SACRAMENTO METROPOLITAN
AIR QUALITY MANAGEMENT DISTRICT

STAFF REPORT

Proposed Amendments to

Rule 459, Automotive, Mobile Equipment and Associated Parts and Components Coating Operations (New Title)

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BACKGROUND

Ground level ozone is a secondary pollutant formed from photochemical reactions of nitrogen oxides (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Ozone is a strong irritant that adversely affects human health and damages crops and other environmental resources. As documented by the U.S. Environmental Protection Agency (EPA) in the most recent Criteria Document for ozone[1], both short-term and long-term exposure to ozone can irritate and damage the human respiratory system, resulting in:

- decreased lung function;
- development and aggravation of asthma;
- increased risk of cardiovascular problems such as heart attacks and strokes;
- increased hospitalizations and emergency room visits; and
- premature deaths.

The District is currently designated as a nonattainment area for both the state and federal ozone standards. Since VOCs are a precursor to ozone, one of the strategies to control ozone pollution is to reduce VOC emissions from existing stationary sources. The projected 2012 VOC emission inventory for Sacramento County includes 303 tons per year for automotive coatings.

Suggested Control Measure (SCM) for Automotive Coatings

On October 20, 2005, the California Air Resources Board (CARB) adopted a Suggested Control Measure (SCM) for Automotive Coatings. The purpose of the SCM is to promote uniformity among California district rules, improve enforceability, and achieve additional reductions in VOC emissions. The SCM consolidated coatings for Group I and Group II vehicles, replaced the specialty coating and multi-stage coating categories with specific coating categories, and established lower VOC limit for some coating categories. To date, ten other California air districts have amended their rules to be consistent with the SCM.

Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings

On October 7, 2008, EPA promulgated a Control Techniques Guidelines (CTG) for Miscellaneous Metal and Plastic Parts Coatings[2]. The CTG contains Reasonable Available Control Technology (RACT) guidelines and recommendations, including VOC content limits, specific exemptions, and recommended work practice procedures, for coatings applied on six different substrate categories: miscellaneous metal parts and products, miscellaneous plastic parts and products, transportation plastic parts, business machine plastic parts, pleasure craft, and motor vehicle materials.

Section 182(b)(2) of the federal Clean Air Act (CAA) requires the District to implement RACT for the source categories included in the CTG. On October 28, 2010, the District adopted amendments to Rule 451 – Surface Coating of Miscellaneous Metal Parts and Products that lower VOC limits for specific coatings for miscellaneous metal parts and products to be as stringent as the requirements in the CTG. In addition, Staff is planning to propose a new rule for

[1] "Air Quality Criteria for Ozone and Related Photochemical Oxidants", U.S. EPA, February 2006.
[2] "Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings", U.S. EPA, September 2008.

the coatings of miscellaneous plastic parts and products, transportation and business machine plastic parts, and pleasure craft. Staff is proposing to include the CTG requirements for motor vehicle materials in Rule 459. There are two coating categories for which the VOC limits in the CTG are more stringent that those in the SCM: multi-color coatings when applied to transportation plastic parts, and truck bed liner coatings. In these two cases, the CTG limits are proposed in the amendments to Rule 459. The proposed limits are described in the next section.

Rule 459, Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations (Proposed New Title)

Rule 459 was first adopted on December 7, 1995 and last amended on October 2, 1997. The rule applies to coating, coating removal (stripping), surface preparation, and cleanup operations for automotive, truck or heavy equipment finishing or refinishing operations. Rule 459 also regulates the sale of coatings within the District by prohibiting manufacturers and suppliers of coatings from selling coatings that do not comply with the rule.

Staff is proposing to amend Rule 459 to incorporate the requirements of the SCM. The proposed amendments will satisfy a State Implementation Plan (SIP) commitment to reduce VOC emissions from this source category. Staff will also ensure that the limits proposed in the SCM meet the CTG requirements for transportation plastic parts. Staff will use the most stringent VOC limit for coating categories from both the SCM and the CTG. Staff is also proposing to amend Rule 459 to incorporate the requirements of the CTG that are specific to motor vehicle materials used during coating operations. The proposed amendments will satisfy the Clean Air Act (CAA) requirement to implement RACT for these coatings and materials.

LEGAL MANDATES

Federal Mandates:

The District is designated as a "severe" nonattainment area for the federal 8-hour ozone standard. Title 40 of the Code of Federal Regulations, Section 51.908, requires "severe" nonattainment areas to comply with the attainment demonstration requirements of CAA section 182(c)(2), which requires a plan to be submitted to EPA which demonstrates attainment of the standard by the applicable attainment date, and to include all control measures necessary for attainment. In 2009, the districts of the Sacramento Federal Nonattainment Area adopted an attainment demonstration plan to achieve the federal 8-hour ozone standard by the attainment date of June 15, 2019[3]. The plan includes a commitment for the District to achieve VOC emission reductions from automotive coating operations of 0.11 tons per day in 2018.

Federal Clean Air Act section 172(c)(1) specifies that SIPs for nonattainment areas must include "reasonably available control measures" (RACM), including "reasonably available control technology" (RACT), for sources of emissions. Section 182(b)(2)(A) of the CAA provides that for nonattainment areas classified as "moderate" or worse, states must revise their SIPs to include RACT for sources of VOC emissions for each category of VOC sources covered by a CTG document issued after November 15, 1990 and prior to the area's date of attainment. EPA

[3] "Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan", EDCAQMD, FRAQMD, PCAPCD, SMAQMD, YSAQMD, March 26, 2009.

defines RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility[4]." Pursuant to CAA Sections 108(b) and (c), EPA periodically publishes information regarding available controls. In developing Control Techniques Guidelines, EPA evaluates, among other things, the sources of VOC emissions and the available control approaches for addressing these emissions, including the costs of such approaches. CTG documents establish the presumptive minimum recommendations for RACT.

On October 7, 2008, EPA promulgated a Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings. EPA's CTG provides the presumptive minimum recommendations for RACT for various coating categories, including coatings for transportation plastic parts and motor vehicles materials. The proposed amendments to Rule 459 will satisfy the RACT requirements for motor vehicle materials and transportation plastic parts coating associated with automotive coating operations and also satisfy the federal plan commitment for automotive coating operations.

State Mandates:

The District is designated "serious" nonattainment for the state ozone standard. The California Clean Air Act requires areas designated as "serious" to adopt control measures required in Sections 40919 of the California Health and Safety Code (HSC). The plan commitment for this rule also satisfies the following requirements:

- California HSC Section 40919 requires districts designated serious nonattainment for ozone to adopt Best Available Retrofit Control Technology (BARCT) for all existing permitted sources. BARCT means an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of sources[5].
- Transport Mitigation Emission Control Requirements: Title 17, Section 70600 of the California Code of Regulations requires that districts within the areas of origin of transported air pollutants, as identified in Section 70500(c), include sufficient emission control measures (including "all feasible measures" and BARCT) in their attainment plans for ozone to mitigate the impact of pollution sources within their jurisdictions on ozone concentrations in downwind areas commensurate with the level of contribution. An upwind district must comply with the transport mitigation planning and implementation requirements set forth in this section regardless of its attainment status, unless the upwind district complies with the requirements of Section 70601.

The limits proposed for Rule 459 have been adopted in the following ten California districts, with the implementation dates in parentheses: San Joaquin Valley APCD (January 1, 2009), South Coast AQMD (July 1, 2008), Ventura County APCD (January 1, 2009), Santa Barbara APCD (January 1, 2009), San Luis Obispo APCD (July 1, 2009), Yolo Solano AQMD (July 1, 2009), Bay Area AQMD (October 1, 2009), Imperial County APCD (April 1, 2010), Mojave Desert AQMD (July 1, 2011), and Placer County APCD (July 1, 2011). Waterborne coatings that meet the proposed limits also have been successfully implemented and shown to be feasible in Europe.

[4] 44 FR 53761, September 17, 1979.
[5] California Health and Safety Code Section 40406.

The proposed amendments to Rule 459 will meet the BARCT requirements and fulfill the state plan commitment.

SUGGESTED CONTROL MEASURE (SCM) FOR AUTOMOTIVE COATINGS

CARB's Suggested Control Measure for Automotive Coatings contains recommendations for automobile and mobile equipment coating operations. The SCM consolidated Group I and II vehicles, replaced the multi-stage topcoat and specialty coating categories with specific coating categories, and lowered the VOC limits for some existing coating categories. For solvents used in surface preparation, cleanup and cleaning of application equipment, the SCM recommended to lower the VOC limit to 25 grams per liter. The following table shows the VOC limits from the SCM:

SCM Suggested VOC Limits for Automobile and Mobile Equipment Coatings

Category	VOC Limit (g/l)*
Adhesion Promoter	540
Clear Coating	250
Color Coating	420
Multi-Color Coating	680
Pretreatment Coating	660
Primer/Primer Sealer	250
Single-Stage Coating	340
Temporary Protective Coating	60
Truck Bed Liner Coating	310
Underbody Coating	430
Uniform Finish Coating	540
Any Other Coating Type	250
Solvents	25

* Less water and exempt compounds

In order to comply with the new coating limits, CARB anticipated that coating manufacturers would use exempt compounds in the coating reformulations or use water-based coatings. The SCM included a recommendation to exempt tertiary butyl acetate (TBAc) as a VOC for the purpose of complying with the VOC limits for coatings and solvents. The SCM also recommended a prohibition of possession provision which prohibits end users from possessing any coatings or solvents that do not meet the VOC limits, except when the end user uses an emission control device with a control efficiency of at least 85%.

CTG RECOMMENDATIONS

The Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings contains recommended VOC content limits coatings applied to transportation plastic parts and motor vehicle materials. The following tables show how the CTG categories and limits match up with the coating categories in the current rule and SCM.

Transportation Plastic Parts Coatings

CTG		Current Rule		SCM	
Category	**CTG Limit (g/l)[1]**	**Category**	**Limit (g/l)[2]**	**Category**	**SCM Limit (g/l)**
Flexible Primer	540	Specialty Coating	840	Adhesion Promoter	540
Non-flexible Primer	420	Primer	250	Primer	250
Basecoat	520	Multi-stage Topcoat System[3]	540	Color Coat	420
				Multi-color Coating	680[4]
		Topcoat	420	Single-staged Coating	340
Clear Coat	480	Multi-stage Topcoat System [3]	540	Clear Coat	250
Non-basecoat or Non-clear Coat	520	Precoat	600	Any other coating	250
		Pretreatment Wash Primer	780		
		Specialty Coating	840		
Touch-up and Repair Coatings	620	Specialty Coating	840	Uniform Coating	540

[1] VOC limits are based on the "Bake Exterior Parts" coating categories.
[2] VOC limits are based on the "Group II, no color match" coating categories.
[3] Multi-stage topcoat system is topcoat system that composes of a base coat and clear coat.
[4] This limit does not meet the CTG limit for railroad cars or transportation equipment not covered by the national rule.

The proposed VOC limits from the SCM are equal to or more stringent than the VOC limits listed for the corresponding coating categories in the CTG, except for the proposed VOC limit for "multi-color coating". The VOC limit for "multi-color coating" in the SCM is not as stringent as the corresponding VOC limit for the "base coat" in the CTG. The CTG does not have a "multi-color coating" limit.

The CTG is applicable to coating operations that are not already covered under the National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings[6]. The national rule applies to automobile refinish coatings for use on passenger cars, vans, motorcycles, trucks, and any equipment that is physically capable of being driven or drawn upon a highway including, but not limited to, construction vehicles, farming equipment, hauling equipment, and miscellaneous equipment. Railroad cars and other mobile equipment that is capable of being driven or drawn on rails are not covered under the national rule and are, therefore, subject to the CTG.

Since Rule 459 is applicable to railroad cars or other mobile equipment capable of being driven or drawn on rails, Staff is proposing a limit of 520 g/l VOC for multi-color coating for the transportation equipment not covered by the national rule. This VOC limit for multi-color coating

[6] 40 CFR Part 59, Subpart B: National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings.

will be incorporated into the proposed amendments to Rule 459 to satisfy the federal Clean Air Act requirements.

Motor Vehicle Materials

CTG		Current Rule		SCM	
Category	**CTG Limit (g/l)**	**Rule/ Category**	**Limit (g/l)**	**SCM Category**	**SCM Limit (g/l)**
Gasket/Gasket Sealing Material	200	None	--	None	--
Cavity Wax	650	None	--	None	--
Deadener	650	None	--	None	--
Lubricating Wax/Compound	700	None	--	None	--
Sealer	650	Rule 460/ Other sealant	420*	None	--
Underbody coating	650	Rule 459/ Rubberized Asphaltic Underbody	540*	Underbody coating	430
Trunk interior coating	650	Rule 459/ Solid Color Topcoat	420*	Single-staged Coating	340
Bed liner	200	Rule 459/ Specialty coating	840	Truck Bed Liner Coating	310

* Indicates this current rule limit is less stringent than the VOC limit listed for the corresponding coating category in the CTG.

Sealer is regulated by Rule 460, ADHESIVES AND SEALANTS, under the category of “other sealant.” As shown above, the CTG limit for sealer would be less stringent than the limit listed in Rule 460. Staff is not proposing to include sealer in the proposed amendments to Rule 459 since it is currently regulated by Rule 460.

For underbody coatings and truck bed liner coatings, these categories are also coating categories in the SCM. As such, these coatings will be incorporated in the vehicle coatings section along with the other coating categories from the SCM and not in the motor vehicle materials section. For trunk interior coatings, the VOC limit from the CTG is less stringent than any coating in the SCM or current rule that might be used as a coating for trunk interiors. Trunk interior coatings could be applied either as single staged coatings or as solid color coat/clear coat systems. The limits for these coatings under the SCM are more stringent than the trunk interior coating limit in the CTG. Therefore, Staff is not proposing to add a coating category for trunk interior coatings.

All motor vehicle materials categories in the table above will be incorporated in the proposed amendments to Rule 459 except for sealer and trunk interior coating. Staff is proposing the most stringent VOC limits for motor vehicle materials from the CTG, SCM or a current District rule.

SUMMARY OF PROPOSED AMENDMENTS

Staff is proposing to amend Rule 459 to reduce emissions from automotive and mobile equipment coating operations by incorporating the requirements from the SCM. The SCM for automotive coatings was adopted by CARB to promote consistency and uniformity among districts rule and reduce VOC emissions. Adoption of these requirements will help improve rule enforceability by simplifying coating categories and establishing individual coating limits. In addition, the VOC limits proposed in the SCM meet the CTG requirements for transportation plastic parts except for multi-colored coating for mobile equipment drawn or driven on rails and it associated parts and components. Staff will incorporate the CTG recommended VOC limit for this coating category in order to satisfy federal RACT requirements. Staff is also proposing to include the requirements recommended in the CTG for motor vehicle materials such as gasket/gasket sealing materials, deadener, cavity wax, and lubricating wax/compound.

The proposed amendments to Rule 459 will apply to the coating of motor vehicles, mobile equipment, and their associated parts and components. Only those pieces of equipment designed to be parts of motor vehicles or mobile equipment would be classified as associated parts and components. For example, truck trailers and camper shells are covered by this rule.

The significant proposed amendments for Rule 459 are summarized below. For a detailed list of changes, see Appendix B.

Changes to VOC Limits: The following table lists the changes to VOC limits for coatings, surface preparation solvents, and cleanup solvents currently regulated by Rule 459, and the new motor vehicle materials not currently regulated by a District rule. Each row applies to a coating or solvent type. The column labeled “Current VOC Limits” lists the current categories and their corresponding VOC limits. The column labeled “Proposed VOC Limits” refers to the new or replaced categories in the proposed amendments. Some categories are proposed to be changed as well as their corresponding VOC limits. Staff evaluated the VOC limits listed in the SCM and CTG. This table reflects the more stringent of the two and the last column lists which (SCM or CTG) limit was chosen.

