SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Staff Report
Proposed Amended Rule 1115 – Motor Vehicle Assembly Line Coating Operations

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BACKGROUND

Rule 1115 – Motor Vehicle Assembly Line Coating Operations was adopted on March 2, 1979, with the purpose of reducing emissions of volatile organic compounds (VOCs) that result from the coating operations conducted on motor vehicle assembly lines during the manufacturing of new motor vehicles.

In 2015, the United States Environmental Protection Agency (U.S. EPA) lowered the 8-hour Ozone National Ambient Air Quality Standard (NAAQS or Standard) to 70 parts per billion (ppb). The South Coast Air Basin (Basin) is classified as an "extreme" nonattainment area and the Coachella Valley located in Riverside County is classified as a "severe-15" nonattainment area with respect to the 2015 Ozone Standard. The Clean Air Act (CAA) requires that areas classified as moderate nonattainment or higher must develop and submit a demonstration that their current air pollution regulations and emission sources fulfill Reasonably Available Control Technology (RACT) requirements.

The RACT demonstration provides a comparison of the South Coast AQMD rules and regulations with the guidelines established by the U.S. EPA as well as with the existing regulations from other air agencies within California and throughout the United States. The purpose of the RACT demonstration is to review, and where applicable, update an agency's existing regulations to meet the current state of the science and emission controls.

The U.S. EPA issued Control Techniques Guidelines (CTG) for Automobile and Light-Duty Truck Assembly Coatings that are more stringent than the VOC emission limits contained in the current South Coast AQMD Rule 1115. In addition, the VOC emission limits in Rule 1115 for several coating types are less stringent than those in the corresponding rules from other regulatory agencies. To fulfill RACT requirements, Proposed Amended Rule (PAR) 1115 will address these deficiencies.

REGULATORY HISTORY FOR RULE 1115

Since its adoption, Rule 1115 has been amended six times. The rule was last amended on May 12, 1995 to include provisions that:

- Added a purpose and applicability section
- Reduced VOC limits to be in line with CTG limits prepared by the U.S. EPA, that were applicable at the time
- Added the requirement to use U.S. EPA's ''Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operation''
- Added specification for U.S. EPA approved capture and control efficiency source test method
- Included recordkeeping requirement for emission control systems

PUBLIC PROCESS

The development of PAR 1115 has been conducted through a public process. A Public Workshop was held on January 6, 2022, with the associated comment period closing on January 19, 2022. The purpose of the Public Workshop was to present the proposed rule to the public and to other stakeholders and to receive any comments related to the proposal. One public comment was received during the Public Workshop (see Appendix A).

SUMMARY OF PROPOSAL

PAR 1115 will update the VOC limits for coatings used in automotive assembly line processes and for other miscellaneous materials used at motor vehicle assembly coating operations to comply with RACT requirements. The update will incorporate the VOC limits recommended in the U.S. EPA 2008 CTG for Automobile and Light-Duty Truck Assembly Coatings (2008 CTG). The update will also include new terms and definitions and will update existing terms per definitions contained in the 2008 CTG and other sources. In addition, recordkeeping and testing requirements will be updated.

PROPOSED AMENDMENTS TO RULE 1115

Rule 1115 was last amended on May 12, 1995. As part of this current rulemaking effort, the rule will be amended to reflect the recommendations contained in the 2008 CTG, include new sections and definitions based on terms introduced by the 2008 CTG, and be revised for clarity.

Revised Purpose – Subdivision (a)

Previously, Rule 1115 combined the purpose and applicability of the rule into one subsection. Consistent with other source-specific rules, purpose and applicability will be separated into two distinct subdivisions. The purpose remains to reduce VOC emissions from motor vehicle assembly line coating operations.

New Applicability – Subdivision (b)

PAR 1115 adds a new subdivision describing the applicability of the rule. The provisions of the rule shall apply to an owner or operator engaged in assembly line coating operations conducted during the manufacturing of new motor vehicles and other automotive parts that are coated during the vehicle assembly process as well as during associated solvent cleaning operations. This rule does not apply to activities subject to Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations.

