

ILLINOIS POLLUTION CONTROL BOARD  
May 14, 1991

IN THE MATTER OF: )  
 )  
PETITION OF )  
FORD MOTOR COMPANY, ) AS 91-2  
FOR AN ADJUSTED STANDARD, ) (Adjusted Standard)  
FROM 35 Ill. ADM. CODE 215.204 )

ERIC L. LOHRENZ AND SHELDON ZABEL APPEARED ON BEHALF OF THE PETITIONERS.

JULIA GENTILE APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by M. Nardulli):

This matter is before the Board on a petition for an adjusted standard from the Board's air regulations at 35 Ill. Adm. Code 215.204(a)(1) filed on February 27, 1991. Ford Motor Company (Ford) also filed a motion for expedited hearing which the Board granted on February 28, 1991. The Illinois Environmental Protection Agency (Agency) filed its response along with a motion to file its response instanter received by the Board on April 5, 1991. That motion is hereby granted and the response is accepted. In addition the Agency filed an amended response which was received by the Board on April 19, 1991. A hearing was held on April 8, 1991 in Chicago, Illinois. On May 2, 1991, Ford filed post-hearing comments. For the reasons set forth herein, the petition for an adjusted standard is granted.

BACKGROUND

Ford is seeking an adjusted standard from emissions limits applicable to the guide coating process at Ford's Chicago Assembly Plant (the Plant). The specific provision from which Ford is seeking an adjusted standard is 35 Ill. Adm. Code 215.204(a)(1) (hereinafter referred to as Section 215.204(a)(1)), which is the emission standard relating to coating operations at automobile or light duty truck manufacturing plants in Cook county. Section 215.204(a)(1) establishes limits for emissions of volatile organic material (VOM) of 2.8 lb/gal from prime surface coating line. This Petition involves a request requiring the Adjusted Standard to be submitted as a revision of the State Implementation Plan (SIP) under the federal Clean Air Act which would also require a revision to the Federal Implementation Plan (FIP). Thus, a Board action to grant an Adjusted Standard still requires Ford to receive approval of the SIP/FIP revision from the United States Environmental Protection Agency (USEPA).

The Plant employs approximately 2,800 people and was completed in 1924, making the Plant 67 years old. (Exh.K 2, Pet.

7).<sup>1</sup> The Plant is primarily used for operations involving the assembly of automobiles, including the coating of automobile bodies. The coating of the automobile bodies involves several steps including two stages when the guide coat and main enamel coatings are applied. (Exh.K 2-3, Pet. 8). The Plant, operating at capacity, emits 164 tons of VOM per year from its guide coating operations. (Pet. 8). The requested adjusted standard would apply only to the guide coating process at the Plant. (Exh.K 3).

#### DISCUSSION

The specific adjusted standard language that Ford and the Agency agreed on at hearing (Ag. Resp. 2-4, Tr. 7-9) is:

- (A) For the Ford Motor Company ("Ford") Chicago Assembly Plant ("Plant"), the following adjusted standard shall apply to the prime surfacer coating operation: 1.81 kilograms of volatile organic material (VOM) per liter (15.1 pounds/gallon) of coating solids deposited. This adjusted standard is equivalent to the generally applicable standard of 0.34 kilograms of VOM per liter (2.8 pounds/gallon) of coating as applied at each coating applicator (minus water and any compounds which are specifically exempted from the definition of VOM), based upon a transfer efficiency of 30 percent.
- (B) Compliance with the adjusted standard shall be based on the daily-weighted average VOM content from the entire prime surfacer coating operation (all prime surfacer coat spray booths, flash-off areas and bake ovens). Compliance shall be demonstrated in accordance with the "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Operations," December 1988 (EPA-450/3-88-0/8) (the "Protocol"), applied to prime surfacer coating operations. In addition

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1. The Petition is cited as (Pet. ); the transcript will be cited as (Tr. ); the Exhibits will be cited as "Exh "; the Agency's responses will be cited as (Ag. Resp. ) and (Ag. Am. Resp. ) respectively. In addition, the terms VOM and VOC are used interchangeably.

to using the Protocol, Ford shall demonstrate compliance through the recordkeeping and reporting requirements specified in 40 CFR §52.741(e)(6)(ii), 55 Fed. Reg. 26814, 26872 (June 29, 1990); provided, that all reports, notices or certifications required by §52.741(e)(6)(ii) to be sent or given to the U.S. Environmental Protection Agency also shall be sent or given to the Agency.