Proposed VOC Limits

Current VOC Limits		Proposed VOC Limits		
Current Category[1]	**VOC Limit (g/l)[2]**	**New/Replaced Category**	**VOC Limit (g/l)[2]**	**SCM or CTG**
Pretreatment Wash Primer	780	Pretreatment Coating	660	SCM
Precoat[3]	600	Primer/Primer Sealer	250	SCM
Primer/Primer Surfacer[3]	250			
Primer Sealer[3]	420[4]			
Solid Color Topcoat	420	Single-Stage Coating	340	SCM
		Color Coating	420	SCM
Metallic/Iridescent Topcoat	420[4]	Color Coating	420	SCM
Multi-Stage Topcoat System[5]	540[4]	Color Coating	420	SCM
		Multi-Color Coating[6] Mobile equipment driven or drawn on rails and its parts and components	520	CTG

Current VOC Limits		Proposed VOC Limits		
Current Category[1]	**VOC Limit (g/l)[2]**	**New/Replaced Category**	**VOC Limit (g/l)[2]**	**SCM or CTG**
Multi-Stage Topcoat System[5]	540[4]	Multi-Color Coating[6] Motor vehicle or all other mobile equipment and its parts and components	680[6]	SCM
		Clear Coating	250	SCM
Rubberized Asphaltic Underbody	540	Underbody Coating	430	SCM
Temporary Protective Coating	60[7]	Temporary Protective Coating	60	SCM
Specialty Coating[8]	840	Adhesion Promoter	540	SCM
		Truck Bed Liner Coating	200	CTG
		Uniform Finish Coating	540	SCM
		Any Other Coating Type	250	SCM
Rule 451: Any other coatings – Air dried (for radiator, drive trains, differentials, and engine components)	340	Single-Staged Coating	340	SCM
N/A	--	Gasket/Gasket Sealing Material	200	CTG
N/A	--	Cavity Wax	650	CTG
N/A	--	Deadener	650	CTG
N/A	--	Lubricating Wax/Compound	700	CTG
Surface preparation solvents to clean plastic parts or to remove road tar, engine oil, grease, overspray, or adhesives	780	Bug and Tar Removers	25 or use regulated Consumer Product	SCM
		Solvents	25	SCM
Other surface preparation solvents	72	Solvents	25	SCM
Equipment cleanup solvents	72[9]	Solvents	25	SCM

[1] All current categories are listed from Rule 459, except as noted.

[2] Less water and exemption compounds, except as noted.

[3] These categories have been consolidated in the SCM into the single category of Primer or Primer Surfacer.

[4] VOC limit is the most stringent limit from Group I or Group II vehicle category. Group I and Group II vehicle have been consolidated in the SCM.

[5] This category has been eliminated in the SCM and has been replaced by specific limits on each coating stage.

[6] Multi-Color Coating was previously contained within the multi-stage topcoat system. Assuming a worst-case multi-color coating (VOC content 680 g/l) for the base coat and a color coating (420 g/l) as the clear coat of a multi-stage system the VOC of the multi-stage is 507 g/l. The proposed limits are more restrictive.

[7] Including water and exempt compounds.

[8] This category has been eliminated in the SCM and has been replaced by specific limits on each specialty coating.

[9] The current rule allows the use of an enclosed system in lieu of meeting the VOC limit.

The current version of Rule 459 allows the use of any solvent for cleaning application equipment as long as the cleaning operation is performed in an enclosed system. The proposed amendments will eliminate this option for cleaning application equipment. All solvents used for cleaning application equipment after the proposed effective dates must meet the proposed limit.

The proposed amendments will also clarify that a coating remover (stripper) is not a solvent used in a cleaning operation. A material used to remove overspray or to clean application equipment is considered a solvent and is subject to the proposed limit of 25 grams per liter.

Effective Date for Proposed VOC Limits: Staff did not receive adverse comments regarding the proposed effective dates for the amendments. As such, Staff is recommending that the proposed requirements be effective six months after the date of adoption, as proposed at the public workshop. This effective date will achieve a level playing field in a relatively short period of time, placing District sources that have already invested in new technology and sources in surrounding air districts on equal footing with shops that have not yet converted to using lower VOC coatings.

Changes/Additions to the Exemptions: Changes or additions to the exemptions are proposed for Rule 459 for consistency with the SCM and/or the CTG. These are described as follows:

- The exemption for restoration of special interest vehicles and street rod vehicles is proposed for sunset six months after date of adoption. Currently, SMAQMD and San Diego County APCD are the only districts in California providing such an exemption. The SCAQMD rule, SJVAPCD rule and the SCM do not include this exemption.
- The exemption for radiators, drive trains, differentials, and engine components is proposed for sunset six months after the date of adoption. Radiators, drive trains, differentials and engine components will be considered associated parts and components and subject to the proposed amendments to Rule 459. Previously, the coating of these parts was regulated under Rule 451.
- The exemption for graphic arts operations (previously called stencil coatings) is proposed to be narrowed, consistent with the SCM. In the current rule, stencil coatings are exempt from all provisions of the rule. Under the proposed exemption, these coatings would be exempt only from the application method requirements.
- The exemption for aerosol containers is proposed to be revised to include any size aerosol coating products, which are regulated by the California Consumer Product Regulations[7], consistent with the SCM.
- The exemption for touch-up coating from a container of two ounces or less will be lowered to a container of 0.5 fluid ounces or less, consistent with the SCM.
- An exemption is proposed to be added for coatings in an assembly line operation at an original equipment manufacturing plant. The current rule exempted this type of operation through its applicability and definitions, but this exemption is not clearly stated. In addition, the requirements suggested by the SCM are not intended to cover assembly line operations at an original equipment manufacturing plant.
- The applications of any coating use of no more than one fluid ounce when applied from a container with a capacity of no more than one fluid ounce, the application of underbody coating, and the application of truck bed liner coating are proposed to be exempted from the application method requirements. This exemption is consistent with the SCM.
- An exemption is proposed for the VOC limits for new motor vehicle materials, which are materials from the CTG previously not regulated by other District rules, at stationary sources with total actual emissions of less than 2.7 tons of VOC per 12-month rolling period from truck bed liner and underbody coatings, motor vehicle materials, surface coating operation for miscellaneous metal parts and products subject to Rule 451, and

[7] Title 17, California Code of Regulations, Sections 94520 – 94528, Aerosol Coating Products.

surface coating operation for miscellaneous plastic parts and products subject to new Rule 468. New Rule 468 will be proposed for adoption later this year. This exemption is in the CTG.

TBAc VOC Exclusion: On November 29, 2004, EPA exempted tertiary butyl acetate (TBAc)[8] from the federal definition of VOC in Title 40, Part 51 of the Code of Federal Regulations for the purposes of complying with VOC emission limits or VOC content requirements. However, EPA maintained TBAc as a VOC for the purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling, and inventory requirements.

In 2006, CARB, with assistance from the Office of Environmental Health Hazard Assessment (OEHHA), conducted an environmental impact assessment on TBAc[9]. CARB determined that the increased use of TBAc is not expected to increase depletion of stratospheric ozone or contribute to global warming. CARB also concluded that TBAc could pose a potential cancer risk to humans because TBAc metabolizes to tertiary butyl alcohol (TBA); TBA is a potential carcinogen that may result in a cancer risk to humans. Because TBAc may be a potential carcinogen, OEHHA developed an interim inhalation unit risk factor for TBAc of $4x10^{-7}$ $(ug/m^3)^{-1}$. CARB recommended that the air districts determine whether the use of TBAc in certain products would pose an unacceptable exposure.

Furthermore, CARB had adopted the SCM which recommended exempting TBAc as a VOC to assist in reformulating products to comply with the proposed limits in the SCM. To ensure that there were no adverse impacts to nearby receptors, CARB performed a health risk assessment (HRA). According to CARB's 2002 Automotive Coating Survey, toluene, xylene, and methyl ethyl ketone (MEK) accounted for approximately 27.5% of the VOC used in automotive coatings[10]. CARB assumed that TBAc replace all toluene, xylene, and MEK in the coating products at a 1:1 ratio. The HRA was performed using the largest known autobody shop in California, where the TBAc emissions were approximately 1,350 pounds per year after the assumed substitution. The HRA estimated the maximum potential risk to be 2.8 excess lifetime cancer cases per million cases for a resident living near the autobody shop. CARB concluded that the risk from replacing toluene, xylene, and MEK in all automotive coatings with TBAc would not be significant[10].

In December 2005, SCAQMD amended its automobile refinishing rule (Rule 1151, Motor Vehicle and Mobile Equipment Non-assembly Line Coating Operations) which included a limited exemption for TBAc. TBAc is not considered a VOC when used in automotive coatings other than color coatings and clear coatings, citing the availability of sufficient compliant coatings on the market in the clear and color coating categories that meet the VOC limits of the rule without using TBAc[11]. The cancer risk for the potential use of TBAc in automotive coatings other than color coatings and clear coatings was calculated by SCAQMD to be 5 in a million and was below its threshold of significance of 10 in a million.

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[8] "Revision to Definition of Volatile Organic Compounds – Exclusion of t-Butyl Acetate" Federal Register, Volume 69, November 29, 2004, p. 69298 – 69304.
[9] "Environmental Impact Assessment of Tertiary-Butyl Acetate" CARB, January 2006.
[10] "Staff Report for the Proposed Suggested Control Measure for Automotive Coatings" CARB, October 2005, p. VI-2 – VI-4.
[11] "Staff Report for Proposed Amended Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations" SCAQMD, December 2005, p. 12.

SJVAPCD exempted TBAc from its automobile refinishing rule (Rule 4612, Motor Vehicle and Mobile Equipment Coating operations – Phase II) when it is used as a component of automotive coatings. SJVAPCD assumed that TBAc would replace up to 50 percent of non-exempt VOC compounds (xylene, toluene and methyl ethyl ketone) in automotive coatings. The cancer risk of the potential use of TBAc was 5.6 in a million, which is below its significance threshold of 10 in a million. As such, SJVAPCD concluded that the potential usage of TBAc is less than significant and should be exempted from automotive coatings at all facilities[12]. In addition, SJVAPCD later included TBAc as an exempt compound in its Rule 1020, Definitions, with the requirement that an application be submitted to the district when TBAc usages are greater than one gallon per year. The application requirement will allow SJVAPCD to perform a health risk assessment on the total usage to ensure that the risk is less than significant[13].

Unlike SCAQMD and SJVAPCD, BAAQMD did not include an exemption for TBAc in its automobile refinishing rule (Rule 8-45, Motor Vehicle and Mobile Equipment Coating Operations). BAAQMD has a policy not to exempt compounds that deplete stratospheric ozone or are toxic. However, BAAQMD has considered exemptions for compounds where the compounds were needed to meet VOC limits in particular rules. According to BAAQMD, compliant coating products have been developed that meet the lower VOC standards and do not use TBAc. As a result, BAAQMD did not exempt TBAc in its Rule 8-45 because TBAc may potentially pose a cancer risk to humans and compliant coating products are commercially available and in use[14].

To evaluate the potential impact from the exemption of TBAc in Rule 459, Staff calculated the maximum emissions of TBAc that will cause adverse impact to human health. Generally, a cancer risk of less than 10 in a million per facility for a nearby receptor is below the threshold of significance and considered acceptable based on SMAQMD threshold of significance for the California Environmental Quality Act (CEQA). Staff used the Bowman Environmental Engineering Short Term (BEEST)[15] for Windows modeling program, version 9.63, to determine the unit emission rate concentration from a point source and volume source necessary to reach a cancer risk of 10 in a million. The specific detail and modeling assumptions are summarized in Appendix D and the modeling results are shown in the following table.

Source Type	Unit Emission Rate Annual Conc. $(ug/m^3)/(g/s)$	Inhalation Unit Risk Factor $(ug/m^3)^{-1}$	Cancer Risk (per 10^6 Cases)	Emission Rate (g/s)	Annual TBAc Emissions (lb/year)	Annual VOC Emissions (lb/year)
Point	**95.1**	**4×10^{-7}**	**10**	**0.26**	**4,340**	**15,800**
Volume	**1,880**	**4×10^{-7}**	**10**	**0.01**	**220**	**798**

Emission Rate, g/s = Cancer Risk/[(Unit Emission Rate $(ug/m^3)/(g/s)$ * (Inhalation Unit Risk Factor $(ug/m^3)^{-1}$)
Annual TBAc emissions, lb/year = emission rate, g/s * 0.0022 lb/g * 3600 s/hr * 8 hr/day * 5 day/wk * 52 wk/yr
Annual VOC emissions, lb/ year = (annual TBAc emissions, lb/year)/(27.5%)

[12] "Final Draft Staff Report for Proposed Amendments to Rule 4602, Motor Vehicle and Mobile Equipment Coating Operations, and Rule 4612, Motor Vehicle and Mobile Equipment Coating Operations – Phase II" SJVAPCD, August 2006, p. 5 – 6.
[13] "Final Draft Staff Report: Proposed Amendments to Rule 1020 (Definitions)," SJVAPCD, December 18, 2008, p. 5.
[14] "Staff Report Regulation 8, Rule 45: Motor Vehicle and Mobile Equipment Coating Operations" BAAQMD, November 2008, p. 18 – 19.
[15] Available from BEE-Line Software at www.beeline-software.com

For a coating operation, a point source facility is a facility that spray paints inside a spray booth, and the emissions are exhausted through a stack. The maximum emission rate for TBAc from a point source facility to ensure that the cancer risk is less than 10 in a million is 0.26 grams per second. The emission rate is equivalent to 4,340 pounds of TBAc per year, assuming the facility operates 8 hours per day, 5 days per week, and 52 weeks per year. In CARB's Environment Impact Assessment of Tertiary-butyl Acetate, CARB determined that TBAc may be used to replace xylene, toluene, and MEK in automotive coatings. According to the SCM, xylene, toluene and MEK accounts for approximately 27.5% of the total VOC emissions in automotive coatings. Assuming that 100% of xylene, toluene and MEK are replaced by TBAc, the VOC emissions, including TBAc emissions, from the coating facility would need to be more than 15,800 pounds per year to exceed the cancer risk of 10 in a million. Staff compared the calculated annual emissions to actual emissions from the largest permitted automotive coating facility in the District. According to the inspection reports for 2006[16], the largest permitted automotive coating facility emits approximately 6,000 pounds of VOC per year. Staff can conclude that it is unlikely for a point source facility to use amounts that would cause an adverse impact to nearby receptors.

Not all automotive coating occurs in a paint booth. A volume source technique in the BEEST model evaluates these facilities where coating does not occur in a spray booth, and the emissions are exhausted through ground level openings in the building, e.g. doors and windows, not through an exhaust stack. To determine, the maximum emission rate for TBAc from a volume source where the cancer risk is less than 10 in a million was determined to be 0.01 grams per second. That emission rate is equivalent to 220 pounds of TBAc per year, assuming the operation is 8 hours per day, 5 days per week, and 52 weeks per year. As discussed above, if 27.5% of the total VOC is TBAc, the VOC emissions, including TBAc emissions, from the coating facility would need to be more than 798 pounds per year to exceed the cancer risk of 10 in a million. Most permitted sources use spray booths.

Rule 459 applies to both permitted and unpermitted facilities. Permitted facilities that do not use paint booths could have their permit conditioned to limit their TBAc usage to ensure they do not exceed the cancer risk threshold. Staff analyzed whether Rule 459 needed restrictions to ensure that unpermitted facilities remained below this level. Rule 201 – General Permit Requirements exempts from permit coating operations that use less than 1 gallon per day of coating materials and solvents. The analysis considered an unpermitted facility without a spray booth using the maximum amount of coatings allowed, (just under) 1 gallon per day, for 5 days per week and 52 weeks per year. Using an average VOC content for coating of 4.5 pounds per gallon (540 grams per liter), the VOC emissions for a non-permitted volume source would be 1,170 pounds per year. Because the potential maximum VOC emissions from an unpermitted facility that does not use a spray booth, 1,170 pounds per year, are more than the total VOC emissions that would exceed the cancer risk threshold, 798 pounds per year, restrictions are needed in Rule 459 that apply to unpermitted facilities.

To ensure that proposed rule does not adversely impact nearby receptors, Staff is proposing a limited exemption for TBAc. Staff is proposing that TBAc is exempt as a VOC for the purposes of complying with the proposed VOC standard when contained in an automotive coating or coating component that is applied only within a spray booth. This provision will ensure that TBAc emissions are exhausted through a stack, for which the point source modeling shows that

[16] Calendar year 2006 was used because it represented the activities and VOC emissions from this industry before the economic downturn.

the cancer risk is less than 10 in a million. Staff is not proposing to exempt TBAc as a VOC when used outside of a spray booth or as a solvent during the cleaning operation (surface preparation and cleanup operations). Permitted and unpermitted facilities that do not have a spray booth will not be able to use TBAc as an exempt compound.

In addition, specific recordkeeping requirements for TBAc will be added to the rule as required by the federal exemption. Rule 459 currently has no reporting requirements for VOC, and photochemical dispersion modeling and inventory requirements will not be addressed within the rule because these activities are performed by the District, not the coating manufacturers or end users.

