

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

DRAFT STAFF REPORT

Rule 4612 (Motor Vehicle and Mobile Equipment Coating Operations)

July 20, 2010

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I. SUMMARY

The source category of Motor Vehicle and Mobile Equipment Coating Operations currently includes operations that apply, supply, sell, offer for sale, or solicit the application of VOC-containing coatings used in the finishing or refinishing of vehicles and equipment, and their parts and components. This category also includes the organic solvent cleaning, and the storage and disposal of all solvents and waste solvent materials associated with such coating operations. Rule 4602 (Motor Vehicle and Mobile Equipment Operations) was adopted in 1991. In September 2006, Rule 4602 was updated and superseded by Rule 4612, effective on January 1, 2009, in order to incorporate all of the elements of ARB's Suggested Control Measure (SCM) for this source category. However, since the implementation of current rule language for Rule 4612 it has been determined that specific sections need updating in order to remove redundant language, clarify the intent of the section, and align the rule with requirements previously required.

The purpose of this rule-amendment project is to make some minor language changes to better clarify current rule requirements. Staff also explored the possibility of incentive funding to gain additional emission reductions from this source category. Staff has concluded that there are no funds available at this time and that there are not further feasible opportunities to reduce emissions through incentivized activities at this time because operators are already taking all feasible measures to reduce emissions. The draft rule amendments will not affect the meaning, scope of, or prohibitions contained in current rule language.

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A. Reasons for Rule Development and Implementation

The California Air Resources Board (ARB) and the United States Environmental Protection Agency (EPA) classified the San Joaquin Valley Air Basin (SJVAB) as severe and extreme non-attainment for the state and federal ozone standards, respectively. In accordance with Federal Clean Air Act (CAA) requirements for non-attainment areas, the San Joaquin Valley Unified Air Pollution Control District (District) adopted the 2007 Ozone Plan to establish the strategy for attaining the eight-hour ozone standards.

The ozone attainment strategy of the Ozone Plan is comprised of regulatory and incentive-based measures to reduce emissions of nitrogen oxides and volatile organic compounds (VOC), a precursor of ground-level ozone. The 2007 Ozone Plan recommends that District staff explore opportunities for incentive funding to achieve additional emission reductions from this source category.

B. Climate Change

The California Global Warming Solutions Act of 2006 (AB 32) created a comprehensive, multi-year program to reduce green house gas (GHG) emissions in California, with the goal of restoring emissions to 1990 levels by 2020. In the coming years, the ARB and the Legislature will be developing policies and programs to implement Assembly Bill 32 (AB 32). There are many win-win strategies that can reduce both GHG and criteria/toxic pollutant emissions. However, the District's primary mission remains to achieve attainment with air quality standards to protect public health. Therefore, when situations that involve tradeoffs between GHG and criteria or toxic pollutants arise, the District will give precedence to reducing criteria or toxic pollutant emissions due to the more immediate public health concerns associated with such pollutants. A detailed analysis is included in the CEQA Negative Declaration for this rule.

C. Description of Project

The 2007 Ozone Plan indicates that this rule currently encompasses the most stringent coating VOC content limits for this source category, and that no additional emission reductions are available from this source category at this time. The draft amendments do not change the meaning of the rule or create more stringent enforcement of emission control standards. As such, this rule-amending project is not expected to generate additional VOC emission reductions.

As guidelines for developing the draft changes to Rule 4612, District staff reviewed the 2007 Ozone Plan, rules and staff reports from other air districts, Control Techniques Guidelines (CTGs), and best available control technology (BACT) determinations.

D. Rule Amendment Process

The draft amendments do not add significant new requirements; therefore, the draft rule and draft staff report will only be published for a 30-day public commenting period. Comments received as a result of the commenting period will be evaluated and incorporated into the draft rule and draft staff report as appropriate. The proposed amendments to the rule and the final draft staff report will be published prior to the public hearing to consider the adoption of the proposed amendments to the rule by the District Governing Board.