New and Modified Definitions – Subdivision (c)

PAR 1115 incorporates VOC limits recommended in the U.S. EPA 2008 CTG for Automobile and Light-Duty Truck Assembly Coatings. As such, several new terms are introduced and defined in this subdivision based on the terms and definitions contained in the 2008 CTG. The following terms and definitions are considered new to Rule 1115:

- Adhesive
- Bedliner
- Cavity Wax
- Deadener
- Gasket/Gasket Sealing Material
- Glass Bonding Primer
- Lubricating Wax/Compound
- Primer
- Primer Surfacer Operations
- Sealer
- Solids Turnover Ratio (R_T)
- Trunk Interior Coating
- Underbody Coating
- Weatherstrip Adhesive

In addition to incorporating new terms in subdivision (c), several other existing terms in Rule 1115 were updated based on the terms and definitions contained in the 2008 CTG. The following terms and definitions are updated and revised for Rule 1115:

- Electrodeposition (formerly Electrophoretic Applied Primer)
- Final Repair
- Primer Surfacer
- Topcoat

In addition to incorporating new and revised terms in subdivision (c) based on the 2008 CTG, several other existing terms were updated and revised to be consistent with definitions contained in other source-specific South Coast AQMD rules. The following terms were updated for Rule 1115 based on reference to definitions contained in South Coast AQMD Rule 1151:

- Exempt Compound
- High-Volume, Low-Pressure (HVLP) Spray Equipment
- Motor Vehicles
- VOC of Coating Less Water and Less Exempt Compounds, or Regulatory VOC
- VOC of Material, or Actual VOC
- Volatile Organic Compound

Lastly, PAR 1115 includes definitions for terms contained in the rule but that were not previously defined:

- Antirust Coating
- Flexible Coating
- Overall Control Efficiency
- Plastic Part
- VOC Weight Per Volume of Solids Deposited
- Wheel Topcoat Applications

Updated and New Requirements – Subdivision (d)

PAR 1115 will include new, and update existing, VOC limits as recommended in the 2008 CTG issued by the U.S. EPA for Automobile and Light-Duty Truck Assembly Coatings. When compared to the VOC emission limits recommended in the CTG, the VOC limits in Rule 1115 are less stringent except for coatings used for final repair activity – see Table 1. For example, for a spray primer, primer surfacer, or topcoat, Rule 1115 limits VOC emissions to 15.0 lb/gal of applied solids versus the 2008 CTG limits VOC emissions to 12.0 lb/gal. On the other hand, for final repair coatings, the VOC limits for Rule 1115 and the 2008 CTG are equivalent at 4.8 lb/gal of coating, less water and less exempt compounds.

Table 1: Comparison of 2008 CTG Recommended VOC Emission Limits for Automobile and Light-Duty Truck Assembly Coatings and South Coast AQMD Rule 1115

Assembly Coating Process	**CTG Recommended VOC Emission Limit**			**Rule 1115 Limit**
Electrodeposition primer (EDP) operations (including application area, spray/rinse stations, and curing oven)	Solids turnover ratio (R_T)>0.16:	0.040<R_T<0.160:	R_T<0.040:	No reference to turnover ratio
	0.084 kg VOC/liter (0.7 lb/gal) coating solids applied	$0.084X350^{0.160-R_T}$ kg VOC/liter ($0.084x350^{0.160-R_T}$ x 8.34 lb/gal) coating solids applied	No VOC emission limit	0.145 kg VOC/liter (1.2 lb/gal) of coating, less water and less exempt compounds
Primer-surfacer operations (including application area, flash-off area, and oven)	1.44 kg of VOC/liter of deposited solids (12.0 lbs VOC/gal deposited solids) on a daily weighted average basis			1.80 kg of VOC/liter of deposited solids (15.0 lbs VOC/gal deposited solids)
Topcoat operations (including application area, flash-off area, and oven)	1.44 kg VOC/liter of deposited solids (12.0 lb VOC/gal deposited solids) on a daily weighted average basis			1.80 kg of VOC/liter of deposited solids (15.0 lbs VOC/gal deposited solids)
Final repair operations	0.58 kg VOC/liter (4.8 lb VOC/gallon of coating) less water and less exempt solvents on a daily			0.58 kg VOC/liter (4.8 lb VOC/gallon of coating) less

	weighted average basis or as an occurrence weighted average	water and less exempt solvents
Combined primer-surfacer and topcoat operations	1.44 kg VOC/liter of deposited solids (12.0 lb VOC/gal deposited solids) on a daily weighted average basis	N/A