- (C) At least 180 days prior to initial compliance date, Ford shall submit to the Agency a detailed proposal specifying the method for demonstrating compliance with the Protocol. The proposal shall include, at a minimum, a comprehensive plan (including a rationale) for determining the transfer efficiency through the use of in-plant, or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings; and the method for determining the analytic VOM content of as applied coatings and the formulation solvent content of as-applied coatings. Upon approval of the proposal by the Agency, Ford may proceed with the compliance demonstration.
- (D) Ford shall submit to the Agency and, if so requested, to the U.S. Environmental Protection Agency the results of the initial compliance demonstration, and of any subsequent demonstration using a revised proposal pursuant to subparagraph (E) below. Subject to the reporting and recordkeeping requirements incorporated by reference at subparagraph (B) above, Ford shall be deemed to be in compliance with the adjusted standard at subparagraph (A) if the results of the most recent compliance demonstration show Ford to be in compliance therewith, unless and until the Agency or the U.S. Environmental Protection Agency should determine that those results are unacceptable. Except as provided in subparagraph (E) below, Ford shall comply with the adjusted standard of subparagraph (A) only in accordance with the operating parameters and materials

identified in its most recently approved proposal for demonstrating compliance.

- (E) At any time after the initial compliance date, Ford may submit to the Agency a revised proposal for demonstrating compliance with the Protocol. Ford shall submit the revised proposal to the Agency at least 90 days prior to the date on which Ford first intends to rely on that proposal as the means for demonstrating compliance under this section. In addition to the information required by paragraph (C) above, the revised proposal shall include a description of the facts supporting the need for, or appropriateness of, any changes from Ford's prior proposal (for example, changes in coating line operations or composition of materials used). Upon approval of the revised proposal, Ford may proceed with the compliance demonstration.

Under Section 28.1 of the Act, the Board may grant an adjusted standard from the regulation of general applicability. Since the regulation of general applicability does not specify the level of justification required of a petitioner for an adjusted standard of the type requested by Ford in this proceeding, Section 28.1(a) applies. Section 28.1(c) requires the petitioner to adequately prove that:

1. factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to that petitioner;
2. the existence of those factors justifies an adjusted standard;
3. the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and
4. the adjusted standard is consistent with any applicable federal law. (Section 28.1(c)(1)-(4).

Ford states that the adjusted standard would enable Ford to take advantage of increased transfer efficiency and would make use of the Protocol as the means for demonstrating compliance. (Pet. 8). Mr. Geoffery Stevens testified for Ford that the term "transfer efficiency means the ratio of the paint solids adhering to the surface of the automobile to the total amount of solids sprayed. . . . As transfer efficiency increases, less paint must be sprayed to achieve the desired film-build thickness on the automobile body." (Exh.K 3). Mr. Stevens further testified that: "Increased transfer efficiency allows the operator to use coatings containing more VOC's per unit volume than contemplated at the time U.S.EPA's original standard was derived in the 1970's, without increasing the loading of VOCs to the atmosphere." (Exh.K 3). Thus, as the transfer efficiency increases, less paint is used in toto to achieve the needed thickness on the automobile body. (Pet. 9).

Ford asserts and the Agency agrees that the adjusted standard is equivalent to the emissions limit set forth in Section 215.204. (Pet. 8 and Ag. Resp. 4). Ford states in the Petition that:

Ford's petition merely requests that it be allowed to determine its compliance with the generally applicable standard in a different, though equivalent manner. Whereas the present emissions limit and the limit proposed in R91-7 are stated in terms of kilograms (or pounds) of VOCs per liter (or gallon) of coating used, less water, Ford's proposed adjusted standard is stated in terms of kilograms (or pounds) of VOCs per liter (or gallon) of solids applied. (Pet. 9).

Mr. Stevens testified that:

Ford's proposed adjusted standard can be shown to be mathematically equivalent to the present limit. Exhibit E to the Petition shows the calculations demonstrating the equivalence between the present standard of 2.8 pounds of VOCs per gallon of coating used, and Ford's proposed adjusted standard of 15.1 pounds of VOCs per gallon of solids applied, assuming the average density of the coating mixture to be 7.36 pounds per gallon. The remaining calculations merely state inherent mathematical relationships." (Exh.K 5).<sup>2</sup>

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2. Exhibit E was originally filed with the Petition; however a

In support of Ford's request for an adjusted standard, Mr. Stevens states that: "No reasonable alternatives to the adjusted standard exist which would enable Ford to comply with the standard of general applicability." (Exh.K 6). Ford indicated that the current standard was derived using waterborne paints and included a measure of equivalency to be used for non-waterborne paints. (Exh.K 6). "This equivalent standard for non-waterborne coatings came to be less of an exception and more the rule, however, as industry operating experience identified significant problems with the quality and durability of waterborne coatings" (Exh.K 6), according to Mr. Stevens. Therefore, high solid paints with a higher VOC became industry standard. (Pet. 10).