II. DISCUSSION

A. Current Regulation

The purpose of Rule 4612 is to limit VOC emissions from coatings associated with the coatings of motor vehicles, mobile equipment, and associated parts and components, and to reduce the VOC emissions from the organic solvent cleaning, storage, and disposal associated with such operations. Rule 4612 applies to any person who supplies, sells, offers for sale, manufacturers, or distributes any automotive coating for use within the District, as well as any person who uses, applies, or solicits the use or application of any automotive coating within the District.

Rule 4612 limits VOC emissions by limiting the VOC content of coatings used for coating motor vehicles and mobile equipment and associated organic cleaning solvents. In lieu of complying with VOC content limits, operators have the option to operate an APCO-approved VOC emission control system, subject to rule requirements.

B. Draft Amendments

Sections 1 and 2 have no recommended draft amendments at this time.

Section 3.0 – Definitions

Section 3.0 would be amended to define “operator” and “permanent label”.

Section 4.0 – Exemptions

Section 4.1.4 would be amended to clarify the intent of this exemption. Current language exempts facilities that operate automotive assembly lines, which is a separate source category covered by Rule 4602 (Motor Vehicle Assembly Coatings). However, Rule 4602 applies only to VOC-containing coatings applied to new automobiles, light-duty trucks, heavier vehicles, and other parts coated along with these bodies or body parts during the assembly process.

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In 2008 EPA promulgated the Control Techniques Guidelines (CTG) for Automobile and Light-Duty Truck Assembly Coatings. The CTG provides control recommendations for reducing VOC emissions stemming from the use of coatings in automobile and light-duty truck assembly coating operations. The CTG further states:

The automobile and light-duty truck assembly coatings product category under section 183(e) of the CAA includes primary coatings that are applied to new automobiles or new light-duty truck bodies, or body parts for new automobiles or new light-duty trucks, and other parts that are coating along with these bodies or body parts. The category also includes additional coatings applied during the vehicle assembly process. Automobile and light-duty truck assembly coatings most commonly are applied at automobile or light-duty truck assembly plants. However, this 183 (e) category also includes coatings used in facilities that perform these coating operations on a contractual basis.

Conversations with the author of the CTG verified that intended applicable facilities would be manufacturers of new automobiles, not “upfitting” or refinishing operations, even if they operate on an assembly line. District staff also contacted ARB staff to clarify SCM language regarding the exemption for assembly operations, as stated in current District Rule 4612 Section 4.1.4. Conversations with ARB staff has led District staff to conclude that the exemption in Section 4.1.4 was intended to exempt new vehicle manufacturers, not upfitting and resurfacing operations.

Upfitting a vehicle involves the operator receiving a vehicle that is registered with the state and has a vehicle identification number (VIN). The operator will modify that vehicle to specifications provided by the buyer/owner, and then re-register the completed vehicle with the new weight information, while leaving the VIN number unchanged.

There is one motor vehicle upfitting operation in the Valley that operates using an assembly line. As current rule language is written, this upfitting automotive assembly line and coating operation would be exempt from Rule 4612, and as explained above, is not subject to Rule 4602. As currently written, the operation would, by default, become subject to District Rule 4603 (Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts), which is not the District’s intent. District staff is recommending amending the exemption in Section 4.1.4 to clarify that the assembly line exemption applies to the assembly of new automobiles subject to District Rule 4602 and not refinishing or upfitting operations. Therefore, facilities that operate an assembly line for refinishing or upfitting that were previously subject to the motor vehicle and mobile equipment coating regulation will remain subject to the motor vehicle and mobile equipment regulation.

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Section 5.0 – Requirements

Section 5.3 VOC Emission Control System

Redundant language would be removed to improve clarity and make the language more concise.

Section 5.7 Coating Application Methods

Sections 5.7.3.1 and 5.7.3.2 would be added to specify HVLP requirements that were previously in Rule 4602 but were not carried over to Rule 4612 during the rule amendment project to adopt Rule 4612. This language also more closely mirrors the language in the ARB SCM, of which the amendments were originally based on. The additional language does not change the meaning of current language but instead clarifies it.

Section 6.0 – Administrative Requirements

Section 6.3 would be updated to remove redundant language for clarity and to make the rule language more concise.

