

**SACRAMENTO METROPOLITAN
AIR QUALITY MANAGEMENT DISTRICT**

For Agenda of **August 25, 2011**

To: Board of Directors
Sacramento Metropolitan Air Quality Management District

From: Larry Greene
Executive Director/Air Pollution Control Officer

Subject: Adopt a Resolution Approving Amendments to Rule 459, Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations

Recommendations

1. Conduct a public hearing;
 2. Decide whether to adopt Staff's recommended rule amendments or the alternative option; and
 3. Adopt the attached resolution approving the amendments to Rule 459.
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Executive Summary

Staff is proposing to amend Rule 459, Automotive, Truck and Heavy Equipment Refinishing Operations¹ to reduce emissions from the coating of automotive and mobile equipment to help meet state and federal health standards for ozone. The affected sources were given notice of the changes through the process to develop the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan that was adopted in March 2009, and 63 of the 302 affected sources have already converted operations to meet these requirements. We received no negative comments during either the State Implementation Plan (SIP) process or the public workshop on this rule proposal.

The revision to Rule 459 will incorporate the requirements of the California Air Resources Board's (CARB) 2005 Suggested Control Measure (SCM) for Automotive Coatings. The proposed amendments limit solvent content of paints, cleanup and surface preparation materials, and make changes to exemptions, coating application and cleaning methods, labeling, recordkeeping and other administrative requirements. Staff is also proposing to incorporate the requirements of the U.S. Environmental Protection Agency 2008 Control Techniques Guidelines (CTG) for Miscellaneous Metal and Plastic Parts Coatings that apply to coatings and materials for automobiles, mobile equipment, and their associated parts and components, including transportation plastic parts coatings and motor vehicle materials. The most stringent limits are included in the rule amendments.

The emissions from automotive coating-related products are 1.1 tons of volatile organic compounds (VOC) per day². The proposed amendments will reduce these emissions by 0.7 tons of VOC per day. The automotive coating limits in the proposed rule have been adopted in many areas in California, including Yolo-Solano AQMD, Placer County APCD, Bay Area AQMD

¹ Staff proposes to revise the rule title to: Rule 459 – Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations

² Emissions projected for 2018, the deadline for attaining the federal 8-hour ozone standard.

and San Joaquin Valley APCD. The overall cost effectiveness of the rule is estimated to be \$0.07 - \$1.17 per pound of VOC reduced. In comparison, previously adopted District rules have had a cost effectiveness of \$1.12 - \$19.80 per pound of VOC reduced. The socioeconomic analysis indicated that if all compliance costs are passed on to consumers, the average price to have a car refinished (\$2,300) could increase by \$5 - \$25.

The public notice for the workshop indicated that the proposed amendments would become effective 6 months after the date of adoption. No comments were received requesting an extension.

After the workshop, Staff received the results of a socioeconomic analysis indicating that, of the 1,600 jobs in this industry in Sacramento County, job losses could be: (i) zero, if the \$5 - \$25 cost increase is passed on to consumers or their insurance carriers, or (ii) zero to six jobs, if sources do not pass on any of the increased cost.

The Board could extend the compliance date to allow additional time for smaller sources to comply with the proposed requirements. However, Staff recommends that the Board not extend the compliance deadline and that it consider the following impacts when deciding whether to extend the compliance date:

- delay would penalize proactive sources that have already invested in the newer technologies;
- delay would extend the timeframe for realizing emission reductions within the District;
- delay may cause consumer demand in surrounding air districts that have adopted the new limits to shift to shops in Sacramento County that do not meet the new limits. This decreases anticipated emission benefits from the rules in other districts in the Sacramento region; and
- sources can mitigate cost impacts by passing the minor per job increase onto customers or their insurance companies.

Attachments

The following table identifies the attachments to this memo.

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Background

The District is a nonattainment area for both the state and federal ozone standards. Ground level ozone is a secondary pollutant formed from photochemical reactions of nitrogen oxides (NO_x) 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 2006 Criteria Document for ozone, 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.