Proposed Recordkeeping Changes: Significant changes for recordkeeping are proposed. The duration of records maintained on site remains at three years, consistent with the SCM and in line with EPA guidelines for non-major sources[17,18]. Labeling is proposed to be required on all automotive coatings or components as proposed in the SCM. In addition to the VOC regulatory content (VOC content of a coating less water and exempt compounds) upon which VOC limits are based, VOC actual content (VOC content including water and exempt compounds) and reporting is required. VOC actual content is additional information that is used for calculating VOC emissions for inventory purposes. Details of the proposed recordkeeping requirements compared to the current Rule 459 are detailed in the following table. Only the differences in the requirements between the two rules are shown in the table. Requirements that are not proposed to change are not listed.

Recordkeeping Requirement	Current Rule 459	Proposed Rule 459
Data Sheet	Data sheet should include: - Name/code/manufacturer - Maximum VOC content, as applied, after any mixing or thinning as recommended by manufacturer - Recommendation regarding thinning, reducing, or mixing materials	For coatings, coating components and ready to spray mixtures: - VOC regulatory and VOC actual - Weight percentage of volatiles, water & exempt compounds - Volume percentage of water and exempt compounds - Density of the material - For materials containing TBAc, actual content of TBAc For coating removers and solvents: - VOC content as supplied

[17] "Guidance Document for Correcting Common VOC & Other Rule Deficiencies" U.S. EPA, August 21, 2001, p. 12.
[18] Sacramento County does not have a Title V permitted automotive coating facility, which would require 5-year records.

Recordkeeping Requirement	Current Rule 459	Proposed Rule 459
List of Coatings / Materials	- Identification of the materials exceeding the VOC limits	- VOC actual and VOC regulatory, as applied - VOC content for solvents - Identify the material as coating or solvent
Usage/Purchase Records	- Monthly records of total applied volume of all coatings, thinners, reducers, hardeners, retarders and catalysts - Application method used for each category - Alternative to monthly recordkeeping is to maintain records of inventory, purchase invoices and amount of waste - Daily records of utility bodies coated, type and amount of coatings used in the emission control device, and type and amount of non-compliant material	- Monthly purchase records identifying the coating type and volume of each material - Daily records identifying the coating type and amount if an emission control device is used - Monthly records for coating containing TBAc, including coating type and content of TBAc contained in coating
Labeling	None	All automotive coatings and solvents subject to the proposed rule must be labeled with VOC actual and VOC regulatory, as supplied.
Sales Records	Requires records for all sales within District.	Requires detailed sales records for those claiming exemption from proposed rule under the Prohibition of Sale or Manufacture section

For simplicity, the proposed rule will be republished without the definitions, coating categories, recordkeeping requirements, and any other requirements that are no longer applicable after the effective date.

EMISSIONS IMPACT

The District's projected emission inventory for 2012 is 303 tons per year (0.83 tons/day) of VOC emissions from automotive coatings, based on existing requirements. This total does not include emissions from aerosol coating products, which are regulated under the California Consumer Product Regulations and are not subject to requirements under Rule 459 or the

proposed amendments. Staff estimates that another 99 tons per year of VOC are emitted from the use of solvents associated with automotive coatings.
CARB provided the following information to the District, based on the database developed from the 2002 Automotive Refinish Coating Survey:

- For each coating category, the average *actual* VOC content (including water and exempt compounds) of coatings that comply with the VOC *regulatory* limits (excluding water and exempt compounds) of the current Rule 459.
- For each coating category, the average *actual* VOC content (including water and exempt compounds) of coatings that comply with the SCM VOC *regulatory* limits (excluding water and exempt compounds) of the SCM that are being proposed for amendment in Rule 459.
- For each coating category, the total number of gallons applied in Sacramento County in calendar year 2001, the most recent year surveyed prior to the SCM. Statewide volumes were apportioned to Sacramento County based on population.

Using the information provided by CARB, Staff estimates that implementation of the proposed coating limits will result in an emission reduction of 60%, as shown in Appendix C. Applying this percentage to the 2018 inventory, the proposed amendments will reduce VOC emissions by 189 tons per year (0.52 tons/day) in 2018 (the attainment year). The Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan includes a commitment for the District to reduce VOC emissions from automotive coating operations by 0.11 tons per day in 2018[19]. The proposed amendments will exceed the SIP commitment.

The Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan also includes a commitment for the District to reduce VOC emissions from solvent cleaning and degreasing operations by 0.59 tons per day in 2018[20]. Nine rules with solvent cleaning requirements were amended in 2008, resulting in VOC emissions reductions of 0.53 tons per day in 2018, leaving a shortfall of 0.06 tons per day.

Although Rule 459 was not specifically identified in the solvent cleaning/degreasing plan commitment, additional emission reductions will be achieved by these amendments from solvent cleaning activities associated with automotive coating operations. The VOC emissions from application equipment cleaning and surface preparation/cleanup are projected to be 102 tons per year (0.28 tons/day) for 2018 under the current requirements of Rule 459[21]. Lowering the allowable VOC content from the current 72 g/l to the proposed 25 g/l will reduce VOC emissions from solvents by 67 tons per year (0.18 tons/day) in 2018, and are necessary to meet the solvent cleaning/degreasing plan commitment.

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[19] **"**Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan", March 26, 2009, Appendix C, p. C-93 – C-95.
[20] **"**Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan", March 26, 2009, Appendix C, p. C-103 – C-105.
[21] "Staff Report for Rule 450 – Graphic Arts Operations, Rule 451 – Surface Coating of Miscellaneous Metal Parts and Products, Rule 452 – Can Coating, Rule 454 – Degreasing Operations, Rule 456 – Aerospace Assembly and Component Coating Operations, Rule 463 – Wood Products coatings, Rule 464 – Organic Chemical Manufacturing Operations, Rule 465 – Polyester Resin Operations, Rule 466 – Solvent Cleaning," Sacramento Metropolitan Air Quality Management District, August 25, 2008.

Assuming that the effective date of the proposed amendments is six months after date of adoption, the emission inventory and reductions for the implementation year (2012), the milestone years (2014 and 2017) and the attainment year (2018) are shown in the following table:

	VOC Emission Inventory (Inv.) and Emission Reductions (Red.) Tons per Day							
	2012		2014		2017		2018	
	Inv.	Red.	Inv.	Red.	Inv.	Red.	Inv.	Red.
Automotive Coatings*	0.83	0.50	0.84	0.51	0.86	0.52	0.86	0.52
Associated Solvents**	0.27	0.18	0.27	0.18	0.28	0.18	0.28	0.18
Total	1.10	0.68	1.11	0.69	1.14	0.70	1.14	0.70

* Emission inventory for automotive coatings for Sacramento non-attainment area is from the CARB Ozone SIP Planning Inventory, Version 1.06. The reduction is calculated by multiplying the inventory by 60%, the emission reductions achieved by the proposed amendments, as shown in Appendix C.

** Emission inventory for solvents associated with automotive coating operations was from the Staff Report for Rule 450 – Graphic Arts Operations, Rule 451 – Surface Coating of Miscellaneous Metal Parts and Products, Rule 452 – Can Coating, Rule 454 – Degreasing Operations, Rule 456 – Aerospace Assembly and Component Coating Operations, Rule 463 – Wood Products coatings, Rule 464 – Organic Chemical Manufacturing Operations, Rule 465 – Polyester Resin Operations, Rule 466 – Solvent Cleaning. The inventory was for year 2010 and was grown at the same rate as the inventory for automotive coatings for 2012, 2014, 2017 and 2018.

COST IMPACT

Section 40703 of the California HSC requires that the District consider and make public its findings relating to the cost effectiveness of implementing an emission control measure.

Rule 459 applies to those who supply, sell, offer for sale, manufacture, distribute, use, or solicit the use or application of automotive coatings and solvents for use within the District. According to the staff report to the SCM, CARB concluded that most automotive refinishing facilities and coating manufacturers would be able to absorb the cost to comply with requirements of the SCM with no significant adverse impact on their profitability. Furthermore, CARB expected that the cost incurred by the coating manufacturers and automotive refinishing facilities would be passed on to consumers. As a result, most of the impact would be in the form of increased insurance premiums and only consumers who have their vehicle repaired or refinished are impacted[22].

Since CARB adopted the SCM in 2005, economic times have changed, therefore, Staff evaluated the potential cost impacts from the proposed amendments to Rule 459. A cost impact was analyzed in a socioeconomic report (included in Appendix E) prepared by Eastern Research Group (ERG). According to the cost analysis, adoption of the proposed amendments is not expected to result in increased costs for coating manufacturers because coating products have already been developed to meet the proposed limits. Distributors will not incur additional cost because the cost would be passed on to automotive coating facilities. As such, automotive

[22] "Staff Report for the Proposed Suggested Control Measure for Automotive Coatings" CARB, October 2005, p. VII-1 – VII-2.

coating facilities will incur some cost increases to comply with the proposed amendments. Costs for automotive coating facilities are discussed below:

Equipment Costs: Compliance with the proposed VOC limits for color coating is expected to require waterborne coatings. Coating manufacturers recommend autobody facilities use enhanced air movement and heating systems to accelerate the drying time of waterborne coatings. In CARB's Staff Report, CARB listed several options for enhanced air movement and heating systems, which range from small hand held devices to fully integrated air movement systems. CARB estimated that these systems cost ranges from $1,600 to $60,000. CARB also estimated other equipment cost such as replacing mixing bank lids, upgrading spray gun equipment, purchasing spray gun tip air pressure gauges, and upgrading waste disposal equipment to be approximately $1,500 per facility. Total equipment cost per facility to comply with the SCM ranged from $3,100 to $61,500[23] .

After several site visits from Staff and conversation with coating manufacturers, compliance with the proposed VOC limits did not require as much equipment as CARB had anticipated. Hand-held dryers were sufficient equipment to achieve desirable coating results according to ERG. Prices for air movement equipment ranged from $80 for a hand-held dryer to $1,026 for a stand with two blower guns, air gauge and air-drying desiccants. Since hand-held dryers are the minimum equipment needed to comply with the proposed VOC limits, ERG used the average cost of $160 for a hand-held dryer.

In addition, other equipment needed to comply with the proposed VOC limits were new spray guns and spray gun cleaning kits. Prices for new spray guns ranged from $99 to $586, with an average price of $368; and prices for spray gun cleaning kits ranged from $11 to $31, with an average price of $21.

ERG assumes that a facility purchases one hand-held dryer, one spray gun, and one spray gun cleaning kit per spray booth. Therefore, the average equipment cost per facility to comply with the proposed amendments ranges from $550 for a facility with one spray booth to $2,200 for a facility with four spray booths[24].

Training Costs: According to CARB's Staff Report, there are non-recurring costs associated with the change from solvent-based to waterborne technology, including employee training and material loss. These non-recurring costs range from $3,500 to $6,500, depending on the size of the facility[25].

The proposed new VOC limits are not effective until six months after the date of adoption. This will allow facilities to use up existing coatings, minimizing any costs associated with material loss. Therefore, Staff assumes that there would no costs associated with material loss. However, Staff expects facilities to incur some costs to train their employees to use waterborne coatings.

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[23] **"**Staff Report for the Proposed Suggested Control Measure for Automotive Coatings" CARB, October 2005, p. C-3 – C-4.

[24] "Socioeconomic Impact Analysis for SMAQMD Rule 459 Amendments, Final Report" ERG, July 7, 2011, p. 4 – 5.

[25] **"**Staff Report for the Proposed Suggested Control Measure for Automotive Coatings" CARB, October 2005, p. C-3 – C-4.

Waterborne coatings are applied differently than solvent based coatings. As such, coating manufacturers offer training to facilities to demonstrate the proper application of waterborne coatings. Training is usually free and provided by the coating manufacturers as incentive for facilities to use their coating products. Manufacturers often provide on-site training to shops with sufficient volume in material purchases. For low-volume businesses, manufacturers provide off-site, one-day training. The training class may be offered for free or as much as $250 per person.

For the purpose of the analysis, ERG used a conservative assumption and assumed all training is done off site and costs $250 per person. ERG also assumed that the facility would send one employee per facility and incur the cost to pay the wages of the employee. The costs include 8 hours of training at $21.61 per hour or $172.88 per employee. ERG estimates the total training cost per facility to be approximately $423[26]. Larger facilities with more than one painter were assumed to train their "lead painter," who then trains other employees (no additional cost for other painters).

Combined One-time Costs: The one-time cost (including additional equipment and training for one person) to comply with the proposed amendments is presented in the following table.

Description	Spray Gun	Spray Gun Cleaning Kit	Hand-held Dryer	Training	Total
1 Spray Booth	$368	$21	$160	$423	$972
2 Spray Booths	$737	$42	$320	$423	$1,522
3 Spray Booths	$1,105	$63	$480	$423	$2,071
4 Spray Booths	$1,473	$85	$640	$423	$2,621

Coating Costs: Coating manufacturers have stated that it is very difficult to compare the cost between solvent based coatings and waterborne coatings. Factors that affect cost differences include the differences in coating mixing ratios and coating coverage rates. Some coating manufacturers have stated that waterborne coatings may be more expensive on a price per gallon basis but require less material for a coating job than solvent base coatings[27, 28].

According to CARB's Staff Report, CARB assumed that the increase in coating costs ranged from $378 per year to $2,367 per year, depending on the production of the autobody facility[29] .

Staff received coating cost data from four coating manufacturers for the coatings that comply with the current rule and the coatings that will comply with the proposed amendments. One coating manufacturer provided coating cost differences with adjustments to reflect the coverage rate showing an overall cost savings of 11% from waterborne coatings. The other three comparisons showed an increase in coating cost ranging from 6% to 12% that did not account for coating coverage. For the analysis, ERG assumed zero cost increase where there was a cost savings in order not to underestimate of the cost impacts to facilities affected by the proposed amendments. Therefore, recurring cost from increased coating cost may increase

[26] "Socioeconomic Impact Analysis for SMAQMD Rule 459 Amendments, Final Report" ERG, July 7, 2011, p. 4 – 5.
[27] E-mail correspondence with Michael A. Veney, Sherwin-Williams Automotive Finishes, June 3, 2011.
[28] E-mail correspondence with Emily Taylor, DuPont Performance Coatings, May 23, 2011.
[29] "Staff Report for the Proposed Suggested Control Measure for Automotive Coatings" CARB, October 2005, p. C-3 – C-4.

from 0% to 12%. This is equivalent to an increase in coating costs from $0 per gallon to $25.17 per gallon[30].

ERG used the coating usage records from 2009 or 2010 field inspection reports for permitted facilities that have not converted to waterborne coatings. Fifty-one permitted facilities had coating usage records, and the coating usage records ranged from 12 gallons per year to 1,596 gallons per year. ERG categorized all 71 permitted facilities that have not converted to waterborne coatings into six categories based on the facilities' revenue as listed on Dun & Bradstreet Million Dollar Database. ERG calculated the median annual coating usages from the permitted facilities for each facility revenue size. Where a permitted facility did not have annual coating usage records, ERG used the median annual coating usages determined for its corresponding facility size category as shown in the following table. For facilities that do not spray enough coatings to require a permit, ERG used the average of the lowest 10 percent of the coating usage data from the 51 permitted sources, 18.4 gallons per year[31], to estimate the coating usages for unpermitted facilities.

Facility	Facility Size (Revenues)	Annual Coating Usages (gallons/year)
Permitted	Unknown	108
	<$250,000	108
	$250,000 - $500,000	232
	$500,000 - $750,000	210
	$750,000 - $1,000,000	204
	> $1,000,000	388
Unpermitted	All	18.4

The total increase in coating cost ranges from $0 per year to $40,171 per year, depending on the production of the facility. However, if waterborne coatings have higher coating coverage, then the coating cost increases will be less than noted above.

Solvent Costs: Currently, Rule 459 requires that spray guns be cleaned with a solvent containing no more than 72 g/l VOC, or cleaned within an enclosed gun cleaner. ERG reviewed the changes in costs of surface preparation and cleaning of application equipment that might result from changing from 72 g/l VOC to 25 g/l VOC. ERG compared the prices for 72 g/l surface cleaners to cleaners that contain 25 g/l VOC or less. For all four manufacturers contacted, the cleaners meeting the 25 g/l limit were less expensive than the 72 g/l cleaners.

