

Chapter 115. Volatile Organic Compounds

Surface Coating Processes in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties

31 TAC §115.191

The Texas Air Control Board (TACB) proposes amendments to §115.191, concerning surface coating processes in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties.

Pursuant to §103.2 of this title (relating to Filing with Agency), and §103.22 of this title (relating to Petition for Adoption of Rules), General Motors Corporation (GM) has submitted a petition requesting that the TACB adopt certain amendments to §115.191, concerning emission limits, which applies to the General Motors Assembly Division-Arlington plant (GMAD-Arlington plant). The TACB has reviewed the petition and is granting the petition to the extent that the agency is initiating rulemaking procedures by proposing these amendments.

The amendments requested by GM are proposed exactly as submitted in the petition, even though preliminary communications between the TACB and the U.S. Environmental Protection Agency (EPA) have led to concern that, if the TACB adopts the amendments as proposed, the EPA might not be able to approve the amendments as revisions to the federally required State Implementation Plan (SIP) because they do not specify an averaging time for certain emission limits. The TACB is proposing the amendments now to allow careful consideration of their merits as revisions to TACB rules and to solicit information concerning changes needed to make the proposed amendments acceptable to the EPA as SIP revisions. The TACB specifically requests testimony about the inclusion of averaging times for the emission limits in §115.191(8) and as to what averaging times would be appropriate for the various emission limits.

The proposed amendments would (1) allow a front end sheet metal prime application operation at the GMAD-Arlington plant to continue operation from December 31, 1982, until December 31, 1983, with existing emission controls; (2) revise the emission allowables for topcoat application for the period December 31, 1982, to December 31, 1986, to account for a change in the test method used to measure the emissions; and (3) establish the use of arithmetic averages rather than weighted averages for determining compliance with emission limits for the topcoat application operation (the operation affected by change (2)) and the final repair application operation.

The amendments described in change (1) are needed because economic conditions in the domestic automobile production industry have delayed planned phaseout of production of rear drive automobiles at the GMAD-Arlington plant and because the \$7 million

which GM has estimated as the cost for abatement of 75 tons a year of emissions of volatile organic compounds (VOC) from a process that is planned for shut-down within four years, may be excessive. The second set of amendments, change (2), is needed to set the regulation-allowable emissions to reflect a change in the test method used to measure VOC emissions from the topcoat application process; there should be no change in actual emissions or in the emission controls used. The third set of amendments, change (3), is desirable to facilitate compliance determinations, to remove the possibility that the compliance calculation method could dictate production scheduling, and to lift burdensome record keeping requirements that do not contribute to abatement of emissions.

Solvent emissions from surface coating operations at the GMAD-Arlington plant have been reduced substantially in response to the requirements of §115.191. However, the domestic automobile market has suffered a prolonged depression since GM developed its compliance plan for the GMAD-Arlington plant. General Motors states that this situation has affected its ability to comply fully with a specific requirement affecting prime coating operations effective on December 31, 1982. Minor changes also are needed to reconcile the general requirements for daily weighted averaging specified in §115.191 with the operational characteristics of prime, topcoat, and final repair systems at the GMAD-Arlington plant.

Revisions are being proposed to the volatile organic compound (VOC) emission limits for two separate coating processes: prime and topcoat. The GMAD-Arlington plant has the only surface coating operations subject to the emission limits contained in §115.191(8). Thus, the effect of adopting these revisions would apply only to two processes within one plant in one ozone nonattainment area for a four-year period ending December 31, 1986.

At the GMAD-Arlington plant, two separate prime processes are used: a solvent borne dip system in which automobile front end sheet metal parts such as hoods and front fenders are coated, and a cathodic electrocoat dip system in which automobile bodies receive a coat of primer. The latter process (referred to as ELPO) is the prime system upon which the EPA based the "presumptive norm" included in the control techniques guideline document that addresses VOC and light duty truck surface coating (EPA-450/2-77-08). The TACB subsequently applied this limit (1.2 pound VOC per gallon of coating, minus water) in §115.191(8) to define emission control requirements for prime coating of automobiles and light-duty trucks.