Mr. Stevens further states that to his knowledge "waterborne coatings are not used for guide coat applications by any manufacturer in the United States, and such coatings generally are not compatible for use at United States facilities without some alterations to those facilities." (Exh.K 6). In fact, waterborne paints meeting the generally applicable standard of 2.8 pounds/gallon are not commercially available. (Pet. 10-11). In order to use waterborne coatings, major changes would have to be made to Ford's facilities and product quality would be sacrificed. (Exh.K 7). Thus, Ford is unable to meet the standard of general applicability.

Ford also maintains that the adjusted standard would be consistent with Federal law. Ford states that the FIP "contemplates exactly the type of adjusted standard requested herein by Ford, and indeed the FIP requires that Ford seek its alternative limit through a SIP or FIP revision." (Pet. 13). Ford further points out that other states are beginning to recognize equivalence between VOC emissions limits expressed in units of pounds of VOCs per gallon of coating used and one expressed in units of pounds of VOCs per gallon of solids applied. (Pet. 14). Three states have either already adopted such a standard or have proposed the standard for adoption (Missouri (final), Ohio (final), and Michigan (proposed)). (Pet. 14).

The Agency stated in its response that: "The Agency is satisfied with the information provided by the Petitioner . . ." with regards to the "Level of Justification", "Description of the Nature of the Petitioner's Activity", and the "Description of Efforts which would be Necessary for Petitioner to Comply with Standard of General Applicability". (Ag. Resp.. 1-2). Further, the Agency agrees that the adjusted standard is consistent with applicable federal law.

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revised Exhibit E was presented and accepted into the Record at hearing.

Specifically, the Agency states in its response that it "recognizes the equivalence between the 2.8 pounds of VOM per gallon of coating materials (minus water and non-VOM organic compounds) delivered to the coating applicator, based on a transfer efficiency of 30 percent and a fixed density of 7.36 lb VOM/gal, and a limitation of 15.1 pounds of VOM per gallon of solids applied." (Ag. Resp. 4). Therefore, the Agency states that the adjusted standard "should not result in increased VOM emissions." (Ag. Resp. 4). Thus, the Agency believes that the adjusted standard will have no further impact on the environment. (Ag. Resp. 4). Therefore, the Agency recommends that the adjusted standard be granted.

The Agency in its response filed April 4, 1991, stated a contingency to its recommendation. That contingency was the Agency's approval of the proposal discussed in Section 5(C) of the adjusted standard language. At hearing on April 8, 1991, the Agency stated that it had not received the proposal until April 5, 1991 and therefore was unable to comment on whether or not the contingency could be removed from its recommendation. (Tr. 12). The Hearing Officer directed the Agency to file an amended response to be received by the Board by April 21, 1991. (Tr. 40). On April 18, 1991, the Board received the amended response.

The amended response stated that: "After preliminary review of the proposal, the Agency is now willing to treat the adoption of the adjusted standard and the approval of the proposal as two separate issues." (Ag. Am. Resp. 1). Therefore, the Agency removed the contingency regarding approval of the proposal from the recommendation that the adjusted standard be granted.

Ford has indicated, and the Agency agrees, that the factors relating to Ford are substantially different from the factors considered by the Board when adopting Section 215.204. Specifically, the use of waterborne paints believed to be applicable at the time of adoption of the standard of general applicability is not used by any U.S. or European manufacturer for guide coat applications; rather, use of relatively higher VOC paints has become the industry standard (Pet. p. 10). Further, Ford has stated that using waterborne paints is cost prohibitive and would result in lowering the quality of product Ford produces. Thus, the Board finds that Ford has met its burden of proof with regards to Section 28.1(c)(1) of the Act.

Ford has also presented evidence which indicates that the adjusted standard is equivalent to the current standard. The Agency agrees that the adjusted standard is equivalent. A standard which is equivalent would mean that the environmental and health risks are no greater than those considered by the Board when adopting Section 215.204. Therefore, the Board finds that Ford has met its burden of proof with regards to Section 28.1(c)(3) of the Act.

Lastly, Ford will be using the USEPA's own Protocol to

establish compliance with the adjusted standard. Three states already recognize the adjusted standard in their own air regulations. Both Ford and the Agency agree that the adjusted standard is consistent with the federal Clean Air Act. Therefore the Board finds that Ford presented adequate proof in accordance with regards to Section 28.1(c)(4) of the Act.