In addition, the 2008 CTG provided VOC limits for other miscellaneous coatings and materials used at motor vehicle assembly lines. For these miscellaneous coatings and materials, Rule 1115 either did not have any limits or in some coatings' categories, provided an explicit exemption from any VOC limit. For example, the 2008 CTG had VOC limits for trunk coatings, interior coatings, sealers, and deadeners whereas Rule 1115 specifically exempted these coatings. Table 2 lists the U.S. EPA 2008 CTG recommended VOC content limits for miscellaneous materials used at motor vehicle assembly coating operations.

Table 2: U.S. EPA 2008 Control Techniques Guidelines VOC Content Limits for Miscellaneous Materials Used at Motor Vehicle Assembly Coating Operations
(Grams of VOC per Liter of Coating Less Water and Less Exempt Compounds, as Applied)

Material	VOC Emission Limit, as Applied, in grams per liter (pounds per gallon)
Glass Bonding Primer	900 (7.5)
Adhesive	250 (2.1)
Cavity Wax	650 (5.4)
Sealer	650 (5.4)
Deadener	650 (5.4)
Gasket/Gasket Sealing Material	200 (1.7)
Underbody Coating	650 (5.4)
Trunk Interior Coating	650 (5.4)
Bedliner	200 (1.7)
Weatherstrip Adhesive	750 (6.3)
Lubricating Wax/Compound	700 (5.8)

As part of its analysis, staff reviewed the VOC limits established in other air districts for coatings used in the automotive assembly process. Three air districts within California and three agencies from outside California were compared (see Appendix B).

- Bay Area Air Quality Management District (California)
- San Joaquin Valley Unified Air Pollution Control District (California)
- Antelope Valley Air Quality Management District (California)
- Texas Administrative Code
- Michigan Administrative Code
- Commonwealth of Pennsylvania Code

In general, the VOC requirements recommended for coatings used in automotive assembly line processes by the 2008 CTG are followed by the San Joaquin Valley Unified APCD, Antelope Valley AQMD, the Commonwealth of Pennsylvania, and the State of Texas. The San Joaquin Valley Unified APCD and the Antelope Valley AQMD also included VOC limits for other miscellaneous materials used at motor vehicle assembly coating operations, following the 2008 CTG recommendations.

To fulfill RACT requirements, Rule 1115 is being amended to meet the VOC limits recommended by the 2008 CTG. Comparing the current limits to the proposed amended rule, the VOC limits will be lowered from 15.0 pounds of VOC per gallon of deposited solids to 12.0 pounds of VOC per gallon of deposited solids for any spray primer, primer surfacer or topcoat in any vehicle application line. A new calculation for the VOC limit of material used in the electrodeposition process, in line with the 2008 CTG, is also added. This new calculation provides a variable approach based on the solids' turnover ratio as a method to account for the solids deposited during this process. PAR 1115 also includes previously unregulated coating categories such as trunk coatings, interior coatings, sealers, and deadeners, and adds categories consistent with the 2008 CTG.

To prevent emissions of nickel, cadmium or hexavalent chromium, paragraph (d)(4) is added to prohibit the manufacture of motor vehicle assembly coatings that use cadmium or hexavalent chromium as a pigment or as an agent to impart any property or characteristic to the coating. Currently, staff during site visits did not find or observe any facility, subject to Rule 1115, that uses coatings that contain cadmium or hexavalent chromium.

A new section is also added to clarify transfer efficiency and the methods of application. This section was incorporated from the provision contained in South Coast AQMD Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations, paragraph (d)(6). PAR 1115 includes subparagraph (d)(5)(B) which requires that any application method be conducted with equipment that is properly operated according to the procedures recommended by the manufacturer and in compliance with applicable permit conditions, if any. Because several of the proposed emissions limits for non-miscellaneous materials used at motor vehicle assembly coating

operations rely on the amounts of applied solids, it is important that the equipment be operated properly. The following example illustrates the issue.