Typically, facilities that use solvent based coatings use high VOC solvents such as lacquer thinner to clean spray guns within an enclosed gun cleaner. Lacquer thinner can be purchased for approximately $15/gallon in 5-gallon containers[32] and $9/gallon in 55-gallon drums[33]. The cleaning solvent is recirculated within the system until it contains too much paint waste to be effective. At that point, the spent solvent is drained out and the gun cleaning system is refilled with fresh solvent. At the majority of shops, the spent solvent is put into a drum for disposal as

[30] "Socioeconomic Impact Analysis for SMAQMD Rule 459 Amendments, Final Report" ERG, July 7, 2011, p. 5 – 6.
[31] Ibid, p. 5 – 6.
[32] TrueValue, www.truevalue.com (accessed on 7/22/2011)
[33] The Nelson Paint Company, www.nelsonpaint.com/lacquer-thinner.html (accessed on 7/22/2011)

hazardous waste. Disposal costs approximately $2 to $3 per gallon[34]. Many shops contract with a service to maintain the gun cleaning systems and haul away hazardous waste. Some of the shops have solvent recycling systems, which allow recovery of a portion of the solvent from the paint solids by evaporation. With the recycling systems, there is a disposal cost associated with the paint solids, as well as a cost for fresh makeup solvent. However, the proposed VOC limit of 25 g/l would likely preclude the use of recycled solvent because an initially compliant solvent would gain VOC content from the coatings as they are cleaned from the spray guns. The material and disposal costs of discontinuing solvent recycling, however, may be offset by a decrease in the amount of cleanup material used to clean water based spray equipment, as discussed below.

In the proposed amendments, solvents used to clean application equipment must contain no more than 25 g/l VOC. For water based coatings, a spray gun can be cleaned primarily using only a few ounces of tap water (virtually no cost) followed by a final rinse with acetone from a squirt bottle. Acetone can be purchased for approximately $16/gallon in 5-gallon containers and $12/gallon in 55-gallon drums[35]. The spent cleaning solution is disposed as hazardous waste. Some shops may choose to use flocculants that settle and separate the paint solids so that the cleaning solution can be reused several times before disposal. Flocculants can be purchased for approximately $63 for a 2 kg container, which can treat 150 gallons of water[36].

In 2008, the Institute for Research and Technical Assistance (IRTA) conducted a study of cleaning solvents and other materials used in the autobody industry[37]. One case study involved a facility that had recently converted from solvent based coatings to water based coatings. Prior to conversion, the total annual cost for application equipment cleaning, including material and disposal costs, was $1,832. After conversion to water based coatings, the cost decreased to $407[38]. Most of the reduced cost was due to the fact that a much lower volume of cleaning material was required to be purchased and disposed during the cleanup of water based spray guns.

Based on the analysis above, ERG concluded that the proposed amendments would result in a cost savings for solvent cleaning and associated disposal, and therefore, included no cost impacts for solvent cost.

Cost Effectiveness

The one-time cost for a facility depends on the number of spray booths, and the annual cost is the increased coating cost based on the facilities' coating usages. ERG used the information from the District permits, inventory, and inspection reports to determine the number of spray booths and annual coating usages for each permitted facility. Where a permitted facility did not have annual coating usage records, ERG used the median annual coating usages determined for its corresponding facility size category. Unpermitted facilities were assumed to have a single spray booth, train one person to use waterborne coatings, and use 18.4 gallons per year. A

[34] "Safer Alternative Thinners, Cleanup Materials, Coatings and Sanding Methods in the Autobody Industry," Katy Wolfe, Institute for Research and Technical Assistance, May 2008.
[35] Wood Finisher Depot, http://woodfinishersdepot.com/solvents-additives-36/ (accessed on 7/22/2011)
[36] Restockit.com, www.restockit.com (accessed on 7/21/2011)
[37] "Safer Alternative Thinners, Cleanup Materials, Coatings and Sanding Methods in the Autobody Industry," Katy Wolfe, Institute for Research and Technical Assistance, May 2008.
[38] Ibid, p. 22.

total of 302 facilities will be impacted by the proposed amendments. Sixty-three facilities have already converted or partially converted to waterborne coatings. Partially converted facilities are those that have already installed the necessary equipment and are using waterborne color coating, but may not yet be using primers and/or clear coat that meet the proposed VOC limits. Three coating manufacturers provided price data for clear coats and primer sealer that comply with the proposed limits, as well as the coatings that meet the current VOC limits but not the proposed limits. For the clear coats, the costs ranged from an increase of 0.2% to a cost savings of nearly 15 percent. For the primer sealers, there was a cost savings for all three manufactures, ranging from 3% to 7%. Therefore, converted and partially converted facilities will not incur additional costs from the adoption of the amendments. The remaining 239 facilities will incur additional costs to convert their operations to comply with the proposed amendments. The following table summarizes the costs for the 239 facilities:

Facility Size (Revenues)	No. of Facilities	One-time Cost	Annual Cost	Annualized Cost*
Unknown	13	$11,640	$0 – $32,217	$1,656 – $36,133
<$250,000	161	$159,470	$0 – $127,701	$22,680 – $159,397
$250,000 - $500,000	32	$32,140	$0 – $71,281	$4,570 – $80,854
$500,000 - $750,000	12	$13,290	$0 – $53,803	$1,888 – $59,462
$750,000 - $1,000,000	7	$7,340	$0 – $42,990	$1,043 – $47,044
> $1,000,000	14	$16,330	$0 – $181,927	$2,324 – $196,987
Total	239	$240,210	$0 – $509,919	$34,161 – $579,877

*Annualized cost is the one-time cost annualized over 10 year equipment life and 7% interest rate plus the annual cost.

The total annualized cost is $34,161 to $579,877. Using the reductions achieved on implementation in 2012 (0.68 tons per day), the cost effectiveness of the rule amendments is $0.07 to $1.17 per pound of VOC reduced. In comparison, previously adopted District rules have cost effectiveness figures for VOC reductions, in 2010 dollars, ranging from $1.12 per pound of VOC reduced (for the 8/21/1990 adoption of Rule 452, Can Coating) to as much as $19.80 per pound of VOC reduced (for the 12/17/1991 adoption of Rule 449, Transfer of Gasoline into Vehicle Fuel Tanks).

INCREMENTAL COST EFFECTIVENESS

The District is required to identify one or more potential control options that achieve the emission reduction objective for the regulation[39].

[39] California Health and Safety Code, Section 40920.6.

The incremental cost effectiveness analysis performed for Rule 459 is based on the Discounted Cash Flow cost analysis method to the annualized costs of the proposed rule over a 10-year period (the assumed equipment lifetime), using a 7% interest rate.

The next most stringent alternative control option is to set limits achievable with add-on controls rather than the use of compliant, lower VOC coatings. The Best Available Control Technology for a spray booth is a control system that uses adsorption or catalytic incineration achieving an overall emission reduction of at least 85%. The capital cost to purchase and retrofit one spray booth with such a system, based on information from CAPCOA's 2003 Engineering Symposium, is estimated to be $178,000 in 2010 dollars. Annual maintenance and operational costs are assumed to be 10% of the capital cost, or $17,800. With the capital cost annualized at 7% interest over 10 years, the annual cost (capital plus operation and maintenance) to retrofit and operate a single booth is $43,100. The total annualized cost for all 376 spray booths in the District is estimated to be $16,205,600. With the use of the add-on control device with an assumed 85 percent control efficiency, the emission reduction for coatings for implementation year 2012 is approximately 258 tons per year. The overall emission reductions for using an add-on control device for coatings and compliant solvents is approximately 323 tons per year.

Another option is to require both the use of lower VOC coatings and add-on controls. The cost of this option is equal to the sum of the costs of the first two options, and would result in an overall reduction of 351 tons per year.

The cost effectiveness and incremental cost effectiveness of the three control options (2010 dollars) are shown in the following table.

Control Option	Annualized Cost ($/yr)	Annual Emission Reduction, 2012 Basis (tpy)	Cost Effectiveness ($/lb)	Incremental Cost Effectiveness ($/lb)
Compliant Material (Proposed)	$350,635 – $1,064,350	248	$0.07 – $1.17	--
Capture/Control System (Alternative 1)	$16,205,600	323	$25.07	$104.16 – $107.80
Compliant Material Plus Capture/Control System (Alternative 2)	$16,556,235 – $17,269,950	351	$23.16 – $23.94	$0.62 – $10.59*

* ICE of control alternative 2 compared to control alternative 1. The ICE of control alternative 2 compared to the proposed control is $79.14 per pound.

SOCIOECONOMIC IMPACT ANALYSIS

HSC Section 40728.5 requires a district to perform an assessment of the socioeconomic impacts before adopting, amending, or repealing a rule that will significantly affect air quality or

emission limitations. The District Board is required to actively consider the socioeconomic impacts of the proposal and make a good faith effort to minimize adverse socioeconomic impacts.

HSC Section 40728.5 defines "socioeconomic impact" as follows:

1. The type of industries or business, including small business, affected by the rule or regulations.
2. The impact of the proposed rule or regulations on employment and the economy of the region affected by the adoption of the rule or regulation.
3. The range of probable costs, including costs to industry or business, including small business, of the rule or regulation.
4. The availability and cost-effectiveness of alternatives to the rule or regulation being proposed or amended.
5. The emission reduction potential of the rule or regulation.
6. The necessity of adopting, amending, or repealing the rule or regulation to attain state and federal ambient air standards.

Type of industry or business, including small business, affected by the proposed rule: Rule 459 applies to manufacturers and sellers or distributors of automotive coatings and solvents and to any person/business that performs coating of motor vehicles, mobile equipment, or their associated parts or components. The proposed amendments have the potential to affect coating manufacturers, coating distributors, government entities that paint/repaint vehicles, educational institutions that teach vehicle painting, businesses that paint/repaint their own vehicles as a part of a larger business activities, businesses whose primary business is vehicle painting/repainting and consumers who need/want a vehicle painted/repainted. The majority businesses affected by this rule are the businesses whose primary business is vehicle painting/repainting, most of which are small businesses[40].

A review of District permit records shows there are approximately 134 permitted facilities. As of June 2010, 63 permitted facilities were identified as facilities that have converted or partially converted to waterborne coatings. Another 168 unpermitted sources were identified by Dun & Bradstreet Million Dollar Database that are also subject to Rule 459. Therefore, a total of 239 facilities automotive coating facilities will need to invest in waterborne technology to comply with the proposed amendments.

Impact on employment and economy in the District of the proposed rule: Based on 2007 U.S. Census data, there are an estimated 1,396 people employed in the automotive body, paint, and interior repair and maintenance industry and 1,365 people employed in general automotive repair industry in Sacramento County. General automotive repair facilities will experience minimal, if any, impacts because a very small part of their business involves automotive coatings. Businesses that produce air movement equipment for spray booths or provide consulting services to affected businesses may benefit from increased industry spending. There are no manufacturers of automotive coatings within the District.

CARB utilized the "return-on-owner's-equity" (ROE) method as an indicator of the SCM's potential impacts on business profitability, as documented in CARB's staff report. ROE is

[40] The U.S. Small Business Administration defines an autobody shop (NAICS Code 811121) as small business if it has less than $7 million in annual revenues.

calculated by dividing the net profit by the net worth. The adjusted cost was then subtracted from the net profit data. The results were used to calculate an adjusted three-year average ROE. The adjusted ROE was then compared with the ROE before the subtraction of the adjusted cost to determine the potential impact on the profitability of the businesses. CARB considers a reduction of more than 10 percent in ROE indicates a potential for significant adverse economic impacts. CARB estimated an average decline in businesses' ROE of about 0.07 percent for coating manufacturers, and about 15 percent for automotive coating facilities. Using CARB's impact criteria, automotive coating facilities would be adversely impacted by the SCM. Therefore, CARB expected that automotive coating facilities will pass on the some of the costs from the SCM to consumers rather than absorbing all of the cost impacts on their profitability. If entire costs of the SCM were passed on to consumers, the average price for a repair or refinish would increase by $11, which represents an increase in cost of about 0.5 percent for a typical repair of $2,200. Because the price increase is small, the cost is expected to be passed to consumers. CARB concluded that the requirements of the SCM will have minimal impact on employment[41].

ERG's socioeconomic report (Appendix E) also concluded that coating manufacturers and distributors will pass through all increased costs to the automotive coating facilities, and will not be impacted by the proposed amendments. If the automotive coating facilities absorbed all costs to comply with the proposed amendments, ERG estimated a decline in profitability ranging from 0.3 percent to 5.7 percent. This change in ROE is less than CARB's criteria for being a significant adverse impact.

For automotive coating facilities whose primary business is vehicle painting/repainting, ERG believes that the automotive coating facilities may be able to pass some of the additional costs to consumers or their insurance companies. The insurance companies, in turn, distribute the costs among insurance policy holders. Facilities will not be able to pass the cost to an insurance company that reimburses on a fixed fee schedule, unless the insurance company adjusts the fee schedule to account for the additional increased coating cost from the proposed amendments. The fee adjustment may be done after the rule has been adopted and the limits are effective. If the entire costs (assuming only the high end of the cost) of the proposed rule were passed on to consumers, the average price increases ranges from $4.72 for a mid-sized car to $25.17 for a large vehicle, which represents an price increase of 0.21 percent to 1.1 percent for an average repair price of $2,295.

Furthermore, ERG calculated the impact on employment using the Regional Input-Output Modeling System (RIMS II) developed by the U.S. Commerce Department, Bureau of Economic Analysis. ERG estimated that with the added costs to the facilities, it will result in losing 0 to 6 jobs in Sacramento County if all costs were absorbed by the coating facilities[42].

Range of probable costs, including costs to industry or business, including small business of the proposed rule: As discussed in the Cost Impact section for Rule 459, capital and training costs range from $972 for a small refinishing facility with one spray booth to $2,621 for a large facility with four spray booths. Annual increased coating costs range from $0 per year to $40,171 per

[41] "Staff Report for the Proposed Suggested Control Measure for Automotive Coatings" CARB, October 2005, p. VII-1 – VII-11.
[42] "Socioeconomic Impact Analysis for SMAQMD Rule 459 Amendments, Final Report" ERG, July 7, 2011, p. 13 – 19.

year, depending on the coverage rate of the coatings and the production of the facility. Some of these costs may be passed on to consumers.

Availability and cost effectiveness of alternatives to the proposed rule: An alternative to the proposed amendments to the rule is to not adopt them. If the proposed amendments to Rule 459 are not adopted, the District will not fulfill the federal RACT requirements and the commitment in the Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan[43]. The proposed standards for Rule 459 have been implemented in other air districts in California. The proposed changes provide substantial, cost effective emission benefits.

As discussed in the Incremental Cost-Effectiveness section, two alternative control options to the proposed Rule 459 were analyzed. This first alternative would reduce VOC emissions by an estimated 323 tons per year at an overall cost effectiveness of $25.07/lb. The incremental cost effectiveness for the additional 75 tons per year of VOC emissions that would be reduced ranges from $104.16/lb to $107.80/lb. The second alternative would reduce VOC emissions by an estimated 351 tons per year at an overall cost effectiveness ranging from $23.16/lb to $23.94/lb. The incremental cost effectiveness for the additional 28 tons per year of VOC emissions that would be reduced compared to the first alternative ranges from $0.62/lb to $10.59/lb. Compared to the proposed option, the second alternative achieves an additional 103 tons per year of VOC emission reduction at an incremental cost effectiveness of $79.14/lb.

In conclusion, the alternatives are not recommended at this time because 1) the alternatives do not fulfill the purpose of these amendments to meet state and federal laws and regulations, and 2) the additional alternatives to Rule 459 are significantly higher in cost than the proposed amendments.

Emission reduction potential of the proposed rule: The proposed amendments to Rule 459 are estimated to achieve emission reductions of 190 tons of VOC per year from the use of coatings in 2018, the attainment year. Another 66 tons per year are expected to be reduced from the use of solvents, for a total reduction in VOC emissions of 256 tons per year (see discussion under Emissions Impact).

Necessity of adopting the rule: Staff finds that the proposed amendments to Rule 459 are necessary to meet the requirements of the Health and Safety Code for "all feasible measures"[44] and BARCT[45] and to satisfy a District control measure commitment in the federal 8-hour ozone attainment demonstration plan. In addition, the proposed amendments to Rule 459 are necessary to satisfy the requirements of Section 182(b)(2) of the federal Clean Air Act, which requires the District adopt RACT for CTG source categories[46].

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43 "Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan", March 26, 2009, Appendix C, p. C-93 – C-95.
44 Health and Safety Code Section 40914(b)(2).
45 Health and Safety Code Section 40919.
46 "Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings," EPA-453/R-08-003, September 2008.

PUBLIC COMMENTS

Staff held a public workshop to discuss the proposed amendments on September 16, 2010. A public notice for the workshop was mailed to interested and potentially affected parties, including all permitted stationary sources (except for gas stations and dry cleaners), industry associations, coating manufacturers and suppliers, and all persons who have requested to receive rulemaking notices. The notice was also published in the "Our Region" section of the Sacramento Bee and posted on the District web site. The draft rule and staff report were available for public review prior to the public workshop.