Given the evidence presented by Ford which establishes the necessity for an adjusted standard, pursuant to Sections 28.1(c)(1), (3) and (4), the Board further finds that Ford has justified the need for an adjusted standard pursuant to subsection (2)(c). Therefore, the Board grants Ford's Petition for an Adjusted Standard from Section 215.204 of the Board's regulations pursuant to the agreed upon conditions. However, based on the earlier discussion on the equivalence between the 2.8 lb VOM/gal of coating and the 15.1 lb VOM/gal of solids applied, the Board includes an addition in subsection (A) of the Adjusted Standard for Ford. This addition is a clarification noting that the equivalence calculation is applicable only when carried out on the basis of a 30% transfer efficiency and a VOM density of 7.36 lb VOM/gal.

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

#### ORDER

The Board hereby grants to Ford Motor Company, for its Chicago Assembly Plant, an adjusted standard from 35 Ill. Adm. Code 215.204. The terms and conditions of the adjusted standard are as follows:

- (A) For the Ford Motor Company ("Ford") Chicago Assembly Plant ("Plant"), the following adjusted standard shall apply to the prime surfacer coating operation: 1.81 kilograms of volatile organic material (VOM) per liter (15.1 pounds/gallon) of coating solids deposited. This adjusted standard is equivalent to the generally applicable standard of 0.34 kilograms of VOM per liter (2.8 pounds/gallon) of coating as applied at each coating applicator (minus water and any compounds which are specifically exempted from the definition of VOM), based upon a transfer efficiency of 30 percent and a VOM density of 7.36 lb VOM/gal.
- (B) Compliance with the adjusted standard shall be based on the daily-weighted average VOM content from the entire prime surfacer coating operation (all prime

surfacers coat spray booths, flash-off areas and bake ovens). Compliance shall be demonstrated in accordance with the "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Operations," December 1988 (EPA-450/3-88-0/8) (the "Protocol"), applied to prime surfacer coating operations. In addition to using the Protocol, Ford shall demonstrate compliance through the recordkeeping and reporting requirements specified in 40 CFR §52.741(e)(6)(ii), 55 Fed. Reg. 26814, 26872 (June 29, 1990); provided, that all reports, notices or certifications required by §52.741(e)(6)(ii) to be sent or given to the U.S. Environmental Protection Agency also shall be sent or given to the Agency.

- (C) At least 180 days prior to initial compliance date, Ford shall submit to the Agency a detailed proposal specifying the method for demonstrating compliance with the Protocol. The proposal shall include, at a minimum, a comprehensive plan (including a rationale) for determining the transfer efficiency through the use of in-plant, or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings; and the method for determining the analytic VOM content of as applied coatings and the formulation solvent content of as-applied coatings. Upon approval of the proposal by the Agency, Ford may proceed with the compliance demonstration.
- (D) Ford shall submit to the Agency and, if so requested, to the U.S. Environmental Protection Agency the results of the initial compliance demonstration, and of any subsequent demonstration using a revised proposal pursuant to subparagraph (E) below. Subject to the reporting and recordkeeping requirements incorporated by reference at subparagraph (B) above, Ford shall be deemed to be in compliance with the adjusted standard at subparagraph (A) if the results of the most recent compliance demonstration show

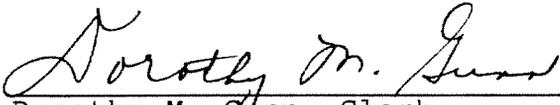
Ford to be in compliance therewith, unless and until the Agency or the U.S. Environmental Protection Agency should determine that those results are unacceptable. Except as provided in subparagraph (E) below, Ford shall comply with the adjusted standard of subparagraph (A) only in accordance with the operating parameters and materials identified in its most recently approved proposal for demonstrating compliance.

- (E) At any time after the initial compliance date, Ford may submit to the Agency a revised proposal for demonstrating compliance with the Protocol. Ford shall submit the revised proposal to the Agency at least 90 days prior to the date on which Ford first intends to rely on that proposal as the means for demonstrating compliance under this section. In addition to the information required by paragraph (C) above, the revised proposal shall include a description of the facts supporting the need for, or appropriateness of, any changes from Ford's prior proposal (for example, changes in coating line operations or composition of materials used). Upon approval of the revised proposal, Ford may proceed with the compliance demonstration.

Section 41 of the Environmental Protection Act, Ill. Re. Stat. 1989 ch 111 $\frac{1}{2}$  par. 1041, provides for appeal of final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 14<sup>th</sup> day of May, 1991, by a vote of 4-0.

  
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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board