Since VOCs are a precursor to ozone, one of the strategies to control ozone pollution is to reduce VOC emissions from existing stationary sources. In the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan³, the District has committed to reduce these emissions from automotive and mobile equipment coating operations by adopting the requirements from the SCM for Automotive Coatings. The SCM was adopted by CARB on October 20, 2005. The purpose of the SCM is to promote uniformity among California district rules, improve enforceability, and achieve reductions in VOC emissions. To date, ten other air districts have amended their rules to be consistent with the SCM. Staff is proposing amendments to Rule 459 to incorporate the requirements of the SCM and satisfy the SIP commitment.

As part of the amendments to Rule 459, Staff is proposing requirements that are necessary to satisfy the Reasonably Available Control Technology (RACT) requirements⁴ of the federal Clean Air Act. Staff's proposed amendments include VOC limits for materials and coatings applicable to automobiles, mobile equipment, and their associated parts and components that are covered by the CTG for Miscellaneous Metal and Plastic Parts Coatings⁵.

Summary of Proposed Rule Amendments

The major proposed rule changes are summarized below. Please refer to Appendix B of the Staff Report (Attachment D) for detailed description of changes.

Proposed Rule Changes: The changes to the VOC limits include simplifying coating categories, establishing individual coating VOC limits for new categories, and lowering the VOC limits for some existing coating categories and for surface preparation and cleanup solvents. The changes to VOC limits for coatings, surface preparation and cleanup solvents, and motor vehicle materials are shown on pages 8 and 9 of the Staff Report (Attachment D). The

³ "Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan", March 26, 2009, Appendix C, p. C-93 – C-95.

⁴ Section 182(b)(2)(A) of the federal Clean Air Act requires RACT in nonattainment areas classified as "moderate" or worse including CTGs adopted by EPA before our attainment date (2018).

⁵ U.S. Environmental Protection Agency, Control Techniques Guidelines for Miscellaneous Metal and Plastic Coatings, EPA-453/R-08-003, September 2008.

proposed VOC limits are the most stringent VOC limits from either the SCM or the CTG.

In addition to the changes to the VOC limits, Staff also proposes amending the exemptions, application equipment and recordkeeping sections of the rule to be consistent with the SCM or CTG. The following summarizes some key changes to the rule:

- Sunsets exemptions for special interest vehicles (classic cars and street rods) and engine components (radiators, drive trains, and differentials).
- Reduces container size exemption for touch-up coatings.
- Exempts small containers and certain coatings from the application method requirements.
- Exempts newly regulated motor vehicle materials at stationary sources with emissions less than 2.7 tons of VOC per 12-month rolling period from certain coatings and coating operations.
- Exempts TBAC, a new solvent manufacturers can use to reformulate coatings, if the coatings containing TBAC are applied in a spray booth. Recordkeeping requirements are added for coatings containing TBAC to meet federal requirements⁶.
- Modifies the requirement for using an HVLP spray gun. Users must either use a spray gun that has a permanent HVLP label or, when the shop is inspected, the user must demonstrate that the spray gun meets the HVLP requirements.

Effective Date for Proposed Requirements: The proposed rule presented at the public workshop included an effective date six months after the date of adoption of the amendments to the rule. Staff did not receive adverse comments regarding this effective date. Therefore, 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 create 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 districts⁷ on equal footing with shops that have not yet converted to using lower VOC coatings.

An alternative option to Staff's recommendation is to delay the effective dates for smaller sources to meet the proposed coating and solvent VOC limits. Sources will incur additional costs to convert their operations to comply with the proposed coating limits. These cost impacts may adversely affect some small sources in the District. However, delaying the effective date may disadvantage sources that have already invested in the newer technologies, delay some the emission reductions within the District, and decrease the emission benefits from surrounding air districts if consumer demand shifts to lower cost, higher emitting shops in Sacramento County. The following table shows the effective dates recommended by Staff and an alternative schedule:

⁶ "Revision to Definition of Volatile Organic Compounds – Exclusion of t-Butyl Acetate" Federal Register, Volume 69, November 29, 2004, p. 69298 – 69304.

⁷ Surrounding air districts that have adopted the requirements of the SCM are San Joaquin APCD, Bay Area AQMD, Yolo-Solo AQMD, and Placer County APCD.