Staff received comments and questions concerning Rule 459 at the workshop, as well as written comments from coating manufacturers and distributors. CARB and EPA reviewed the proposed amendments. CARB responded with a no comment letter. EPA had one comment, which asked the District to include the full title and date of the ASTM test method referenced in the proposed rule. All comments and responses are included in Appendix F.

ENVIRONMENTAL REVIEW AND COMPLIANCE

California Public Resources Code Section 21159 requires an environmental analysis of the reasonably foreseeable methods of compliance. Compliance with the proposed VOC standard for coatings in Rule 459 is expected to be achieved by replacement of currently used coatings with compliant products, including the use of waterborne color coatings and by installation of new heating and air movement equipment or the use of low VOC solvent borne coating products. In the Final Environmental Impact Report (EIR) for the Sacramento Regional Non-Attainment Area 8-Hour Ozone Attainment and Reasonable Further Progress Plan, the report concluded that future compliant coatings will contain less hazardous materials, or nonhazardous materials, as compared to conventional coatings, resulting in a net benefit regarding hazards. The impacts from hazardous materials are expected to be less than significant[47]. For the purpose of complying with the proposed coating standards, TBAc is proposed to be exempted as a VOC when contained in coatings that are applied only within a spray booth. This exemption may increase the use of coatings containing TBAc. CARB has determined that the increased use of TBAc is not expected to contribute to the formation of ozone or contribute to global warming. CARB also concluded that TBAc could pose a potential cancer risk to humans because TBAc metabolizes to t-butyl alcohol (TBA), a potential carcinogen[48]. To ensure the use of TBAc does not adversely impact human health, Staff performed an HRA and determined that the largest permitted automotive coating facility in the District is not likely to cause an adverse impact to nearby receptor if the coatings containing TBAc are applied only within a spray booth. Rule 459 does not exempt TBAc as a VOC when applied outside of a spray booth or when used as or part of a cleaning solvent.

Compliance with the proposed VOC limit for cleaning materials is expected to be achieved by the replacement of current cleaning solvents with compliant products, which may contain higher levels of exempt compounds. Some replacement compounds, such as acetone, may have

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[47] "Final Environmental Impact Report (EIR), Sacramento Regional Non-attainment Area 8-Hour Ozone Attainment and Reasonable Further Progress Plan" Sacramento Metropolitan Air Quality Management District, December 2008, p. 3-41 – 3-53.

[48] "Environmental Impact Assessment of Tertiary-Butyl Acetate" CARB, January 2006, p.13 – 16, 19 – 25.

greater flammability and lower flash points than currently used materials. These potential impacts were also analyzed in the EIR for the 8-hour ozone plan and found to be less than significant.

In addition, compliance with the proposed VOC limit for cleaning materials will eliminate the use of solvent recycling systems, although ERG concluded that most facilities would switch from solvent cleaners to water based cleaners, reducing disposal. If there were an increase in the disposal of spent solvent, this disposal is governed by state and federal regulations to ensure that toxic waste is not released into the environment.

Staff finds that the proposed rule is exempt from the California Environmental Quality Act as an action by a regulatory agency for protection of the environment[49] and because it can be seen with certainty that there is no possibility that the activity in question may have a significant adverse effect on the environment[50].

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[49] State CEQA Guidelines, Section 15308, Class 8 Categorical Exemption.
[50] State CEQA Guidelines, Section 15061(b)(3).

REQUIRED FINDINGS

The California Health and Safety Code (HSC), Division 26, Air Resources, requires local districts to comply with a rule adoption protocol as set forth in Section 40727 of the Code. This section contains six findings that the District must make when adopting, amending, or repealing a rule. The findings for the rule and their statutory definitions are listed in the following table.

Findings Required	Findings
Authority: The District must find that a provision of law or of a state or federal regulation permits or requires the District to adopt, amend, or repeal the rule.	The District is authorized to amend Rule 459 by California Health and Safety Code (HSC) Sections 40001, 40702, and 41010. [HSC Section 40727(b)(2)].
Necessity: The District must find that the rulemaking demonstrates a need exists for the rule, or for its amendment or repeal.	It is necessary to adopt the proposed amendments to Rule 459 to comply with the Reasonably Available Control Technology requirements of the federal Clean Air Act Sections 172(c)(1) and 182(b)(2)(A), and BARCT requirements of HSC Section 40919(a)(3). In addition, the VOC emission reductions from the proposed amendments to Rule 459 are necessary to meet the control measure commitment in the 2009 Triennial Report and Plan update and the Sacramento Regional 8-hour Ozone and Reasonable Further Progress Plan, submitted pursuant to 40 CFR 51.908 and Section 182(c)(2)(A) of the federal Clean Air Act. [HSC Section 40727(b)(1)].
Clarity: The District must find that the rule is written or displayed so that its meaning can be easily understood by the persons directly affected by it.	Staff has reviewed the proposed amendments to the rule and determined that it can be understood by the affected parties. In addition, the record contains no evidence that people directly affected by the rule cannot understand the rule. [HSC Section 40727(b)(3)].
Consistency: The rule is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.	The proposed amendments to the rule does not conflict with, and is not contradictory to, existing statutes, court decisions, or state or federal regulations. [HSC Section 40727(b)(4)].
Non-Duplication: The District must find that either: 1) The rule does not impose the same requirements as an existing state or federal regulation; or (2) that the duplicative requirements are necessary or proper to execute the powers and duties granted to, and imposed upon the District.	The proposed amendments to the rule do not duplicate any existing state or federal regulations. [HSC Section 40727(b)(5)].
Reference: The District must refer to any statute, court decision, or other provision of law that the District implements, interprets, or makes specific by adopting, amending or repealing the rule.	In adopting the proposed amendments to the rule, the District is implementing the requirements of 40 CFR 51.908, Section 182(c)(2)(A) of the federal Clean Air Act and HSC Sections 40919(a)(3). [HSC Section 40727(b)(6)].
Additional Informational Requirements: In complying with HSC Section 40727.2, the District must identify all federal requirements and District rules that apply to the same equipment or source type as the proposed rule or amendments.	Appendix B includes a comparison with federal requirements. [HSC Section 40727.2].

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17. South Coast Air Quality Management District, Final Staff Report for: Proposed Amended Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations. December, 2005.

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20. U.S. Environmental Protection Agency. Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings. (EPA-453/R-08-006), September 2008.

21. U.S. Environmental Protection Agency. Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings. (EPA-453/R-08-003), September, 2008.

22. U.S. Environmental Protection Agency. Guidance Document for Correcting Common VOC & Other Rule Deficiencies, Amended August 21, 2001.

23. U.S Environmental Protection Agency. Revision to Definition of Volatile Organic Compounds – Exclusion of t-Butyl Acetate. 69FR69298, November 29, 2004.

24. U.S. Environmental Protection Agency 40 CFR Part 59, Subpart B: National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings

APPENDIX A

40727.2 Matrix for Proposed Amendments to Rule 459 Automotive, Mobile Equipment and Associated Parts and Components Coating Operations

Comparative Requirements				
Elements of Comparison	**Proposed Rule 459**	**Best Available Control Technology (BACT)**	**National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings** **40 CFR Part 59, Subpart B**	**NESHAP: Paint Stripping and Miscellaneous Surface Coating at Area Sources** **40 CFR Part 63, Subpart HHHHHH**
Applicability	The provisions of this rule shall apply to any person who supplies, sells, offers for sale, manufactures, or distributes any automotive coating or associated solvent for use within the District, as well as any person who uses, applies, or solicits the use or application of any automotive coating or associated solvent within the District.	SCM Considered BACT	Automobile refinish coatings and coating components that are manufactured for sale or distribution in the US.	Perform paint stripping using methylene chloride (MeCl) for the removal of dried paint from wood, metal, plastic, and other substrates. Perform spray application of coatings to motor vehicles and mobile equipment containing the target HAP (Cr, Pb, Mn, Ni, and Cd).
Exemptions	Aerosol containers; OEM Assembly Lines; touch-up coatings; use outside the District; Application methods for the following: underbody coatings, truck bed liner coatings, graphic arts, or coating less than one fluid ounce.	Aerosol containers; OEM Assembly Lines; touch-up coatings; use outside the District; Application Methods for the following: underbody coatings, truck bed liner coatings, graphic arts, or coating less than one fluid ounce.	Aerosol, lacquer topcoats or their components, or touch-up coatings. Coatings or coating components manufactured before the compliance date of the rule Original Equipment Manufacturing For sale outside the U.S.	Surface coating or paint stripping performed: on site at installations owned or operated by the Armed Forces of the US, NASA, or NNSA; military munitions; performed by individuals on their personal vehicles & possessions; research and laboratory activities; quality control activities; covered by another NESHAP.
VOC Content Standards for Automotive Refinish Coatings	Adhesion Promoter 540 g/l	Same as proposed rule	Specialty Coatings 840 g/l	
	Clear Coating 250 g/l	Same as proposed rule	2-Stage Topcoats 600 g/l Topcoats of 3 or more stages 630 g/l	
	Color Coating 420 g/l	Same as proposed	Multi-colored Topcoats 680 g/l	

Comparative Requirements				
Elements of Comparison	**Proposed Rule 459**	**Best Available Control Technology (BACT)**	**National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings** **40 CFR Part 59, Subpart B**	**NESHAP: Paint Stripping and Miscellaneous Surface Coating at Area Sources** **40 CFR Part 63, Subpart HHHHHH**
		rule	Single/2-Stage Topcoats 600 g/l Topcoats of 3 or more stages 630 g/l	
	Multi-Color Coating 520 or 680 g/l	Same as proposed rule	Multi-colored Topcoats 680 g/l	
	Pretreatment Coating 660 g/l	Same as proposed rule	Pretreatment Wash Primer 780 g/l	
	Primer/Primer Sealer 250 g/l	Same as proposed rule	Primer/Primer Surfacer 580 g/l Primer Sealer 550 g/l	
	Single Stage Coating 340 g/l	Same as proposed rule	Single Topcoats 600 g/l	
	Temporary Protective Coating 60 g/l	Same as proposed rule	N/A	
	Truck Bed Liner Coating 200 g/l	Same as proposed rule	Specialty Coatings 840 g/l	
	Underbody Coating 430 g/l	Same as proposed rule	Specialty Coatings 840 g/l	
	Uniform Finish Coating 540 g/l	Same as proposed rule	Specialty Coatings 840 g/l	
	Any Other Coating Type 250 g/l	Same as proposed rule	Specialty Coatings 840 g/l	
Application Methods	HVLP Electrostatic application equipment Brush/roll coating, dip coat, or flow coat LVLP Any alternative method that achieves a transfer efficiency equivalent to, or higher than the above listed application methods.	HVLP Brush, dip or roller Electrostatic spray Any alternative method that achieves a transfer efficiency equivalent to, or higher than the above listed application methods		HVLP Electrostatic application Airless spray gun Air-assisted airless spray gun Or equivalent technology demonstrated to achieve transfer efficiency comparable to one of the above listed spray gun technologies

Comparative Requirements				
Elements of Comparison	**Proposed Rule 459**	**Best Available Control Technology (BACT)**	**National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings** **40 CFR Part 59, Subpart B**	**NESHAP: Paint Stripping and Miscellaneous Surface Coating at Area Sources** **40 CFR Part 63, Subpart HHHHHH**
Work Practice Requirements	Solvents less than 25 g/l VOC; coatings and solvents stored in closed, vapor-tight containers; waste stored in closed, vapor-tight containers; bug and tar removal with a regulated consumer product	Solvents less than 25 g/l VOC; coatings and solvents stored in closed, vapor-tight containers; waste stored in closed, vapor-tight containers; spray gun cleaning inside a closed system		Practices require minimizing evaporative emissions of MeCl-containing solvents. Each motor vehicle and mobile equipment surface coating operation are required to certify all painters have completed training; all coatings must be applied in a spray booth, prep station or mobile enclosure with mandatory filter technology demonstrated to achieve at least 98% capture of paint overspray. Booths/prep stations have requirements for amount of closure.
Monitoring/ Testing	Test methods specified in Section 504 of rule	Same as proposed rule	No performance testing is required.	No performance testing is required.
Monitoring/ Recordkeeping	Vendors, repackagers, and manufacturers: Labels with applicable use category and VOC content; Product data sheets for each coating, coating component, or ready to spray mixture; Records of noncompliant materials sold to sources outside the District or to sources with emissions control equipment; End users: List of materials; product data sheets for each material, usage records required for end users detailing coatings and solvents used; usage and purchase records.; records to demonstrate continuous compliance if emissions	Same as proposed rule	Each container must be labeled with day, month and year on which the product was manufactured.	For the paint stripping operations, records of paint strippers containing MeCl, record of current MeCl minimization plan on site for the paint stripping operation if the operations uses more than one ton of MeCl, records of any deviation from the requirements in the general provisions, general requirements and notification sections, and record of any assessment of source compliance.

Comparative Requirements				
Elements of Comparison	**Proposed Rule 459**	**Best Available Control Technology (BACT)**	**National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings** **40 CFR Part 59, Subpart B**	**NESHAP: Paint Stripping and Miscellaneous Surface Coating at Area Sources** **40 CFR Part 63, Subpart HHHHHH**
	control equipment is used.			For the motor vehicle and mobile surface coating operation, certification for each painter who has completed the required training, documentation of filter efficiency, documentation from the spray gun manufacturer that shows the spray gun is equivalent in transfer efficiency equivalent to that of an HVLP spray gun, copies of any required notifications, and records of any deviation from the requirements in the general provisions, general requirements and notification sections. Records are required to be maintained for at least five years after the date of each record.

APPENDIX B
LIST OF CHANGES TO RULE

Rule 459, Automotive, Mobile Equipment and Associated Parts and Components Coating Operations