For example, a facility applies a topcoat using an HVLP spray gun. The topcoat has a VOC of material equal to 3.5 pounds of VOC per gallon of material and a volume percent of solids equal to 50%. Typically, a properly operated HVLP spray gun has a minimum transfer efficiency of 65%. If the spray gun, however, was not properly operated and only achieved an efficiency of 50%, then what should have been calculated as 10.8 pounds of VOC per gallon of solids deposited would be calculated as 14.0 pounds of VOC per gallon of solids deposited instead.

Updated Recordkeeping – Subdivision (e)

PAR 1115 moves the recordkeeping section of the rule from subdivision (g) to subdivision (e) to align the format to current formatting of South Coast AQMD source-specific rules. In addition, the recordkeeping requirements are updated to include provisions that are like those contained in South Coast AQMD Rule 1151.

Owners or operators are required to keep manufacturer specification sheets, safety data sheets, technical data sheets, or other air quality data sheets that contain the necessary information to determine compliance with the emission limits. For example, to calculate VOC per gallon of solids deposited, information on the VOC of material, transfer efficiency, and volume percent of solids in the coating is needed.

Modified Methods of Analysis – Subdivision (f)

The determination of VOC and solids content of a coating can be made using three different options, if needed. These are given as U.S. EPA Method 24, South Coast AQMD Test Method 304, or American Society of Testing and Materials (ASTM) D2369.

PAR 1115 also includes a section on the determination of transfer efficiency. If an operator uses an application method that is not through either electrostatic application, brush, dip, roller, HVLP, or HVLP-equivalent, but through an alternative method, then the operator of such equipment will have to show that the transfer efficiency meets at least HVLP equivalency. The HVLP transfer equivalency is considered to be a minimum of 65%.

Moved Rule 442 Applicability – Subdivision (g)

PAR 1115 moves the Rule 442 Applicability section of the rule from subdivision (d) to subdivision (g) to align the format to current formatting of South Coast AQMD source-specific rules.

Modified Exemptions – Subdivision (h)

PAR 1115, in line with the 2008 CTG, removes the exemption for trunk coatings, interior coatings, sealers and deadeners. In addition, the exemption for accent and stripe coatings is removed. Staff considers the use of accent and stripe coatings as subject to the VOC limitations of a basecoat, if applied during the assembly process.

AFFECTED FACILITIES

Rule 1115 applies to facilities that operate motor vehicle assembly line coatings operations. Within the jurisdiction of the South Coast AQMD, staff identified nine facilities that are subject to Rule 1115:

- Amrep (Ontario)
- El Dorado National (Riverside)
- Fortress Resources, Royal Truck Bodies (Carson)
- Harbor Truck Bodies (Brea)
- Karma Automotive (Moreno Valley)
- Marathon Industries (Santa Clarita)
- Spartan Motors GTB (Montebello)
- TABC, Inc (Long Beach)
- Taylor Dunn Manufacturing (Anaheim)

As part of the rule development process, staff visited facilities affected by the proposed amendments. During the visits, staff audited the coatings used at the facilities. The audit consisted of observing what coatings were being used on site and reviewing the technical data sheets (TDSs) for coatings used in the assembly line process. Based on the information contained in the TDSs, staff assessed the reported VOC content of the coatings. In addition, staff observed the type of VOC control devices, if present, that were used by the facility. For example, staff noted that several facilities utilize regenerative thermal oxidizers to control VOC emissions from their process lines.

EMISSION REDUCTIONS AND COST EFFECTIVENESS

Although PAR 1115 is proposing to lower the VOC emission limits for coatings used in the motor vehicle assembly line and to include VOC emission limits for miscellaneous materials used at motor vehicle assembly coating operations, there are no anticipated emissions reductions or costs associated with the proposal.

During site visits to facilities subject to PAR 1115, staff noted that operators were already using coatings that would meet the proposed VOC emission limits and using an equivalent HVLP or better transfer-efficient application method. It was also noted that compliant coatings were sold by

different manufacturers. Thus, the coatings manufacturing industry can provide viable and compliant material without incurring additional production costs to comply with PAR 1115.