C. Incentives

District staff determined there are approximately 126 facilities in the SJVAB currently subject to the motor vehicle and mobile equipment rule. Conversations with the Compliance Department have confirmed that most of those facilities have opted to comply with the new VOC standards that became effective on January 1, 2010, by using water-based coatings rather than coating with exempt solvents or installing costly capture and control systems.

The November 2008 Ventura County Air Pollution Control District (VCAPCD) Staff Report for Rule 74.18 (Motor Vehicle and Mobile Equipment Coating Operation) states that the new [water-based] color coats are performing at levels equal to or superior than the solvent-based versions. The report continues to say that the upgrades necessary for spray booths consist of adding fans or air movement equipment to accelerate the drying of the waterborne coatings, and these changes can be made over the time of a weekend.

Rule 4612 new VOC content limits became effective January 1, 2010 and staff believes that Valley operators have already made any necessary adjustments to ensure compliance with the new limits and requirements. The intent of incentive funding from the District to Valley facilities is to provide funding that would result in further reductions of emissions. At this time, there are no alternative methods to further reduce VOC emissions from this source category. Operators are using the most current technology and the lowest VOC content coatings technologically feasible. However, District Staff welcome suggestions operators or stakeholders may have regarding opportunities for potential incentive programs, should such funds become available in the future.

III. CURRENT EMISSIONS AND EMISSIONS REDUCTIONS

According to the 2007 Ozone Plan, total VOC emissions from sources subject to Rule 4612 are estimated to be 1.54 tons per day in 2011. The 2007 Ozone Plan does not call for any actions that would reduce VOC emissions during this rule-amending project. As such, no VOC emission reductions are anticipated.

IV. COST EFFECTIVENESS ANALYSIS

Pursuant to CH&SC Section 40920.6(a), the District is required to analyze the cost effectiveness of new rules or rule amendments that implement Best Available Retrofit Control Technology (BARCT) or all feasible measure. Current Rule 4612 already implements BARCT. As such, this project is not subject to the cost effectiveness analysis mandate.

V. SOCIOECONOMIC ANALYSIS

Pursuant to CH&SC Section 40728.5 (a), an assessment of the socioeconomic impacts is not required for any rule or regulation that only adopts a requirement that is substantially similar to, or is required by state or federal statute, regulation, or applicable formal guidance, such as a federal CTG. Since the draft amendments to Rule 4612 are substantially similar to the ARB SCM for automotive coatings, on which the rule is based, a socioeconomic impact analysis is not required.

VI. RULE CONSISTENCY ANALYSIS

CH&SC, Section 40727.2, requires District staff to prepare a rule consistency analysis for Rule 4612 that compares the elements of amendments with the corresponding elements of other District rules, federal regulations and guidelines that apply to the same source category or type of equipment. Preliminary analysis has indicated that none of the draft requirements of this rule would conflict with federal rules, regulations, or policies covering similar stationary sources. District staff has prepared a rule consistency analysis, please refer to Appendix A for this analysis.

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VII. ENVIRONMENTAL IMPACTS

Pursuant to the California Environmental Quality Act (CEQA), District staff will investigate the likely environmental impacts of draft amendments to Rule 4612 later in the rule development process and recommend appropriate action to the District Governing Board.

VIII. REASONABLY AVAILABLE CONTROL TECHNIQUES (RACT) ANALYSIS

RACT Discussion

The Clean Air Act (CAA) Section 182(b)(2) states that ozone attainment plans shall assure that RACT for volatile organic compounds (VOC) is applied at certain sources. District Rule 4612 is a VOC rule, therefore underwent a RACT analysis during this rule-amending project. A RACT analysis requires an examination of a rule against Federal rules, regulations, and technology guidelines as well as comparing it against rules from other air districts in California.

District staff compared emission limits, optional control requirements, and work practice standards in District Rule 4612 to comparable requirements in rules from the other Air Districts in California nonattainment areas. Based on the following analysis, District staff has concluded based on the aforementioned analyses, that District Rule 4612 satisfies RACT for automotive coating operations.