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
N/A	N/A	Title changed from "Automotive, Truck and Heavy Equipment Refinishing Operations" to "Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations."
101	Same	Revised purpose consistent with the SCM.
102	Same	Amended applicability language of the rule to apply to automotive coatings or associated solvents, consistent with the SCM and current rule applicability.
110	Same	Added sunset date, six months after date of adoption, for exemption for restoration of special interest vehicles and street rod vehicles. The SCM does not contain such an exemption, nor do any other California district rules. This exemption will be removed from the rule when the rule is republished.
111	Same	Revised exemption for aerosol coating products, consistent with the SCM.
112	N/A	Added exemption from the application method requirements when applying underbody coatings, truck bed liners, coatings under one fluid ounce, or graphic arts operations, consistent with the SCM.
113	N/A	Added an exemption for an assembly line at original equipment manufacturing plant, consistent with the intent of the SCM while maintaining applicability of current rule language.
N/A	112	Eliminated exemption for "stencil coatings." Exemption from application method requirements still included under new Section 112.
114	113	Added sunset date, six months after date of adoption for the exemption for "radiators, drive train, differential, and engine components." These parts will be subject to Rule 459 as associated parts and components, consistent with the SCM. This exemption will be removed from the rule when the rule is republished.
N/A	114	Eliminated exemption for "recordkeeping requirements." No longer applicable because current Section 501 is being deleted.
115	Same	Decreased the allowable container volume for exempt touch-up coating from two ounces to one-half ounce, consistent with the SCM. This change will be effective six months after the date of adoption.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
116	N/A	Added an exemption for application of materials for vehicles for sources with actual emissions from specific coatings and coating operations less than 2.7 tons of VOC per 12-month rolling period, consistent with the 2008 CTG (EPA-453/R-08-003) that includes motor vehicle materials in Section 303. Facilities who uses this exemption is required to substantiate with usage or purchase records that the actual emissions from the specific coatings and coating operations are less than 2.7 tons per 12-month rolling period. This section references Rule 468, which has not been adopted. Definitions were added in order to clearly define the coating operations for miscellaneous plastic parts and products, transportation and business machine plastic part, and pleasure craft. These definitions are effective prior to the adoption of Rule 468. Upon adoption of Rule 468, these definitions will no longer apply and will sunset.
117	116	Section renumbered.
201.1	201	Added sunset date to existing definition of “adhesion promoter.”
201.2	N/A	Added new definition of “adhesion promoter,” consistent with the SCM, effective six months after the date of adoption.
202	Same	Revised definition of “aerosol coating product,” consistent with the SCM while maintaining applicability to current rule language.
203	Same	Added language to sunset this definition on (six months after date of adoption). It will no longer be in the specialty category, consistent with the SCM. This definition will be removed from the rule when the rule is republished.
205	N/A	Added definition of “assembly line,” consistent with the SCM.
206	N/A	Added definition of “associated parts and components,” consistent with the SCM.
207	N/A	Added definition of “automotive coating,” consistent with the SCM.
208	N/A	Added definition of “automotive coating component,” consistent with the SCM.
209	N/A	Added definition of “automotive coating facility,” consistent with the SCM.
210-211	205-206	Added language to sunset these definitions on (six months after date of adoption) and sections renumbered. Definitions no longer used, consistent with the SCM. These definitions will be removed from the rule when the rule is republished.
212	N/A	Added definition of “business machine plastic part,” consistent with the CTG.
213-214	206-207	Added language to sunset these definitions on (six months after date of adoption) and sections renumbered. Definitions no longer used, consistent with the SCM.
215	N/A	Added definition of “cavity wax” consistent with the CTG.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
216	209	Revised the term “cleanup operations” to “cleaning operations,” and revised definition consistent with the SCM while maintaining applicability to current rule language.
217	210	Revised the term “clear coat” to “clear coating,” and revised definition consistent with the SCM while maintaining applicability to current rule language.
218	211	Section renumbered.
219	212	Revised definition of “coating,” consistent with the SCM while maintaining applicability to current rule language.
N/A	213	Eliminated “coating component” definition. Definition no longer used, consistent with the SCM. Will be covered by the new term “automotive coating component.”
220	214	Replaced the phrase “surface preparation material or cleanup material” with “solvent” to be consistent with the SCM while maintaining applicability to current rule language. Added language to clarify that material used to clean application equipment is a solvent, not a coating remover.
221	N/A	Added definition of “color coating,” consistent with the SCM.
222	215	Added language to sunset this definition on (six months after date of adoption) and sections renumbered. Definition no longer used, consistent with the SCM. This definition will be removed from the rule when the rule is republished.
223	N/A	Added definition of “deadener” consistent with the CTG.
224-225	216-217	Added language to sunset these definitions on (six months after date of adoption) and sections renumbered. Definitions no longer used, consistent with the SCM. These definitions will be removed from the rule when the rule is republished.
226	218	Revised definition of “electrostatic spray application,” consistent with the SCM while maintaining applicability to current rule language.
227	N/A	Added definition of “emission control system,” consistent with the SCM.
228	219	Section renumbered and changed the term “cleanup material” to “solvent.” Added language to sunset this definition on (six months after date of adoption). Definition no longer used, consistent with the SCM. This definition will be removed from the rule when the rule is republished.
229	220	Removed the terms “surface preparation material” and “cleanup material” and replaced with the term “solvent” consistent with the SCM and section renumbered.
230	221	Section renumbered.
N/A	222	Eliminated “finishing” definition. Definition no longer used, consistent with the SCM.
231	N/A	Added definition of “gasket/gasket sealing material” consistent with the CTG.
232	N/A	Added definition of “graphic arts operation,” consistent with the SCM.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
233-236	223-226	Added language to sunset these definitions on (six months after date of adoption) and sections renumbered. Definitions no longer used, consistent with the SCM.
N/A	227	Eliminated "high solids coating" definition. Definition no longer used, consistent with the SCM.
237	228	Revised definition of "high volume low pressure," consistent with the SCM while maintaining applicability to current rule language.
238-239	229-230	Added language to sunset these definitions on (six months after date of adoption) and sections renumbered. Definitions no longer used, consistent with the SCM. These definitions will be removed from the rule when the rule is republished.
240	231	Section renumbered.
241	N/A	Added definition of "lubricating wax/compound," consistent with the CTG.
242	232	Revised the term "metallic/iridescent topcoat" to "metallic/iridescent color coating," consistent with the SCM.
243-244	233-234	Added language to sunset these definitions on (six months after date of adoption) and sections renumbered. Definitions no longer used, consistent with the SCM.
245	N/A	Added definition of "miscellaneous plastic parts and products," derived from the discussion in the CTG.
246	235	Revised definition of "mobile equipment," consistent with the SCM while maintaining applicability to current rule language.
247	N/A	Added definition of "motor vehicle," consistent with the SCM.
248	N/A	Added definition of "multi-color coating," consistent with the SCM.
249	236	Added language to sunset this definition on (six months after date of adoption) and section renumbered. Definition no longer used, consistent with the SCM.
250	N/A	Added definition of "original equipment manufacturing plant" to clarify the assembly line exemption.
251	N/A	Added definition of "permanently labeled" consistent with SJVAPCD Rule 4612.
252	N/A	Added definition of "pleasure craft" consistent with the CTG.
253	237	Added language to sunset this definition on (six months after date of adoption) and section renumbered. Definition no longer used, consistent with the SCM.
254	238	Revised the term "pretreatment wash primer" to "pretreatment coating", and revised definition consistent with the SCM while maintaining applicability to current rule language.
255	239	Revised definition of "primer," consistent with the SCM while maintaining applicability to current rule language.
256	240	Revised definition of "primer sealer," consistent with the SCM while maintaining applicability to current rule language.
N/A	241-243	Eliminated unused definitions.
257	N/A	Added definition of "single-stage coating," consistent with the SCM.
258	N/A	Added definition of "solvent," consistent with the SCM.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
259	244	Added language to sunset the definition on (six months after date of adoption), section renumbered and updated references to changed section numbers. This definition will be removed from the rule when the rule is republished.
260	N/A	Added definition of "spot repair," consistent with the SCM.
261	N/A	Added definition of "spray booth" derived from the parameters used for the health risk assessment.
262	245	Section renumbered.
N/A	246	Eliminated "stencil coating" definition. Now included under "graphic arts."
263	247	Added language to sunset the definition on (six months after date of adoption), and section renumbered. Definition no longer used, consistent with the SCM. This definition will be removed from the rule when the rule is republished.
264	248	Revised definition of "temporary protective coating," consistent with the SCM. Effective six months after the date of adoption, labeling is required consistent with the SCM.
265	249	Added language to sunset the definition on (six months after date of adoption) and section renumbered. Definition no longer used, consistent with the SCM.
266	N/A	Added definition of "transfer efficiency," consistent with the SCM.
267	N/A	Added definition of "transportation plastic part," consistent with requirements of the CTG. The CTG does not applied to coating operations subject to the National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings or the CTG for Automobile and Light-Duty Truck Assembly Coatings.
268	N/A	Added definition of "truck bed liner coating," consistent with the SCM.
269	N/A	Added definition of "underbody coating," consistent with the SCM.
270	250	Revised the term "uniform finish blenders" to "uniform finish coating," and revised definition consistent with the SCM while maintaining applicability to current rule language.
271	251	Added language to sunset the definition on (six months after date of adoption) and section renumbered. Definition no longer used, consistent with the SCM. This definition will be removed from the rule when the rule is republished.
272	252	Revised term "refinishing" to "coating".
273	253	Added language to exclude tertiary butyl acetate as a VOC for the purposes of this rule when contained in an automotive coating or automotive coating component that is applied only within a spray booth.
274	254	Revised references to changed section numbers.
275	255	Added language to sunset the definition (six months after date of adoption), and section renumbered. Definition no longer used, consistent with the SCM. This definition will be removed from the rule when the rule is republished.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
301.1	Same	Added sunset date for current VOC limits. Removed limits with expired effective dates. Updated references to changed section numbers. This section will be removed from the rule when the rule is republished.
301.2	Same	Added sunset date for current VOC limits. Removed limits with expired effective dates. Updated references to changed section numbers. This section will be removed from the rule when the rule is republished.
301.3	Same	Added sunset date for this section. This section won't be necessary because there will no longer be a distinction between Group I and Group II vehicles after the sunset date. This section will be removed from the rule when the rule is republished.
302	N/A	Added section with the new requirements for all motor vehicles and mobile equipment, their parts or associated components. These VOC limits for coatings are consistent with the most stringent limit from the SCM or the CTG and will take effect 6 months after the date of adoption.
303	N/A	Added section with the new requirements for gasket/gasket sealing material, cavity wax, deadener, and lubricating wax/compound. The VOC limits for these materials are consistent with the CTG (EPA-453/R-08-003) and will take effect 6 months after the date of adoption.
304	N/A	Added requirement that the most restrictive VOC limit shall apply to any coating that is represented or recommended for more than one category. This requirement applies to both Sections 301 and 302. For Section 301, this requirement would ensure that coatings with multiple uses are subject to the most restrictive VOC limit, which is consistent with Staff's implementation of the current rule. This requirement for Section 302 is consistent with the SCM.
305	302	Revised to allow emission control equipment to be used in lieu of the new VOC limits for coatings materials. Added language that control equipment must be maintained and used at all times in proper working condition.
306.1	303.1	Added additional options for application equipment, consistent with the SCM and SJVAPCD Rule 4612. Application must be electrostatic, brush, roll, dip, flow, HVLP, LVLP, or demonstrate a minimum transfer efficiency of greater than or equal to HVLP.
306.1.b.1-306.1.b.2	N/A	Added section that required HVLP spray gun to be permanently labeled. If not, then the end user must demonstrate the spray gun meets the definition of HVLP in design and use. This section is consistent with SJVAPCD Rule 4612.
306.1.e	Same	Revised requirement for alternative application methods consistent with the SCM.
N/A	303.2-303.3	Deleted these sections, which became unnecessary as of 1/1/98.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
307	304	Revised prohibition consistent with the SCM and updated terms and removed references to Group I and Group II vehicles.
308	305	Added "or manufacture" to reflect revised prohibition of sale or manufacture.
308.1	305	Added manufacture, blend, repackage for sale, and distribute within the District to the list of prohibitions, consistent with the SCM.
308.2	N/A	Added new paragraph, to state exceptions for use outside the District or with an emissions control system, consistent with the SCM.
309	306	Added new paragraph, effective (six months after date of adoption), to prohibit the possession of surface preparation and cleaning operations materials that do not comply with the VOC limits for such material. This section does not apply to a facility when a facility uses emission control equipment that meets the requirement in Section 305. This is consistent with the SCM. Also updated to reflect new section numbers containing coating VOC limits.
310-310.1	307-307.1	Removed terms "surface preparation" and "cleanup" and replaced with "solvent" and "cleaning operations," consistent with SCM and sections renumbered.
310.2	307.2	Added "vapor-tight" requirement except while "adding to or removing them from the containers," consistent with the SCM.
310.3	307.3	Added sunset date of (six months after date of adoption) for existing requirements for cleanup of application equipment. This section will be removed from the rule when the rule is republished.
310.4	N/A	Added new requirement to use materials containing no greater than 25 g/l of VOC for the cleanup of application equipment. This requirement is effective (six months after date of adoption), and is consistent with the SCM.
310.5	307.4	Added sunset date of (six months after date of adoption) for existing requirements for surface preparation. The 780 g/l limit for hand-held spray bottles used for removing road tar, engine oil, grease, overspray, or adhesives or used to clean plastic parts will no longer apply. This section will be removed from the rule when the rule is republished.
310.6	307.5	Added sunset date of (six months after date of adoption) for the provision that allows the soaking of spray gun nozzles in solvents without a limit on VOC content. This practice is not allowed under the SCM or under the solvent cleaning requirements of SCAQMD Rule 1171. This section will be removed from the rule when the rule is republished.
310.7	N/A	Added new requirement that for bug and tar removal (effective six months after date of adoption). Only bug and tar removers regulated under California Consumer Products Regulation or materials containing no more than 25 g/l VOC may be used. Consistent with SJVAPCD Rule 4612.
311	308	Section renumbered.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
312	309	Added sunset date for the limitation on specialty coatings, which will no longer be applicable when new categories and VOC limits take effect. This section will be removed from the rule when the rule is republished.
313	310	Added sunset date for the limitation on precoats, which will no longer be applicable when new categories and VOC limits take effect. This section will be removed from the rule when the rule is republished.
401	Same	Added sunset date for the current product information sheet requirements section. Replaced "cleanup material(s)" with "solvent(s)". Clarified the VOC content, including water and exempt compounds, of temporary protective coatings and all other materials to be also displayed for direct comparison to the limit in Section 301. Section references revised. This section will be removed from the rule when the rule is republished.
402	N/A	Added section for product data sheet requirements, consistent with the SCM, effective six months after date of adoption.
403	N/A	Added section on labeling requirements, consistent with the SCM.
404-405	402-403	Revised section references and section renumbered.
406	N/A	Added compliance schedule to comply with the proposed new limits. This section will be removed from the rule when the rule is republished. For existing operations, the facility is required to meet the proposed new limits six months after the date of adoption. For new operations installed after the adoption of the rule, the facility is required to meet the proposed new limits immediately. For existing facilities that modifies their operation after the adoption, these facilities will be subject to Rule 202, New Source Review. Staff expects EPA to approve the latest version of Rule 202, which sets the Best Available Control Technology (BACT) threshold at zero. As a result, any modified facility with increased emissions will have to apply BACT. BACT for an automotive coating facility is to comply with the proposed new VOC limits.
407	404	Revised the reference to the test method for determining the VOC mass concentration.
408	405	Section renumbered.
409	406	Revised definition to be aligned with VOC Regulatory consistent with the SCM and updated to reflect changed section numbers. Corrected error in description of Wv.
410	N/A	Added section to determine VOC Actual, consistent with the SCM.
411	407	Updated to reflect the changed definition of "cleanup" to "cleanup operations" and updated to reflect changed section numbers. Corrected error in description of Wv.
501	Same	Eliminated the existing sales record requirements. Added requirements for recordkeeping for prohibition of sale or manufacture, consistent with the SCM.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
502	Same	Revised language that records must be presented immediately on request.
502.1	Same	Updated to reflect new and changed section numbers, updated to reflect changed definitions and added a sunset date for this section.
502.2	N/A	Added section specifying information to be kept for each material, consistent with the SCM.
502.3	502.2	Updated to reflect new and changed section numbers, updated to reflect changed definitions and added a sunset date for this section. Section 502.4 replaces this section effective (six months after date of adoption). Also, updated to reflect changed section numbers and changed definitions. This section will be removed from the rule when the rule is republished.
502.4	N/A	Added section for product data sheet requirements, consistent with the SCM.
502.5	502.3	Added sunset date for the records of usage. Updated to reflect new and changed section numbers and updated to reflect changed definition. This section will be removed from the rule when the rule is republished.
502.6	N/A	Added new requirement for maintaining material purchase and usage records, consistent with of the SCM.
503	502.4	Revised section to require “all records required by this rule” to be maintained on-site for continuous 3 year period and section renumbered.
504.1	503.1	Revised language to specify that the VOC content of coatings and solvents shall be determined in accordance with EPA Method 24 and sections 406, 407 and 503.3 of this rule, consistent with the SCM and updated to reflect changed definition of “cleanup.”
504.2	503.2	Updated ASTM method to latest version and updated to reflect changed definition of “pretreatment coating.”
504.3	503.3	Added statement that this method only applies to exempt compounds other than those determined pursuant to section 504.8 (methyl acetate, acetone, t-butyl acetate, and PCBTF), for which a new method has been added.
504.4	503.4	Updated test methods to latest versions.
504.5	503.5	Section renumbered.
504.6	503.6	Updated SCAQMD test method to latest version.
504.7	N/A	Added ASTM method for determination of methyl acetate, acetone, t-butyl acetate, and PCBTF, consistent with the SCM.
504.8	503.7	Updated test methods to latest versions.
504.9	N/A	Added SCAQMD method for determining the transfer efficiency of spray equipment, consistent with the SCM.
504.10	N/A	Added section allowing use, upon approval, of alternative test methods, consistent with the SCM.

NEW SECTION NUMBER	EXISTING SECTION NUMBER	PROPOSED CHANGES
504.11	N/A	To address U.S. EPA concerns about enforceability, added paragraph stating that where multiple test methods are specified, a violation established by any one of the test methods constitutes a violation of the rule.

