs/gal and the interior coatings average to 5.0 lbs/gal. Use of the internal offset provision contained in Section 215.207 should allow for compliance with the Board's rules. The Agency requested as a condition to variance that American Steel be required to submit operating permit applications by October 1, 1985 which demonstrate compliance pursuant to the internal offset provision. The Board will not condition the variance in this manner since Petitioner is required to apply for operating permits no later than that date pursuant to Section 201.162, and because Petitioner may choose to demonstrate compliance by a means other than the internal offset provision at that future date.

The Board agrees that coating reformulation is the most environmentally sound means of ultimate compliance. It finds American Steel has adequately demonstrated that compliance through the other alternative methods at this time would impose arbitrary and unreasonable hardship at its drum operation. Any environmental or health danger should be alleviated as necessary under Petitioner's Episode Action Plan. Variance from Section 215.204(j), and the attendant compliance rules is, therefore, granted 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

Petitioner, American Steel Container Company is hereby granted a variance for its drum shop coating operation at its facility at 4445 West 5th Avenue, Chicago, Illinois from January 1, 1984 until December 31, 1985 from Sections 215.204(j)(1) and (3), 215.211 and Appendix C at 35 Ill. Adm. Code 215, subject to the following conditions.

1. Petitioner shall submit written reports to the Agency by November 1, 1984, and every third month thereafter, detailing all progress made in achieving compliance with Section 215.104(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 volatile organic material (VOM) 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 VOM content of all coatings utilized during the reporting period; the quantity of VOM 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. Petitioner shall apply to the Agency for all requisite operating permits by September 15, 1984 pursuant to Section 201.160(a).

3. Petitioner shall reduce the average VOM content of its interior and exterior coatings by December 31, 1984 as follows:

<u>Coating</u>	<u>Average VOM Content</u>
Exterior	4.2 lbs/gal
Interior	5.0 lbs/gal

4. 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 83-114 dated _____, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

American Steel Container Company

By: Authorized Agent

Title

Date

IT IS SO ORDERED.

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 2nd day of August, 1984 by a vote of 6-0.

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