A. Comparison with Federal Rules and Regulations

EPA – Control Technique Guidelines (CTG)

1. *EPA-450/2-76-028 1976/11 Control of Volatile Organic Emissions from Existing Stationary Sources - Volume I: Control Methods for Surface Coating Operations*

The CTG applies to surface coating operations located in marginal, moderate, serious or severe ozone nonattainment areas that has the potential to emit greater than or equal to 25 tons/year of VOC, and equal to greater than 10 tons/year of VOC for extreme ozone nonattainment areas. This CTG will not be compared to District Rule 4612 since the source category (Motor Vehicle and Mobile Equipment Coating) is addressed in another CTG: EPA-450/2-77-008 1977/05 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks (See discussion below).

2. *EPA-450/2-77-008 1977/05 Control of Volatile Organic Emissions from Existing Stationary Sources - Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks*

The CTG applies to motor vehicle surface coating operations located in marginal, moderate, serious or severe ozone nonattainment areas that has the potential to emit greater than or equal to 25 tons/year of VOC, and equal to greater than 10 tons/year of VOC for extreme ozone nonattainment areas. The table below identifies the CTG

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requirements and how Rule 4612 compares to the automobile and light-duty truck coating requirements.

Rule and CTG Comparison		
Coating Type	CTG (lb/gal)	Rule 4612 (lb/gal)
Prime	2.8	2.1
Topcoat	4.2	2.1
Final Repair Topcoat	5.5	2.1

3. EPA-453/R-08-006 2008/09 Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings

The CTG applies to vehicle assembly coating operations located in marginal, moderate, serious or severe ozone nonattainment areas that has the potential to emit greater than or equal to 25 tons/year of VOC, and equal to greater than 10 tons/year of VOC for extreme ozone nonattainment areas. There are no vehicle assembly plants in the District; therefore, this CTG will not be examined.

EPA - Alternative Control Technology (ACT)

EPA-453/R-94-017 1994/02 Alternative Control Techniques Document - Surface Coating of Automotive/Transportation and Business Machine Plastic Parts

The ACT applies to the coating of plastic parts for the automotive industry, business machines, and other miscellaneous plastic parts. The ACT identifies an automotive coating work practice standards, VOC content limits, application methods, and add-on control efficiencies based on California District rules as of 1994. Since SJVAPCD Rule 4612 is at least as stringent overall compared to other Districts (see analysis below in Section III), a detailed evaluation of the ACT is not necessary.

Standards of Performance for New Stationary Sources (NSPS)

40 CFR 60 Subpart MM (Standards of Performance for Automobile and Light Dusty Truck Surface Coating Operations) applies to assembly plant coatings.

There are no vehicle assembly plants in the District; therefore, this NSPS will not be examined.

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National Emission Standards for Hazardous Air Pollutants (NESHAPs) and Maximum Achievable Control Technologies (MACTs)

NESHAPs and MACTs are requirements contained in 40 Code of Federal Regulations (CFR) Part 61 and 40 CFR Part 63. Since EPA has delegated the authority to implement NESHAP requirements to the District, NESHAPs and MACTs promulgated by EPA are usually incorporated by reference into District Rule 4002 (National Emission Standards for Hazardous Air Pollutants). It is important to mention that the District implements NESHAPs and MACTs by incorporating the emission standards as conditions of the Permits to Operate issued to affected sources.

40 CFR 63 Subpart IIII (National Emission Standards for HAPs: Surface Coating of Automobiles and Light-Duty Trucks)

The requirements in this subpart are not directly comparable to the District Rule 4612 limits. The NESHAP HAP emission limits which are expressed in terms of % HAP, HAP emission concentration, and mass (kg) of HAP per mass (kg) of solids are not directly comparable to the coatings VOC limit which is expressed in terms of grams (or lb) of VOC per liter (or gallons) of coatings, less water and exempt compounds, as applied. In addition, some HAPs may be exempt VOCs, and some VOCs may be HAPs; therefore, there is no direct correlation between the NESHAP limits versus District Rule 4612 VOC limits.