APPENDIX C
EMISSION REDUCTIONS BASED ON 2002 CARB SURVEY

SMAQMD Category	SMAQMD VOC Limits (g/l)[1]	VOC_{act} SMAQMD (g/l)[2]	SCM Category	SCM VOC Limits (g/l)[1]	VOC_{act} SCM (g/l)[2]	Percent Reduction	2001 SMAQMD Total Volume (gallons)[3]	2001 Emissions, Current Limits (lb/yr)	2001 Emissions, Proposed Limits (lb/yr)
Plastic Primer	840	763	Adhesion Promoter	540	167	78%	134	853	187
Adhesion Promoter									
Clear Coat	420	310	Clear Coat	250	157	49%	22,421	58,002	29,375
Elastomeric Clear									
Metallic/Iridescent	520	631	Color Coat	420	204	68%	64,085	337,452	109,097
Camouflage	760								
Color Coat and Multi-Stage Color Coat	780								
Pretreatment Wash Primer	780	716	Pre-treatment Coating	660	285	60%	1,645	9,831	3,912
Primer and Primer Surfacer	250	225	Primer	250	130	42%	19,167	35,988	20,793
Primer Sealer and Ground Coat	420								
Precoat	600								
Flexible Primer	840								
Single Stage Color	420	331	Single Stage Coating	340	216	35%	17,786	49,128	32,060
Temporary Protective Coating	60	16	Temporary Protective Coating	60	16	5%	25	3	3
Truck Bed Coating (Specialty Coatings)	840	278	Truck Bed Liner Coating	310	278	0%	10	23	23
Underbody Coating	540	266	Underbody Coating	430	240	10%	52	115	104
Uniform Finish Coating	840	693	Uniform Finish Coating	540	258	63%	369	2,133	794
							Total	493,529	196,349
							Emission Reduction: 60.2%		

1. VOC regulatory limit is calculated as grams per liter, excluding water and exempt compound.
2. Supplied by CARB, this is the average actual VOC content, including water and exempt compound, of coatings that comply with the corresponding regulatory limit.
3. Total volume is based on calendar year 2001 as documented in CARB's 2002 Automotive Refinish Coatings Survey Report, and apportioned to Sacramento County based on population data.

APPENDIX D
HEALTH RISK ASSESSMENT

Point Source Modeling Parameters

Emission Rate:	1 gram per second
Release Type:	Default
Stack Height:	20 feet
Stack Temperature:	140° Fahrenheit
Exit Diameter:	2.83 feet
Exit Velocity:	31.8 feet per second
Flow Rate:	12,000 cubic feet per minute
Building Height:	14 feet
Land:	Urban

Point Source BEEST for Windows Output

Max Annual Concentration: 95.09 $(ug/m^3)/(g/s)$

Volume Source Modeling Parameters

Emission Rate:	1 gram per second
Building Dimensions:	24 feet x 24 feet x 12 feet (length x width x height)
Release Height:	10 feet
Horizontal Dim:	5.58 feet (length/4.3)
Vertical Dim:	5.58 feet (height/2.15)
Elevation:	0 feet
Land:	Urban

Volume Source BEEST for Windows Output

Max Annual Concentration: 1,878 $(ug/m^3)/(g/s)$

Cancer Risk Equation

Cancer Risk = Inhalation Unit Risk Factor $(ug/m^3)^{-1}$ * Concentration $(ug/m^3)/(g/s)$ * Emission Rate (g/s)

Tertiary Butyl Acetate

Density of TBAc: 7.18 lb/gal
Inhalation Unit Risk Factor (URF) = 4×10^{-7} $(ug/m^3)^{-1}$

Calculating the maximum emission from a point source to have a cancer risk of less than 10 in a million:

ER = Cancer Risk/(URF*Annual Conc)
ER = $(10 \times 10^{-6})/(4 \times 10^{-7}$ $(ug/m^3)^{-1} * 95.09$ $(ug/m^3)/(g/s))$
ER = 0.26 g/s

Annual Emission = ER * 0.0022 lb/g * 3600 s/hr * 8 hr/day * 5 days/wk * 52 wk/yr
Annual Emission = 0.26 g/s * 0.0022 lb/g * 3600 s/hr * 8 hr/day * 5 days/wk * 52 wk/yr
Annual Emission = 4340 lb/year

Calculating the maximum emission from a volume source to have a cancer risk of less than 10 in a million:

ER = Cancer Risk/(URF*Annual Conc)
ER = $(10 \times 10^{-6})/(4 \times 10^{-7}$ $(ug/m^3)^{-1} * 1{,}878$ $(ug/m^3)/(g/s))$
ER = 0.01 g/s

Annual Emission = ER * 0.0022 lb/g * 3600 s/hr * 8 hr/day * 5 days/wk * 52 wk/yr
Annual Emission = 0.01 g/s * 0.0022 lb/g * 3600 s/hr * 8 hr/day * 5 days/wk * 52 wk/yr
Annual Emission = 220 lb/year

APPENDIX E
EASTERN RESEARCH GROUP FINAL REPORT
SOCIOECONOMIC IMPACT ANALYSIS FOR SMAQMD RULE 459 AMENDMENTS

APPENDIX F
COMMENTS AND RESPONSES

Public Workshop for Rules 101, 451 and 459
September 16, 2010, 2:00 PM

Attendees:

Allen Cripe, CalTrans
Brad Gacke, SMUD
Brett Hayes, Hayes Brothers Collision
Brittany Marcotte, Nestle Waters North America
Bryon Theis, 3M
Cerlut Fre, Sherwin Williams
Clifford Waters, Sherwin-Williams
Dale Schell, Jims Color Corner
Dan Porreau, Lyondell Basell
Danny Nunez, Finish Masters
Dave Fisher, Morrison Paint Supply
Dave Harshbarger, MAC's Distribution
David Luer, MAC's Distribution
David McClune, California Autobody Association
David Roznowski, Lyondell Basell
Debra Wynne, Original Paint
Dennis Barkman, Colors On Parade
Deran Berggne, Terry's Paint
Eric Cooc, Precision Autobody
George Contos, Blomberg Window
Glenn Galbaugh, DuPont Company
Grey Calhorn, Finish Master
Jason Kowen, Spies Hecker
Jeanette Duncan, Ellis & Ellis Sign Systems
Jeremy Tiner, Warehouse Paint
Jim Brett, CalTrans
Jim Cropper, CARB
Josh Cox, Jerry's Paint
June Livingston, BERC
Kelly Hitt, Nestle Waters North America
Kendall McCane, Jerry's Paint
Kevin Holley, MAC's Distribution
Kevin Thompson, Thompson Sales
Larry Medrano, PBE Inc
Lisa Dobeck, Caltrans
Mark McCleskey, Jerry's Paint
Mark Tavianini, CARB
Matt Stevens, Shanahan's Autobody
Mike Veney, Sherwin Williams
Pat Newcomb, Jerry's Paint
Pat Stickle, Angel Warehouse
Peter Bezeck, California Autobody Association
Phil Brown, PPG Industries
Rich Mott, Jerry's Paint
Rick Hays, MAC's Distribution
Robert Blair, Finish Master
Shane Whitcomb, Ellis & Ellis Sign Systems
Stan Brecetu, 3M
Steve Nesbitt, PCL
Terry Klemin, Matrix
Todd Everitt, Valspar Refinish
Tom Walther, Jims Color Corner
Vern Heffner, City of Sacramento Fleet Management

Oral Comments from the Public Workshop

Note: A combined workshop was held for proposed amendments to Rule 451, Rule 101 and Rule 459. Only comments pertaining to the proposed amendments to Rule 459 are shown below.

Comment #1 Why is Rule 459 not being proposed nationwide? Why is it just California?

Response: California has some of the worst air quality areas in the nation. Sacramento County, in particular, has been designated as "severe" nonattainment for ozone. To improve air quality, the District is required to

implement control measures to reduce the ozone precursor pollutants, NOx and VOCs.

Comment #2 Is the cost shown for Rule 459 an additional fee to business?

Response: No. The costs are the capital costs of equipment and additional operational and maintenance costs to comply with the proposed amendments. The District is not proposing additional fees for businesses.

Comment #3 Lyondell supports the exemption of TBAc in Rule 459 to comply with coating VOC limits.

Response: Thank you for your comment.

Comment #4 What year did air quality start to monitor emissions from coating vehicles? AB32 wants to lower our emissions to 1990 levels by 2020. My automobile coating operation was established in the early 1980s and regulations have lowered my emissions below the 1990 levels. We are already doing our part.

Response: AB32 requires CARB to implement regulations to reduce greenhouse gas emissions to the 1990 levels by 2020. These regulations are not related to the proposed amendments to Rule 459. Proposed amendments to Rule 459 will reduce VOC emissions from automotive coating operations. The proposed amendments are necessary to meet a federal 8-hour ozone plan commitment. See "Legal Mandates" Section in the Staff Report.

Comment #5 Why is SMAQMD the only district to add recordkeeping for using TBAc? Additional recordkeeping is a burden and very costly (hundreds of thousands of dollars) to the manufacturer to label all products just to comply with SMAQMD's rule. The information for TBAc may be available on the MSDS or provided to the District by the manufacturer.

Response: The requirement for facilities to keep records of the TBAc content is necessary to comply with the federal TBAc exemption requirements in 40 CFR 51.100(s)(1). Staff has changed the rule proposal to remove labeling requirements for TBAc; however, the content of TBAc in coating must be listed on the product data sheet or the MSDS.

Comment #6 The exemption for aerosol coating in Rule 459 is confusing. Can you explain this? Does it have to be an aerosol to be exempt?

Response: This exemption exempts any aerosol coating product from the requirements in Rule 459. It has to be an aerosol and a coating.

Comment #7 Where does bug and tar remover fall if it is not an aerosol? Does bug and tar remover have to be in an aerosol can? Can it be in a bucket or gallon

can? Is bug and tar remover available in the aftermarket for automotive refinishing?

Response: Bug and tar remover does not have to be in an aerosol can; however, it does have to be labeled as a bug and tar remover. Bug and tar remover is classified as a solvent in the proposed amendments and subject to the 25 g/l VOC limit. In lieu of using low VOC solvents, facilities may elect to use bar and tar removers that are subject to the requirements of CARB's Consumer Products Regulations. Bug and tar removers are available in the aftermarket.

Comment #8 What is the District doing to regulate mobile applicators? Is the District going to lower the permitting threshold to regulate mobile applicators?

Response: Mobile applicators must comply with Rule 459. The District is not proposing to lower the permitting threshold, which is specified in Rule 201, General Permit Requirements.

Comment #9 There is an exemption that exempts operations if their emissions are below the 2.7 tons of VOC per year. Mobile operations are below 2.7 tons per year. Are they exempt from the requirements?

Response: No. This proposed exemption exempts an operation only from the requirements for motor vehicle materials in Section 303, Vehicle Material Limits, if their VOC emissions from specific coatings and coating operations are less than 2.7 tons per 12-month rolling period. Mobile operations are subject to the requirements in the proposed amendments to the rule.

Comment #10 The issues here are the non-licensed industry that uses non-compliant product and operates after regular business hours. What is the District doing to deal with these operations? Where and to whom do we report these operations if some are found? Will we be notified on what actions are taken if we report these operations?

Response: The District will take the appropriate enforcement action when an unpermitted or non-compliant facility is discovered. The public may file a complaint about an unpermitted or non-compliant facility. The public can contact the District at 916-874-4800 to file the compliant. The District will log and investigate all complaints. If requested, the District will report to the public on what actions were taken.

Comment #11 Why is end user required to demonstrate a HVLP spray gun meets the pressure requirement? Would it be enough if the spray gun has been certified as a HVLP spray gun or has been proven to be as efficient as a HVLP spray gun?

Response: This section ensures that the HVLP spray equipment is operated within the pressure requirement and in accordance with the manufacturer's specifications. After discussing the intent of this requirement with CARB,

Staff has determined that if a HVLP spray gun is permanently labeled as HVLP, then it would satisfy this requirement. Staff has incorporated this change to the proposed rule. This section is applicable only to HVLP spray guns. Spray guns that are not HVLP or have been proven to be as efficient as a HVLP spray gun are not required to meet this requirement.

Comment #12 Are there enough spray tip pressure gauges available for each shop? How much are these devices? If there is no air pressure tip gauge for the spray gun, does that mean the spray gun is not allowed to be used?

Response: Staff has changed the proposed rule to allow the use of an HVLP spray gun permanently labeled as HVLP in lieu of demonstrating that the HVLP spray gun meets the pressure requirement. Therefore, not all shops will be required to purchase air pressure tip gauges. The cost of air pressure tip gauges ranges from $30 to $225 depending on the model of the HVLP spray gun. If the HVLP spray gun is not permanently labeled as a HVLP and does not have an air pressure tip gauge kit, then the spray gun cannot demonstrate compliance with this requirements and the operator will be in violation, if used.

Comment #13 Is the end user the shop or the person applying the coating?

Response: In most cases, the shop owner/operator is the end user who will be in violation if the rule requirements are not met. In some cases, the owner/operator is the painter.

Comment #14 What is the effective date of the labeling requirements? Is there a sell-through provision? Is that for the manufacturer or the shop? Placer County APCD based the requirement on the manufacturer date of the product.

Response: The effective date of the labeling requirement is six months after the date of adoption, and the manufacturer or repackager of the coatings, coating components, coating removers, or solvents are responsible for the labels. The proposed rule does not contain a sell-through provision, consistent with the SCM.

Comment #15 Is an open spray gun cleaning system allowed with these proposed amendments?

Response: Yes, however, the solvent used must meet the VOC limit of 25 g/l or less.

Comment #16 With the proposed amendments, the use of acetone may increase. Has the District looked at the impacts (flammability issues) with the increased use of acetone?

Response: The District has adopted other coating rules that require the stringent 25 g/l limit and has reviewed the flammability issues regarding the increased use of acetone. Acetone has characteristics that are similar to conventional solvents; however, acetone has a lower flash point

compared to other solvents. Nevertheless, acetone vapors cannot cause an explosion until the vapor concentration exceeds 26,000 ppm. Operating under state and federal OSHA guidelines by working with flammable materials in well-ventilated areas, it would be difficult to achieve concentrated streams of such vapors.

In addition, coating facilities subject to other District coatings in Sacramento are already using acetone for cleaning operations, and Staff is not aware of any flammability problems associated with its use. Also, requirements for solvents to contain 25 g/l or less VOC have been in effect in South Coast AQMD Rule 1171, Solvent Cleaning Operations, since 2003. Sources there have largely used acetone to comply, with no significant adverse effects.

Comment #17 Spot repair is defined in Rule 459. Where is it used?

Response: The term “spot repair” is used in the definition of “uniform finish coating.”

Comment #18 Solvent is defined in Rule 459 as a fluid used to perform cleaning operations. Solvent can be used in coatings such as a solvent reducer. Why is the definition limited to only cleaning operations?

Response: Solvents used to perform cleaning operations is subject to a specific VOC limit in the rule (25 g/l). Solvents used as component of a coating, such as solvent reducers, are not subject to a specific VOC limit; only the VOC content of the coating as applied.

Comment #19 Could TBAc be used as a reducer for a TBAc-based coating?

Response: Yes. TBAc is exempted as a VOC when contained in a coating or used as a coating component. TBAc is not exempted when used as a solvent or coating remover.

Comment #20 When is the adoption date for Rule 459?

Response: Our board hearings date occur on the fourth Thursday of every month, except for November and December. At the workshop, Staff had planned to take the proposed amendments to our board during the first quarter of 2011. With the current economic situation, Staff wanted to ensure that adoption of this rule will adversely impact the economy for Sacramento County. As such, a socioeconomic report was completed. Since there are minimal economic impacts, we are now planning to bring the proposed amendments to Rule 459 to our board in August of 2011. Staff will be mailing notices 30 days prior to the board hearing date to the original mailing list and to every workshop participant.

Comment #21 Can trunk interior coating be merged with another category like underbody coating?

Response: Trunk interior coating was removed from the proposed amendments since the CTG VOC limit for trunk interior coating would be less stringent than any VOC limits for coatings in the SCM that might be used as a coating for trunk interiors. The coating category in the SCM that will most likely be used as a trunk interior coating is single-staged coating.

Comment #22 Repackaging labels may be too large to fit on a small container. Can the label be referenced to a website instead of trying to fit it on the container? Placer County APCD asked CARB about this issue and CARB agreed to allow it as an alternative.

Response: The proposed amendments requires repackaging labels for coatings to include only applicable use categories, and the actual and regulatory VOC content of the coating. For solvents, the proposed amendments only require the VOC content. Staff believes that the required information is reasonable on a label of any size container. These labeling requirements are consistent with the SCM and Placer County APCD.

Placer County APCD requires that product information be provided to the purchaser of automotive coatings or solvents on a product data sheet or other medium such as electronic copies or web media format. The proposed amendments to Rule 459 specify the information that must be included on product data sheets but do not set requirements on how the data sheets are to be provided. The proposed amendments require that the facility using automotive coatings and solvents maintain the product data sheets on site.

Comment #23 Regarding the stripper VOC limit in Rule 459, can the District allow for a low use exemption for stripper exceeding the 200 g/l limit? For products that meet the EPA's NESHAP (6H), these products have higher limits than the 200 g/l limit.

