

ILLINOIS POLLUTION CONTROL BOARD  
August 2, 1984

AMERICAN STEEL CONTAINER COMPANY, )  
Pail Shop, )  
 )  
Petitioner, )  
 )  
v. ) PCB 83-115  
 )  
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 pail 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 a 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 February 29, 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. (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 hearing, 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 the operation at that shop is manufacturing and reconditioning metal industrial fifty-five gallon drums. Variance for that segment of its operation was discussed and granted in PCB 83-114, American Steel Container Company v. Illinois Environmental Protection Agency on August 2, 1984. New steel pails are also manufactured in that shop, and it is the coating operation of those pails which is the subject of this variance. Like the drums manufactured by Petitioner, the pails are used to store paint, oil, adhesives, flammable liquids, and

other materials. Those produced for shipping hazardous materials are subject to United States Department of Transportation regulations. Given those requirements, along with the variety of customer specifications, Petitioner has not been successful in finding acceptable coatings to substitute those currently used.

At the pail shop, the exterior and interior coatings are applied by spray, followed by baking. The coatings currently in use were developed to comply with Section 215.301 of 35 Ill Adm. Code 215: Organic Material Emission Standards and Limitations, which is the general rule adopted in 1972 by the Board to regulate emissions of materials defined as photochemically reactive. Under Section 215.204(j), the rule adopted in 1982 to regulate the emissions of volatile organic materials (VOM) from coating operations, Petitioner is required by December 31, 1983 to use exterior, extreme performance coatings containing no more than 3.5 pounds per gallon (lbs/gal) of VOM, and interior coatings containing no more than 4.3 lbs/gal of VOM [subparagraphs (3) and (1), respectively, of Section 215.204(j)]. The average VOM content of the exterior coatings applied in 1983 by Petitioner was 4.93 lbs/gal, and the average for the clear coating and interior lining was 5.93 lbs/gal. (Pet. 4). Petitioner's pail coating operation also includes applying to some of the pails manufactured, a rust inhibitor prior to the interior coating, which is known as the underlining. Since the underlining is a clear coat, like the interior coating, VOM content is limited to 4.3 lbs/gal.

In 1982, Petitioner manufactured 1,212,358 pails; in 1983, 1,000,000 pails; and over the next three years Petitioner predicts that the production rate will continue to decline, possibly to 990,000 pails in 1986. (Am. Pet. Table 1). Using 1983 production rates and coating usage, the Agency calculated and compared the actual emissions to the emissions allowable under Section 215.204(j). In applying 17,014 gallons of exterior coatings Petitioner emitted 41.97 tons per year, whereas only 17.03 tons per year would have been allowed. In applying 7,091 gallons of interior coatings, Petitioner's operations emitted 21.03 tons that year, whereas only 5.05 tons per year would have been allowed. Combined, the actual emissions amounted to 63.00 tons that year, while only 22.53 tons would have been allowed if Section 215.204(j) had been in effect. (Rec. 2-3). To comply, volatile organic emissions would have to be reduced by 59.4% from the exterior coatings, and by 73.9% from the interior coatings, or in other words, achieve a combined reduction of 64.2%.

For both its interior and exterior coating operations, 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.

Petitioner's operation is too small to persuade coating vendors to develop compliance coatings for its operation. Its two principal suppliers, both national concerns, indicate difficulty in developing high solids or water-borne coatings satisfying its needs. In 1983, Petitioner did undertake three tests with experimental exterior coatings from three different suppliers. All proved unacceptable primarily due to the need to increase curing time which was incompatible with the existing baking system. Nevertheless, Petitioner is remaining actively involved in seeking and testing other experimental exterior coatings. (Am. Pet. 2-4).

Development of acceptable interior coatings and liners is apparently more difficult, especially in the case of the underliners. Since these are intended to inhibit rust, water-borne coatings are not an alternative. Secondly, due to the epoxy and phenolic resins, use of certain solvents is inhibited. Finally, high solid content is not an alternative since a very thin light coverage is required. The underliner used by Petitioner, which weighs about 7.0 lb/gal, contains only 0.3 lb/gal of solids by weight. To avoid this problem, Petitioner is purchasing precoated cover materials, thereby eliminating the lining operation at the facility. (Pet. 6, 11).

When low solvent coatings become available, Petitioners acknowledge that minor equipment changes will be necessary, possibly in the area of \$10,000. The new formulations will also cost more, possibly 25 to 50 percent more than present coatings cost. Annually, this could range between \$40,000 and \$50,000. American Steel is agreeable to such modifications and additional costs once commercially viable materials are available. (Pet. 12). In the costs once meanwhile, Petitioner intends to continue searching for compliance coatings or new coating processes, such as ultra-violet curing, along with its suppliers. (Pet. 12).

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, 5) The Agency's Recommendation also outlined a compliance schedule it alleged to be acceptable to the Petitioner. By December of 1984, the average volatile organic material content of the exterior coatings should be reduced to 4.2 lbs/gal, and by December of 1985, it should be reduced to the compliance maximum limit of 3.5 lbs/gal. The average VOM content of the interior coatings should be reduced to 5.6 lbs/gal by December of 1984, and to 5.4 lbs/gal by December of 1985. (Rec. 4). Since this schedule does not anticipate an interior compliance coating being available at the expiration of variance, it is assumed that an alternative method, such as the internal offset provision contained in Section 215.207, will be used by the Petitioner to demonstrate compliance at that time.

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 pail 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 pail shop coating operation at its facility at 4445 West 5th Avenue, Chicago, Illinois from July 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 percent solids by volume and weight, percent volatile organic material (VOM) by volume and weight, percent 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	5.6 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