In addition to using coatings compliant with PAR 1115, staff noted that facilities that used high volumes of coatings had installed emissions control equipment. To reduce the overall amount of emissions emitted from the facility, several operators had installed thermal oxidizers or equivalent. Thermal oxidizers destroy VOC emissions through incineration and usually operate with a 90% or greater destruction efficiency. The net effect on the VOC content of a coating, through the use of thermal oxidizers, is a significant reduction of VOC on a per gallon basis.

Finally, staff noted that coatings used by facilities do not contain cadmium or hexavalent chromium.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1115) is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption will be prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed for posting with the State Clearinghouse of the Governor's Office of Planning and Research, and with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage.

SOCIOECONOMIC ANALYSIS

The Proposed Amended Rule 1115 does not impose any additional costs to the affected facilities and does not result in any adverse socioeconomic impacts.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

California Health & Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report. In order to determine compliance with Sections 40727 and 40727.2, a written analysis is required comparing the proposed rule with existing regulations.

The draft findings are as follows:

Necessity

PAR 1115 is necessary to comply with the Clean Air Act, which requires areas subject to the Ozone National Ambient Air Quality Standard and classified as moderate nonattainment or higher to develop and submit a demonstration that their current air pollution regulations and emission sources fulfill the Reasonably Available Control Technology (RACT) requirements. The purpose of the RACT demonstration is to review and, where applicable, update an agency's existing regulations to meet the current state of the science and emission controls. Rule 1115 contains limits that are less stringent than those in the corresponding rules from other regulatory agencies. To fulfill RACT requirements, South Coast AQMD is amending Rule 1115 to address these deficiencies.

Authority

The South Coast AQMD obtains its authority to adopt, amend, or repeal rules and regulations pursuant to H&SC Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728, 40920.6, and 41508.

Clarity

PAR 1115 is written or displayed so that its meaning can be easily understood by the persons directly affected by them.

Consistency

PAR 1115 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

Non-Duplication

PAR 1115 will not impose the same requirements as any existing state or federal regulations. The proposed amended rules are necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

In amending this rule, the following statutes which the South Coast AQMD hereby implements, interprets or makes specific are referenced: H&SC Sections 39002, 40001, 40406, 40702, and 40440(a).

COMPARATIVE ANALYSIS

Under H&SC Section 40727.2, the South Coast AQMD is required to perform a comparative written analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to motor vehicle assembly line coating operations. Because PAR 1115 does impose new or more stringent emissions limits or standard, and other air pollution control monitoring, reporting or recordkeeping requirements, a comparative analysis is required. The analysis is provided in Appendix B of this report.

INCREMENTAL COST EFFECTIVENESS

California H&S Code Section 40920.6 requires an incremental cost-effectiveness analysis for BARCT rules or emission reduction strategies when there is more than one control option which would achieve the emission reduction objective of the proposed amendments, relative to ozone, CO, SOx, NOx, and their precursors. The proposed amendment will not trigger the need for control, as facilities are already meeting the limits, so there is no more stringent control option upon which an incremental cost-effectiveness would be calculated. Therefore, this provision does not apply to the proposed amendment.

APPENDIX A

PUBLIC COMMENTS

1. During the PAR 1115 Public Workshop held on January 6, 2022, Thomas Kiang Lao, President and Senior Environmental Engineer for UniVersal Engineering requested clarification on the VOC limit for coatings used on an automobile console or dashboard which are made of plastic, composite, and metal as referenced in Table 2 of the proposed amended rule.

   Response: Consistent with the 2008 VOC limits as recommended in the 2008 CTG issued by the U.S. EPA for Automobile and Light-Duty Truck Assembly Coatings, staff did not include a specific category in PAR 1115 for coatings used on an automobile console or dashboard which are made of plastic, composite, and metal. Moreover, staff retained in paragraph (h)(4), an existing exemption from the provisions of the rule for coatings used on plastic parts. However, although this activity may not be regulated under PAR 1115, staff notes that South Coast AQMD Rule 1145 – Plastic, Rubber, Leather, and Glass Coatings regulates VOC emissions from the application of coatings to any plastic, rubber, leather, or glass product. Rule 1145 does not provide an exemption for automobile manufacturing activities and may apply for such activity.

No other public comments were received.