Since §115.191(8) was adopted, GM's strategy to comply with the emission limits for prime application has been to install and operate a body ELPO system and to use this system to apply prime coat to front end sheet metal components. The existing dip prime system has been scheduled for phaseout when the plant is converted to build body-frame integral cars. When GM developed its plan to comply with the requirements of §115.191(8), it did not foresee a need

to continue to operate the front end sheet metal dip prime system beyond 1982. However, the GM petition for rulemaking states that the impact of the prolonged slump in automobile sales has caused delays in conversion to production of additional front drive products with the result that assembly lines equipped to produce rear drive automobiles like GMAD-Arlington continue to be needed. GM now anticipates that the Arlington plant will be converted (including phaseout of the front end sheet metal dip prime system) by the end of 1986.

Technology to meet the present regulation limit is available now, as evidenced by the body prime system, but GM asserts that it is too costly to adopt for the sheet metal prime operation with such limited remaining life. If the board adopts the revisions proposed, General Motors will be relieved from having to invest approximately \$7 million to construct a separate prime system that, based on GM's current plans, could have only a four-year useful life.

GM suggests that a change in the compliance date for this operation would be consistent with EPA policy and therefore approvable by the EPA as a revision to the Texas SIP. That policy was published in the October 20, 1981, *Federal Register*, where on page 51,387 the following statements appear: "In cases where substantial costs can be eliminated, it would be appropriate to postpone these expenditures beyond 1984. The Agency [EPA] does not expect any plant compliance schedule for the installation of EDP to extend beyond 1987." This proposed four-year delay in compliance with the front end prime coat application emission limits in §115.191(8) will delay for that period the anticipated emission reduction on the order of 75 tons/year of VOC. (The estimated total 1981 emissions of VOC in Tarrant County amount to over 51,000 tons).

The TACB proposes a revision of the interim topcoat emission limit, currently expressed in §115.191(8)(A) as 5.0 pounds VOC per gallon and 0.60 kg VOC per liter of coating applied, to 5.2 and 0.62, respectively. The value of 5.0 was proposed by GM in the compliance strategy originally submitted in response to §115.191(A)(8). This value was chosen to represent the VOC content of the family of dispersion lacquers (with a nominal coating solids content by volume of 27%) that GM expected to use in the new coating process. At the time the schedule was submitted, GM was using solution lacquers containing approximately 13% solids in most applications and a dispersion lacquer containing approximately 17% solids in some plants. Production experience with the 27% materials was very limited. The GMAD-Arlington plant was converted to use of dispersion lacquers with a nominal 27% solids content in August, 1981.

The standard method used to measure the VOC emissions from lacquers (ASTM D2369-73) has been revised to lengthen the time specified for baking the finish from 20 minutes to 60 minutes (ASTM D2369-81). The longer bake cycle has been found to produce marginally higher results, i.e., 5.2 vs 5.0 pounds VOC per gallon, for the same lacquer.

The 5.2 value resulting from the 60 minute bake is more consistent with the theoretical VOC content of the nominal 27% solids dispersion lacquers than is the 5.0 value resulting from the 20 minute bake. For these reasons, GM suggests that it is more appropriate to characterize these topcoat materials in §115.191(8)(A) with the 5.2 pounds VOC per gallon and 0.62 kg per liter values than with the 5.0 and 0.60 values currently listed. Although this proposed amendment would increase the regulation allowable emissions from this process by 4.0%, no actual increase in emissions is expected since the controls now installed would continue to be used.

GM's justification for the need for process-specific averaging methods other than daily weighted averaging to determine compliance of automotive surface coating operations is discussed in the following paragraph, first for prime and then for topcoat.