Response: The 200 g/l VOC limit for strippers is contained in the current, SIP-approved version of Rule 459. This requirement has been in place since 1997, and adding a low use exemption would be a relaxation to the rule requirements. Staff is not proposing to add a low usage exemption for strippers. Facilities using strippers that contain methylene chloride must also comply with the NESHAP (40CFR Part 63, Subpart HHHHHH) as appropriate.

Written Comments from EPA

Comment #24 In Sections 504.2 and 504.3, please include the full title and date of the ASTM methods being specified.

Response: Full titles and dates were added to all ASTM methods referenced in the rule, including the ASTM methods in Sections 504.2 and 504.3.

Written Comments from LyondellBasell

Comment #25 We support the exemption of TBAc in Rule 459 for automotive coatings.

Response: Thank you for your comment.

Comment #26 We request that AQMD extend the exemption of TBAc for automotive cleaners. This will greatly reduce the flammability risks and emissions associated with cleaning and gun-flushing with acetone-based cleaners.

Response: Staff performed a health risk assessment for using TBAc and determined that emissions of TBAc in a spray booth will not adversely impact nearby receptors. Emissions of TBAc used at a facility and not within a spray booth have the potential to exceed a cancer risk of 10 in a million, the threshold of significance, to nearby receptors. Because of the potential adverse impacts, Staff is not proposing to exempt TBAc for automotive cleaners.

In regards to the flammability risks of using acetone or acetone-based cleaners, see response to Comment #16.

Written Comments from Sherwin-Williams

Comment #27 The addition of trunk interior coating category is unnecessary. This type of application is covered by multiple categories such as underbody coating, single-stage coating, or color coating. We recommend that this coating category be removed from the proposal.

Response: See response to Comment #21.

Comment #28 While washing a vehicle with soap and water will remove most of the dirt and water-soluble contaminants, it does not remove grease and oil. To properly remove grease and oil, slow evaporating solvents work best. Products that meet the 25 grams per liter limit, while feasible through the use of acetone or other exempt solvents, do not result in very good products. We request that the limit for solvent cleaning be increased to 160 grams per liter. This will allow for cleaning to be properly done, which may possibly result in a greater reduction of VOC emissions by eliminating the need to redo paint jobs because of using ineffective cleaning solvents.

Response: Staff has found several products in the current market that meet the 25 grams per liter limit and are specifically designed to effectively remove grease or oil. Since there are compliant products on the market, Staff is not proposing to increase the solvent cleaning limit for surface preparation.

Comment #29 We request the VOC limit on gun and equipment cleaners be set at 160 grams per liter. This will allow for the proper cleaning of applications equipment and eliminate the expenses of frequent replacements from

cleaning with acetone. We believe the actual emitted VOC of gun and equipment cleaners will be very low since shops are required to carry out gun and equipment cleaning operations in a closed system.

Response: The District has adopted the 25 grams per liter limit for application equipment cleaning in other District coatings rules and had not heard of any issues with using low VOC cleaners. In addition, Staff has visited automotive refinishing facilities that have switched to acetone, and they have not encountered the need to replace their application equipment. Also, other air districts have adopted similar requirements. In particular, South Coast AQMD has had this requirement in effect since 2003, and sources there have largely used acetone to comply, with no known damage to application equipment.

The use of an enclosed gun cleaner may limit the VOC emissions from the cleaning process; however the amount of VOC release has not been quantified and may still be significant, To quantify and limit the VOC emissions from this process, Staff is proposing a 25 gram per liter limit for cleaning application equipment. Enclosed gun cleaners are no longer required to be used, although the District still encourages the use of enclosed gun cleaners.

Comment #30 We request the wording in the Section 309, Prohibition of Possession, be amended so this requirements only affects end user.

Response: Staff has moved the statement, “This section shall apply only to end users (e.g. automotive coating facilities)” to the end of the section. As a result, Section 309 is only applicable to end users.

Comment #31 The requirements of Sections 402.1(f) and 402.2(f) are unnecessary in determining compliance with rule requirements because the data required for compliance is already listed in Section 402.1(d) and 402.2(d) and the exact amount of TBAc can be found on the MSDS. We request the Sections 402.1(f) and 402.1(f) be removed from the proposal.

Response: The requirements of Sections 402.1(f) and 402.2(f) are necessary to assist the end user to comply with the federal requirements for the TBAc exemption in 40 CFR 51.100(s)(1). TBAc is exempt as a VOC for the purpose of complying with VOC content limit, but it is a VOC for the purpose of recordkeeping.

Comment #32 Requiring TBAc on labels in Section 403 is impractical because it would require coating manufacturers to label products specifically for Sacramento County. Coating manufacturers will also incur significant cost to comply with this labeling requirement. The content of TBAc is already listed on the MSDS. We request that the labeling requirement for TBAc be removed from Section 403.

Response: See response to Comment #5.

Comment #33 The recordkeeping requirements specific to TBAc in Section 502.6(d) are overly burdensome to end user and should be removed. The end user does not have a means of gathering and reporting the information required using coatings containing TBAc.

Response: The recordkeeping requirement is a federal requirement in 40 CFR 51.100(s)(1). To ease the burden on the end user, Staff is requiring that manufacturer include the actual content of TBAc for coatings containing TBAc on product data sheets or MSDS. The information on TBAc content will be readily available to end users and maintained with their facility records.

Comment #34 The labeling requirement in Section 403 needs to be redrafted to eliminate confusion. The label should include applicable use category and should not include the coating components such as reducers and hardeners.

Response: Staff has separated Section 403 into subsections 403.1 and 403.2 to clarify the labeling requirements. Subsection 403.1 is the labeling requirements for coatings and coating components. The labeling of coating components such as reducers and hardeners are necessary to help determine compliance with the VOC limits for specific coatings. Subsection 403.2 is the labeling requirement for solvent removers (strippers) and solvents. This format is consistent with the SCM.

Comment #35 The monthly purchase records requirement to identify coating type creates an unnecessary burden.

Response: Staff's proposal to require monthly purchase records to identify the coating type is consistent with the SCM. Nine other air districts have also adopted similar requirements. In particular, SCAQMD has had this requirement in place since January 1, 2008. For consistency with SCM and other air districts, Staff is not proposing any changes to this requirement.

Written Comments from AkzoNobel

Comment #36 AkzoNobel supports the comments made by Sherwin-Williams regarding the proposed changes to Rule 459.

Response: See responses to Comments #27-35.

Comment #37 Section 309 should be modified to make it clear that this prohibition does not apply to wholesalers, retailers, or other distributors.

Response: This section was modified to apply to only end users. See response to Comment #30.

Comment #38 Section 502.6(a) requires purchase records to show the coating type. This requirement would involve significant changes to the enterprise

management systems used by manufacturers or wholesalers to create invoices and shipping documents with this additional information. Since there is no regulation limiting the amount of material in a given coating category that can be purchased by a facility, there is no valid reason to require this information.

Response: See response to Comment #35. Monthly purchase records are necessary to determine the compliance with the requirements of the rule and permit. It is also necessary to determine the total emissions from this source category when actual usage records are not available.

Comment #39 Section 502.6(c) should not include a requirement to record that a non-compliant coating was not use in a given day. A no entry on a given day should be sufficient to indicate that none was used.

Response: Staff has removed this requirement since the rule prohibits the possession and use of non-compliant coatings, coating removers, and solvents.

Comment #40 Regarding Section 502.6(d), there is no need for any recordkeeping requirements related to the TBAc content of coatings used.

Response: See responses to Comment #31 and Comment #33.

Comment #41 AkzoNobel questions why TBAc, exempt as a VOC for this rule, is treated differently than other similar compounds that are exempt as a VOC.

Response: See response to Comment #5. When EPA exempted TBAc as a VOC, EPA added restriction to the exemption that required additional monitoring and recordkeeping requirements. This restriction only applied to TBAc, and therefore, TBAc is treated differently than other exempt compounds. Local requirements have to be as stringent as federal requirements. As such, Staff has proposed additional recordkeeping requirements for TBAc, which is the only requirement applicable to end users.

Comment #42 Both the SCAQMD and YSQMD allow the use of aerosol surface cleaners, up to 160 fluid ounces per day. Therefore, we request that this limited use of aerosol surface cleaner be adopted in Rule 459.

Response: SCAQMD and YSAQMD each have a solvent cleaning rule separate from their automotive coating rule. The solvent cleaning rule applies generally to all types of operations, including automotive coating operations. The SCM does not have a limited use exemption for aerosol surface cleaners. To be consistent with the SCM, Staff is not proposing to add a limited use exemption for aerosol cleaner in Rule 459.

Comment #43 TBAc has been fully exempt as a VOC by the U.S. EPA and in SJVAPCD, SBAPCD, and YSAQMD. We suggest that the exemption for TBAC should be moved from Rule 459 to Rule 101 in order to clarify that

TBAC is exempt and would eliminate the need for any further tracking of use.

Response: EPA exempted TBAc with specific provisions that TBAc is not a VOC for the purpose of meeting VOC emission limits or VOC content limits, but it is VOC for recordkeeping, emissions reporting, photochemical dispersion modeling, and inventory requirements. To comply with the federal requirements, recordkeeping for TBAc is necessary.

Because TBAc is a potential carcinogen, CARB recommended that the air districts determine whether the use of TBAc in certain products would pose an unacceptable exposure. As recommended by CARB, Staff will evaluate TBAc on a case-by-case basis. Staff is not proposing a full exemption for TBAc unless Staff is confident that it will not adversely impact human health. For inclusion in Rule 459, Staff is proposing that TBAc is only exempt as a VOC when used in coatings that are applied in a spray booth because it is unlikely to cause a significant adverse impact to nearby receptors.

Written Comments from PPG Industries

Comment #44 PPG requests to eliminate the trunk interior coating definition and VOC limit in Rule 459 and merge trunk interior coating with the underbody coating definition and VOC limit.

Response: See response to Comment #21.

Comment #45 PPG has recently changed labels to meet the SCM labeling requirements and would be hesitant to again change labels to meet a new, unique labeling requirement set in Rule 459. PPG proposes that the Section 403 label requirements to show TBAc content be withdrawn as the same requirement for product data sheets is sufficient.

Response: Staff has removed the labeling requirement to include the content of TBAc. Also see response to Comment #5.

Comment #46 PPG proposes that the District consider following Bay Area AQMD's practical approach to applicator cleaners, setting no limit but requiring efficient devices that minimize vapor releases.

Response: The use of efficient devices that minimize vapor releases, such as enclosed gun cleaners, may limit the VOC emissions from the cleaning process; however the amount of VOC release has not been quantified and may still be significant. To quantify and limit the VOC emissions from this process, Staff is proposing a 25 gram per liter limit for cleaning application equipment. This limit for cleaning solvents is consistent with the SCM.

Written Comments from Colors on Parade

Comment #47 We request that SMAQMD include a permit for mobile operators with a nominal fee.

Response: The proposed amendments to Rule 459 established requirements for the coating operation of automotive, mobile equipment and its associated parts and components to be consistent with the SCM. The proposed amendments do not establish permit requirements or permit fees for these coating operations. Permit requirements are established in Rule 201, General Permit Requirements, and permit fees are established in Rule 301, Stationary Source Permit Fees. For this proposal, Staff is not amending Rules 201 and 301.

Comment #48 We request that SMAQMD include requirements for equipment used by mobile operators to be in line with the national "6H" rule.

Response: The NESHAP for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources (40 CFR Part 63, Subpart HHHHHH) exempts coating operations that use spray equipment with a cup size capacity equal to or less than 3.0 fluid ounces. This exemption applies primarily to small operations that do only spot repairs and touchups like mobile refinishing operations. In the proposed amendments to Rule 459, there is no requirement or exemption specific for mobile operations, and they are not treated differently from stationary automotive coating facilities. Both mobile and stationary operations are subject to the same requirements in the proposed amendments to Rule 459. Therefore, it is not necessary to add additional restrictions to mobile operators.

Comment #49 We request that SMAQMD include an allowance for a "touch-up kit" which may include extra-small quantities of non-compliant paint and chemicals for the purpose of stone-chip and small scratch repair.

Response: The proposed amendments do not have a specific exemption for a "touch-up kit". However, the proposed amendments will allow the use of touch-up paint in a container of 0.5 fluid ounces or less which is intended for repairing tiny surface imperfections.

Written Comments from DuPont (Letter dated September 17, 2010)

Comment #50 Revise the definition of Aerosol Coating Product to remove the statement "…or for use in specialized equipment for ground traffic/marking applications."

Response: The definition of "Aerosol Coating Product" is consistent with the SCM. Therefore, no changes were made.

Comment #51 We request that the definition of Spot Repair be modified to be more reflective of the process, and propose the following, taken from BAAQMD Rule 8-45-236: Spot Repair: Repair of an area on a motor vehicle, piece

or mobile equipment, or associated parts or components of less than an entire panel.

Response: The term “spot repair” is used in the definition of “uniform finish coatings” and is used to determine when the end user can use a uniform finish coating. BAAQMD developed a definition of “spot repair” which is different from the SCM. BAAQMD also required that end-user limit the usage of uniform finish coating, adhesion promoter and multi-color coating to not exceed 5.0 percent of all topcoats applied. To enforce this requirement, BAAQMD required end user to track the usage percentage of these specific coatings.

Staff did not proposed BAAQMD’s approach because Staff did not want to add additional recordkeeping requirements for the end user. Furthermore, the proposed definition is also consistent with the SCM, where this definition has been adopted by nine other air districts. Therefore, Staff is not proposing any changes to the definition of “spot repair.”

Comment #52 The coating category of trunk interior coating is unnecessary and serves to complicate labeling requirements for manufacturers.

Response: See response to Comment #21.

Comment #53 The prohibition of possession in Section 309 should be applicable only to end-users and not applicable to product distributors that may serve customers outside of the District.

Response: See response to Comment #30.

Comment #54 The 25 grams per liter is ineffective for surface preparation. We request it be increased to 160 grams per liter.

Response: Generally, surface preparation cleaning products that meet the 25 grams per liter VOC limit, such as soap and water or solvent containing exempt compounds, are effective in cleaning most of the contaminants on a substrate. For more challenging cleaning tasks, there are cleaning products that are formulated for a specific purpose and meet the 25 grams per liter limit. The lone exception is the limit for bug and tar remover, where the proposed amendments allow the use of products labeled as bug and tar remover and regulated by the state Consumer Products Regulation in lieu of complying with the 25 grams per liter limit. Also, see response to Comment #28.

Comment #55 For bug and tar removal, we request the District include provisions in line with BAAQMD Rule 8-45-308.5.

Response: BAAQMD adopted a higher limit (340 grams per liter) for bug and tar remover than suggested in the SCM because the higher limit was equivalent to the requirement for bug and tar remover in the CARB’s

Consumer Products Regulation. Staff has proposed that in lieu of using solvent meeting the 25 grams per liter, the end user may elect to use a product labeled as bug and tar remover and regulated by the Consumer Products Regulation. The current proposal will allow the use of a higher limit solvent for bug and tar. Therefore, Staff is not proposing to change the VOC limit for bug and tar removers.

Written Comments from DuPont (Letter dated January 11, 2011)

Comment #56 The definition of "Spot Repair" limits the damaged area, and does not take into consideration the variety of vehicles requiring this process. The rule is applicable to all types of vehicles and mobile equipment; some of which are larger than others. We would request that the SMAQMD use the definition of "Spot Repair" from BAAQMD Rule 8-45 in SMAQMD Rule 459.

Response: See response to Comment #51.

Comment #57 We would request that the District consider the legitimate need for a higher VOC limit for more challenging cleaning tasks, such as the removal of road tar, grease and bugs. Low VOC cleaning solvents are not effective in the removal of road tar, grease and bugs. Our cleaning products are not targeted to the consumer segments and are designed for industrial use. We would request that the District consider a volume use restriction for this higher VOC material similar to the requirements implemented in BAAQMD.

Response: See responses to Comments #28, #54, and #55.

Comment #58 Manufacturers have already made required changes to product labels and data sheets at a relatively significant cost from earlier implementation of the SCM in other air districts. The labeling and product data sheet requirements in the proposed revision would require additional changes at additional costs. In addition, since this requirement will be unique to Sac Metro Air District, manufacturers would have to create a supply chain management process to segregate materials destined to Sac Metro.

Response: See response to Comment #5.

Comment #59 To pass the tracking requirement for TBAc on to the end users is unnecessarily burdensome. If the District is interested in tracking the disclosable amount of TBAc in products, why not conduct a survey with product manufacturers?

Response: See responses to Comment #31 and #33. The amount of TBAc in products reported by product manufacturers does not reflect the actual TBAc emissions emitted from the products containing TBAc and will not meet the federal requirements.