APPENDIX B

Table B-1: Comparison of Rules for Automobile Assembly Line Coatings in Other Regulatory Jurisdictions								
	PAR 1115	**U.S. EPA**	**Bay Area AQMD**	**San Joaquin Valley Unified APCD**	**Antelope Valley AQMD**	**State of Texas**	**State of Michigan**	**Commonwealth of Pennsylvania**
	Proposed Amended Rule	2008 Control Technology Guidelines	Regulation 8 Rule 13 §8-13-302	Rule 4602	Rule 1151.1	Texas Admin Code §115.453 (a)(3)	Mich Admin Code §R336.1610 Rule 610	25 Pa Code Chapter 129 §129.52e
Assembly Coating Process **VOC Emission Limits**								
Electrodeposition primer (EDP) operations (including application area, spray/rinse stations, and curing oven) When solids turnover ratio (R_T)>0.16:	0.7 pound per gallon (lb/gal) of coating solids applied	0.7 pound per gallon (lb/gal) of coating solids applied	N/A	0.7 pound per gallon (lb/gal) of coating solids applied	0.7 pound per gallon (lb/gal) of coating solids applied	0.7 pound per gallon (lb/gal) of coating solids applied	N/A	0.7 pound per gallon (lb/gal) of coating solids applied
EDP operations (including application area, spray/rinse stations, and curing oven) When 0.040<R_T<0.160:	0.084 x $350^{0.160-R_T}$ x 8.34 lb/gal of coating solids applied	0.084 x $350^{0.160-R_T}$ x 8.34 lb/gal of coating solids applied	N/A	0.084 x $350^{0.160-R_T}$ x 8.34 lb/gal of coating solids applied	0.084 x $350^{0.160-R_T}$ x 8.34 lb/gal of coating solids applied	0.7 x $350^{0.160-R_T}$ lb/gal of coating solids applied	N/A	0.084 x $350^{0.160-R_T}$ x 8.34 lb/gal of coating solids applied
EDP operations (including application area, spray/rinse stations, and curing oven) When R_T<0.040:	No VOC limit	No VOC limit	N/A	No VOC limit	No VOC limit	No VOC limit	N/A	No VOC limit

Prime Electrodeposition Process	N/A	N/A	1.2 lb VOC/gal of coating (minus water as applied)	N/A	N/A	N/A	1.2 lb VOC/gal of coating (minus water as applied)	N/A
Primer-surfacer operations (including application area, flash-off area, and oven)	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	15.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	14.9 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited
Topcoat operations (including application area, flash-off area, and oven)	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	15.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	14.9 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited
Final repair operations	4.8 lb VOC/gal of coating (minus water and exempt solvent)	4.8 lb VOC/gal of coating (minus water and exempt solvent)	4.8 lb VOC/gal of coating (minus water)	4.8 lb VOC/gal of coating (minus water and exempt solvent)	4.8 lb VOC/gal of coating (minus water and exempt solvent)	4.8 lb VOC/gal of coating (minus water and exempt solvent)	4.82 lb VOC/gal of coating (minus water as applied)	4.8 lb VOC/gal of coating (minus water and exempt solvent)
Combined primer-surfacer and topcoat operations	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	N/A	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	12.0 lb VOC/gal of solids deposited	N/A	12.0 lb VOC/gal of solids deposited
Miscellaneous Materials Used in the Automotive Assembly Line Process **VOC Emission Limits** Grams/liter (pounds/gallon)								
Glass Bonding Primer	900 (7.5)	900 (7.5)	N/A	900 (7.5)	900 (7.5)	(7.51)	N/A	900 (7.5)
Adhesive	250 (2.1)	250 (2.1)	N/A	250 (2.1)	250 (2.1)	(2.09)	N/A	250 (2.1)