A volume-weighted averaging method is needed to assess the compliance status of electrocoat prime systems. In this process, three components (resin, pigment, and flow control agent) are fed into the bath separately in quantities needed to maintain the various bath parameters within acceptable operating limits. Since additions of the three components are made in response to parameter checks, the flow control agent is not necessarily added at the same time as the resin and pigment, so wide fluctuations in weighted average VOC content will be observed if the averaging periods are short, such as a day. A longer averaging period would dampen these short-term fluctuations, which would otherwise make emissions determinations very difficult. This effect was recognized by the EPA when it promulgated the New Source Performance Standard (NSPS) for prime coating of automobiles and light-duty trucks with an averaging period of a calendar month (40 Code of Federal Regulations 60, Subpart MM, *Federal Register*, Vol. 45, No. 249, December 24, 1980). In response to the GM petition for review of that standard, the EPA recently has indicated that an even longer averaging time may be needed. In the July 29, 1982, *Federal Register*, Vol. 47, No. 146, the EPA suggests that a best-six-out-of-seven month rolling average may be appropriate. The proposed change from a daily weighted average in §115.191(8) will aid in compliance determinations, but it is not expected to change VOC emissions allowed by the rule.

Specifying an arithmetic average method for use to estimate emissions from topcoat systems also would provide a simpler, more easily enforced means to determine compliance with the rule and could be done in a manner consistent with the VOC emission limits now included in the regulation. The daily weighted average method now required by §115.191 is cumbersome and difficult to administer. No guidance was offered by the EPA in the control techniques guideline document for the topcoat process (EPA-450/2-77-008) regarding methods used to calculate emissions from topcoat systems using many colors that vary only slightly in VOC content from an average value. Data submitted by GM indicate that VOC content does vary only slightly from an average value. If rigorously

enforced, a short topcoat averaging time could significantly restrict use of certain colors on certain days while probably not affecting total VOC emissions over the long run.

The NSPS for automobile and light-duty truck topcoat proposed in the October 5, 1979, *Federal Register*, would allow emissions determination to be based on an arithmetic average. Considering the two alternatives, arithmetic and weighed averages, the EPA concluded the following: "Weighted averages provide very accurate results but would require keeping records of the total volume and percent solids of each different coating used. Arithmetic averages are not always as accurate; however, they are much simpler to calculate. In the case of topcoat operations, normally 15 to 20 different coatings are used, and the VOC content for most of these coatings is in the same general range. Therefore, an arithmetic average would closely approximate the values obtained from a weighted average" (44 FedReg 57799). Since no change in control technology at the GMAD-Arlington plant is anticipated as a result of the proposal to change to an arithmetic average, no actual change in emissions is anticipated as a result of the alteration of averaging times and calculation method for topcoat and final repair coat systems.

Bennie Engelke, deputy director for administrative services, has determined that for the first five-year period the rule will be in effect there will be no fiscal implications to state or local government as a result of enforcing or administering the rule.

Roger Wallis, deputy director for standards and regulations, has determined that for each year of the first five years the rule as proposed is in effect the public benefit anticipated as a result of enforcing the rule as proposed will be in the form of improved ability to determine compliance with emissions limitations. There is no anticipated economic cost to the public, but emission reductions of up to 75 tons/year will be delayed up to four years. Also, a savings of \$7 million will result for the company affected by this rule.

Public hearings on this proposal are scheduled for the following times and places:

February 22, 1983, at 6 p.m., auditorium, Bureau of Air Quality Control, 7411 Park Place, Houston, Texas 77087.

February 24, 1983, at 6 p.m., basement conference room, Arlington Public Library, 101 East Abram, Arlington, Texas 76010.

February 28, 1983, at 6 p.m., auditorium, Texas Air Control Board, 6330 Highway 290 East, Austin, Texas 78723.

Copies of the proposed rule changes are available at the central office of the Texas Air Control Board, 6330 Highway 290 East, Austin, Texas 78723, and at all Texas Air Control Board regional offices. Public comments, both oral and written, on the proposed changes is invited at the hearings. Written testimony received by March 7, 1983, will be included in the hearing record. The Texas Air Control Board would appreciate receiving five copies of testimony prior to the hearings, where possible. Written comments should be sent to the Hearing Examiner, Texas Air Control Board, 6330 Highway 290 East, Austin, Texas 78723.