Facility Size Category	Coating Usage Records (gallons per quarter)	Effective Dates	
		Staff's Recommendation	Alternative Option
Large	Coating usage \geq 150	6 months after date of adoption	same
Medium	40 < Coating usage < 150	6 months after date of adoption	12 months after date of adoption
Small	Coating usage \leq 40	6 months after date of adoption	24 months after date of adoption

The effective date for motor vehicle materials (gasket/gasket sealing material, cavity wax, deadener, lubricating wax/compound) is 6 months after the date of adoption for both options since these limits are only applicable to larger sources⁸.

Republished Rule 459: For simplicity, the rule will be republished after the effective date without requirements that have expired.

Impact on Businesses

Rule 459 applies to manufacturers and sellers or distributors of automotive coatings and solvents and to any person or business that paints or coats motor vehicles, mobile equipment, or their associated parts or components. Staff contracted with Eastern Research Group (ERG) to analyze the potential socioeconomic impacts of the proposed amendments⁹.

Cost increases are expected from higher priced coatings and purchase of equipment to help dry the new coatings. The ERG analysis concluded that the proposed amendments are not expected to result in increased costs for coating manufacturers because coating products have already been developed to meet the proposed limits. Distributors pass on the additional costs to automotive coating facilities. Therefore, automotive coating facilities will incur coating cost increases.

A total of 302 automotive coating facilities (134 permitted and 168 unpermitted facilities) will be affected by the proposed amendments. As discussed above, the amendment of this rule was previously proposed in the SIP. The purpose of including advance notice of rules such as this in the SIP is to give industry advance notice of impending changes. That notice was effective here because sixty-three permitted facilities have already converted or partially converted¹⁰ to waterborne coatings, and therefore will not incur additional cost increases from these amendments. The remaining 239 facilities will now incur the same costs to convert their operations to comply with the proposed amendments.

Compliance cost increases for the new waterborne coating systems come from added drying equipment, new spray guns, spray gun cleaning kits, and training for at least one painter. ERG estimated the one-time capital and training costs range from \$972 for a small facility with one spray booth to \$2,621 for a large facility with four spray booths.

⁸ Actual emissions greater than 2.7 tons per year from certain coatings and coating operations.

⁹ Appendix E of the Staff Report (Attachment D, p. 116 – 145).

¹⁰ 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 coatings that meet the proposed VOC limits.

The cost increase from compliant coatings depends on the volume of coatings used and the price per gallon of coating. Two coating manufacturers reported that their waterborne coatings provide better coverage (surface area covered per volume of coating) than solvent based coatings, resulting in reduced coating use. ERG did not include the potential offsetting cost savings from improved coverage in their impact analyses when estimating the worst case impacts from these amendments. ERG's worst-case estimate is that the proposed rule amendments may increase coating costs by 12%, or \$25 per gallon. Small businesses use a relatively small amount of coatings – as low as 12 gallons per year, and may have little or no coating cost increases (when considering coverage improvements). Large facilities use up to 1,600 gallons per year and may have a total coating cost increase of about \$40,000 per year. If the facility chooses a coating product that increases coverage, the facility may have a coating cost savings.

To analyze the cost impact to businesses, the “return-on-owner’s equity” (ROE) method was used as an indicator of the potential impacts on business profitability. CARB considers a decrease in ROE more than 10% to indicate a potential for adverse impacts on profitability. ERG estimated a decrease in ROE from 0.3% to 5.7% if the automotive coating facilities absorbed all increased costs. This change in ROE is less than CARB’s criteria for being a significant adverse impact.

According to ERG’s analysis, automotive coating facilities, whose primary business is vehicle collision repair, may pass some of the additional costs to consumers or their insurance companies¹¹. The insurance companies, in turn, distribute the costs among insurance policy holders. If the maximum costs were passed on to consumers, the estimated repair price increases would range from \$5 - \$25, which represents a price increase of 0.21 percent to 1.1 percent for an average repair price of \$2,300.

ERG also 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 the added costs to the facilities could result in zero job loss if the \$5 - \$25 cost increase is passed on to consumers or their insurance companies and job losses ranging from zero to six jobs if sources do not pass on any of the increased cost. There are approximately 1,600 people employed in this industry in Sacramento County.