Cavity Wax	650 (5.4)	650 (5.4)	N/A	650 (5.4)	650 (5.4)	(5.42)	N/A	650 (5.4)
Sealer	650 (5.4)	650 (5.4)	N/A	650 (5.4)	650 (5.4)	(5.42)	N/A	650 (5.4)
Deadener	650 (5.4)	650 (5.4)	N/A	650 (5.4)	650 (5.4)	(5.42)	N/A	650 (5.4)
Gasket/Gasket Sealing Material	200 (1.7)	200 (1.7)	N/A	200 (1.7)	200 (1.7)	(1.67)	N/A	200 (1.7)
Underbody Coating	650 (5.4)	650 (5.4)	N/A	650 (5.4)	650 (5.4)	(5.42)	N/A	650 (5.4)
Trunk Interior Coating	650 (5.4)	650 (5.4)	N/A	650 (5.4)	650 (5.4)	(5.42)	N/A	650 (5.4)
Bedliner	200 (1.7)	200 (1.7)	N/A	200 (1.7)	200 (1.7)	(1.67)	N/A	200 (1.7)
Weatherstrip Adhesive	750 (6.3)	750 (6.3)	N/A	750 (6.3)	750 (6.3)	(6.26)	N/A	750 (6.3)
Lubricating Wax/Compound	700 (5.8)	700 (5.8)	N/A	700 (5.8)	700 (5.8)	(5.84)	N/A	700 (5.8)
Determination of Transfer Efficiency								
	Transfer efficiency of alternative automotive coating application methods, determined in accordance with the South Coast AQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989," and South Coast AQMD	Determination of transfer efficiency shall be as prescribed in EPA "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations, dated December 1988."	Determination of transfer efficiency shall be as prescribed in EPA "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations, dated December 1988."	Any other coating application method which is demonstrated to the APCO to be capable of achieving at least 65 percent transfer efficiency. The transfer efficiency shall be determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test	Transfer efficiency of alternative coating application methods determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 24, 1989 and SCAQMD "Guidelines for Demonstrating	The owner or operator shall demonstrate that either the application system being used is equivalent to the transfer efficiency of an HVLP spray or that the application system being used has a transfer efficiency of at least 65%.	Department approval of the transfer efficiency test method is required	Not specified

	"Guidelines for Demonstrating Equivalency With District Approved Transfer Efficiency Spray Gun", September 26, 2002."			Procedure for Equipment User," May 24, 1989	Equivalency With District Approved Transfer Efficiency Spray Gun", September 26, 2002.			
Application Methods								
	Application by: (i) Electrostatic application (ii) HVLP spray equipment (iii) Brush, dip, or roller (iv) Satisfactory demon-stration of a spray gun meeting HVLP definition (v) Approved HVLP equivalent	Not specified	Not specified	Application by: (i) Brush, dip, or roller (ii) Electrostatic application (iii) EDP (iv) Flow Coating (v) Continuous Coating (vi) HVLP spray equipment (vii) Other coating method demon-strated to be capable of achieving 65% transfer efficiency	Application by: (i) Brush, dip, or roller (ii) Electrostatic application (iii) Flow Coating (iv) Continuous Coating (v) HVLP spray equipment	Application by: (1) Electrostatic application (2) HVLP spray equipment (3) Flow coat (4) Roller coat (5) Dip coat (6) Brush (7) Approved HVLP equivalent	Not specified	Not specified
Record Keeping								

	An owner or operator shall maintain records of automotive coating usage pursuant to South Coast AQMD Rule 109 – Recordkeeping for Volatile Organic Compound Emissions to demonstrate compliance with the emission limits	Recommend that any State RACT Rules that allow for averaging include appropriate recordkeeping and reporting requirements.	The person shall maintain and have available during an inspection, a current list of coatings in use which provides all of the coating data necessary to evaluate compliance	The operator shall maintain records on a daily basis, and have available at all times, a current list of coatings in use which provides all of the coating data necessary to evaluate compliance per Sections 6.1.1, 6.1.2 and 6.2.	Maintain and have available during an inspection, a current list of Coatings and solvents in use which provides all of the Coating data necessary to evaluate compliance	Provides the VOC content of coatings may be determined by using analytical data from the MSDS, and if necessary the dilution solvent. Owner/operator may use data from the MSDS as a compliance alternative to testing. Relying on the MSDS is sufficient to ensure continuous compliance with the control requirements in §115.453 and extends option to owners and operators of all surface coating categories	A person who is responsible for the operation of a coating line that is subject to this rule shall obtain current information and keep records necessary for the determination of compliance with this rule	Not specified