These amendments are proposed under Texas Civil Statutes, Article 4477-5, §3.09(a), which provides the Texas Air Control Board with the authority to make rules and regulations consistent with the general intent and purposes of the Texas Clean Air Act and to amend any rule or regulation the Texas Air Control Board makes.

§115.191. Emission Limitations. No person may cause, suffer, allow, or permit volatile organic compound emissions from the surface coating processes (defined in §101.1 of this title (relating to Definitions)) affected by paragraphs (1)-(10) of this section to exceed the specified emission limits, which are based on a daily weighted average, except for those in paragraph (8) as detailed, and for those in paragraph (10) which are based on paneling surface area.

(1)-(7) (No change.)

(8) Automobile and light-duty truck coating.

(A) The following volatile organic compound emission limits shall be achieved, on the basis of solvent content per gallon of coating (minus water) applied, as soon as practicable but no later than December 31, 1982:

Operation (including application, flashoff, and oven areas)

prime application¹ (BODY)
(FRONT END SHEET METAL)

primer surfacer application

topcoat application²

final repair application²

VOC Emission Limitation
pounds per gallon kg per liter

1.2 0.15

5.6 0.67

3.0 0.36

5.2 [5.0] 0.62 [0.60]

6.5 0.78

(B) The following volatile organic compound emission limits shall be achieved, on the basis of solvent

content per gallon of coating (minus water) applied, as soon as practicable but no later than December 31, 1986:

Operation (including application, flashoff, and oven areas)	VOC Emission Limitation	
	pounds per gallon	kg per liter
prime application ¹ (BODY AND FRONT END SHEET METAL)	1.2	0.15
primer surfacer application	2.8	0.34
topcoat application ²	2.8	0.34
final repair application ²	4.8	0.58

(1) WEIGHTED AVERAGE OVER A PERIOD TO BE APPROVED BY THE BOARD

(2) ARITHMETIC AVERAGE OF ALL COATINGS DELIVERED TO THE APPLICATOR

(9)-(10) (No change.)

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 17, 1983.

TRD-830453 Bill Stewart, P.E.
Executive Director
Texas Air Control Board

Proposed date of adoption:
July 21, 1983

For further information, please call (512) 451-5711, ext. 354.

Chapter 116. Permits

31 TAC §§116.1-116.5

The Texas Air Control Board (TACB) proposes amendments to §116.1, concerning construction permit, §116.2, concerning responsibility for obtaining permit, §116.3, concerning consideration for granting permits to construct and operate, §116.4, concerning special conditions, and §116.5, concerning representations in application for permit.

Amendments to §§116.1, 116.2, 116.3, 116.4, and 116.5 are proposed to clarify that conditions under which permit exemptions are granted are as binding on the holders of exemptions as permit conditions are upon the holders or permits and to clarify that violations of exemption conditions may lead to fines or prosecution. The proposed amendments should clarify the intent of the rules, improve understanding of the responsibility of the holders of exemptions, and facilitate compliance and enforcement actions.

Amendments to §116.3 are proposed to delete Bexar County from the requirements of §116.3(a)(9) and to delete the so-called "clean spot exemption" from §116.3(a)(12). The deletion of Bexar County is pro-

posed because the requirements of §116.3(a)(9) for reasonable further progress demonstrations apply to urban ozone nonattainment counties and Bexar County has been redesignated as "attainment." The deletion of the "clean spot exemption" from §116.3(a)(12) is proposed to conform to a recent U.S. Environmental Protection Agency (EPA) policy as published in the May 13, 1980, issue of the *Federal Register* (45 FedReg 31307), concerning new source review of new major stationary sources and major modifications.

Bennie Engelke, deputy director for administrative services, has determined that for the first five-year period the rules will be in effect there will be no fiscal implications to state or local government as a result of enforcing or administering the rules.

Roger Wallis, deputy director for standards and regulations, has determined that for each year of the first five years the rules as proposed are in effect the public benefit anticipated as a result of enforcing the rules as proposed will be a more understandable identification of the responsibilities of individuals and industries concerning permit exemption conditions, clearer provisions covering compliance and enforcement actions