The cost effectiveness of the rule amendments ranges from \$0.07 - \$1.17 per pound of VOC reduced. To put these costs into perspective, it is useful to compare the cost effectiveness value from other District rules. Previously adopted District rules have cost effectiveness ranging from \$1.12 - \$19.80¹² per pound of VOC reduced.

District Impacts

The proposed amendments to the rules are not expected to result in additional costs to the District.

¹¹ 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.

¹² In 2010 dollars.

Emission Impacts

The emissions from automotive coating-related products are 1.1 tons of VOC per day. Staff estimates that implementation of the proposed coating limits will reduce VOC emissions by 0.5 tons per day in 2018, the District's attainment year for the federal 8-hour ozone standard. The reduction in emissions of VOC from application equipment cleaning and surface preparation/cleanup solvents is estimated to be an additional 0.2 tons per day in 2018.

Environmental Review and Compliance

Staff recommends that the Board find that the proposed rule is exempt from the California Environmental Quality Act because the proposal is an action by a regulatory agency for protection of the environment (Class 8 Categorical Exemption, Section 15308 State CEQA Guidelines) 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. (Section 15061(b)(3), State CEQA Guidelines). Staff considered the potential for increased hazardous material use and disposal, and flammability in its analysis¹³.

Public Outreach and Comments

Staff held a public workshop to discuss the proposed Rule 459 amendments on September 16, 2010. The noticing for the workshop and today's hearing included:

- Mailing and/or e-mailing notices to:
 - interested and affected parties, including all potentially affected permitted stationary sources;
 - industry associations, coating manufacturers and distributors; and
 - all persons who have requested rulemaking notices.
- A notice in "Our Region" of the Sacramento Bee.
- A notice on the District web site with a link to the draft rule and staff report.

At the public workshop, Staff received oral comments and questions from the attendees, as well as written comments from coating manufacturers and distributors. The responses to oral comments from the workshop and written comments during the public comment period are included in Attachment E. The following changes were made in response to comments and other issues encountered after the public workshop:

- Added certain coatings and coating operations to the motor vehicle materials exemption to quantify the actual VOC emissions from a facility.
- Added the option to use a permanently labeled HVLP spray gun as an alternative to demonstrating with an air pressure tip gauge that the HVLP spray gun meets the pressure requirements.
- Removed the coating category and VOC limit for trunk interior coating.
- Revised the "Prohibition of Possession" section to apply to only end users.
- Removed the requirement to include the content of TBAC on the label.
- Removed the requirements to maintain daily records of non-compliant materials.

¹³ Staff Report (Attachment D, p. 94 – 95).

- Added requirement that TBAC is exempt as a VOC only when contained in coatings that are applied within a spray booth.

EPA and CARB reviewed the proposed amendments. CARB had no comments. EPA submitted written comments to update test methods referenced in Rule 459. Staff has updated the test methods.

Non-substantive Change After Posting of Rule 459

The proposed amendments to Rule 459 has been modified after posting of the public hearing. The changes corrected the section references in Section 110 from 309.3 to 310.3 and from 309.5 to 310.5. The two versions of the revised proposed Rule 459 are included in Attachments B and C.

Conclusion

The proposed amendments are necessary to satisfy a SIP commitment and achieve significant VOC emission reductions that will help the District attain the state and federal ozone standards. The proposed amendments are also necessary to satisfy federal requirements to implement RACT. Affected sources will incur some costs with the proposed amendment; however, the cost effectiveness of the rule amendments is relatively low compared to other District rules.

Staff recommends that the Board adopt the attached resolution approving the amendments to Rule 459 with a 6-month compliance date for all facilities. The Board instead may extend the compliance date for smaller sources. However, this option will disadvantage sources that have invested in new technologies, delay some emission reductions, and decrease the anticipated emission benefits from rules in other districts in the Sacramento region.

Respectfully submitted,

Approved as to form:

Larry Greene
Executive Director/Air Pollution Control Officer

Kathrine Pittard
District Counsel

Attachments