B. Comparison with Other California Non-Attainment Areas

District staff compared District Rule 4612 with the rules of other California ozone nonattainment air districts' rules (listed below) auto coating operations. The results of the analysis are discussed below.

- South Coast Air Quality Management District (SCAQMD) Rule 1151 - Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (Amended December 2, 2005)
- Bay Area Air Quality Management District (BAAQMD) Regulation 8 Rule 45 – Motor Vehicle and Mobile Equipment Coating Operations (Amended January 6, 1999)
- Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 459 - Automotive, Truck and Heavy Equipment Refinishing Operations) (Amended October 2, 1997)
- Ventura County Air Pollution Control District (VCAPCD) Rule 74.18 - Motor Vehicle and Mobile Equipment Coating Operations (Amended September 10, 1996)

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Rule Comparisons (g/l VOC)					
Coating Category	Bay Area (Rule 8-45)	South Coast (Rule 1151)	Sac Metro (Rule 459)	Ventura (Rule 74.18)	SJVAPCD (Rule 4612)
Adhesion Promoter Plastic Parts					540
Camouflage	420		420	420	340
Clear Coating					250
Color Coating	540	685			420
Pretreatment	780	750	780	780	660
Precoat	580		600		660
Primer			250	250	250
Primer Sealer	340	340	420	340	250
Primer Surfacer		250	250	250	250
Single Stage Coating (not primer or multicolor)					340
Topcoat - General	420	340	420	340	250
Topcoat - Metallic/ Iridescent	520	340	520	520	420
Topcoat - Metallic/ Iridescent (spot repair)		420			420
Topcoat - Multicolored	540	685			420
Topcoat - Multistage		340	540	340	340
Topcoat - Multistage (spot repair)		420			340
Water-Based Temporary Transit				420	250
Rule Comparisons (continued) (g/l VOC)					
Coating Category	Bay Area (Rule 8-45)	South Coast (Rule 1151)	Sac Metro (Rule 459)	Ventura (Rule 74.18)	SJVAPCD (Rule 4612)
Temporary Protective Coating	60		60		60
Truck Bed Liner					310
Underbody Coating			540		430
Uniform Finish Coating					540
Other					250
Application Method	Bay Area (Rule 8-45)	South Coast (Rule 1151)	Sac Metro (Rule 459)	Ventura (Rule 74.18)	SJVAPCD (Rule 4612)
HVLP Spray			X		
Transfer Efficiency Minimum	65%	65%	APCO/EPA Approved	65%	65%
Add-on Control Efficiency	Bay Area (Rule 8-45)	South Coast (Rule 1151)	Sac Metro (Rule 459)	Ventura (Rule 74.18)	SJVAPCD (Rule 4612)
Control	85%				
Overall Control	Equip to compliant coating emissions	Equip to compliant coating emissions	85%	85% by wt	85 % and Equip to compliant coating emissions

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Solvents	Bay Area (Rule 8-45)	South Coast (Rule 1151)	Sac Metro (Rule 459)	Ventura (Rule 74.18)	SJVAPCD (Rule 4612)
Product Cleaning (General)	72	25	72	200	25
Repair and Maintenance Cleaning		25	72	200	25
Cleaning of Application Equipment		25	72	200	25

As shown in the table above, SJVAPCD Rule 4612 is as stringent as or more stringent than other Districts in all categories except for two categories (precoat and Topcoat - Metallic/Iridescent). Since the overwhelmingly majority of coating categories are as stringent as or more stringent than other Districts, Overall SJVAPCD Rule 4612 is at least as stringent as Bay Area Rule 8-45, South Coast Rule 1151, Sac Metro Rule 459, and Ventura Rule 74.18.

RACT Analysis Conclusion

After careful evaluation of federal rules and regulations as well as prohibitory rules in other California nonattainment areas, District staff concludes that District Rule 4612 satisfies RACT for motor vehicle and mobile equipment coating operations.

IX. REFERENCES

1. ARB. "Suggested Control Measure for Automotive Coatings as Approved by the Board on October 20, 2005".
2. EPA. "Control Techniques Guidelines (CTG) for Automobile and Light-Duty Truck Assembly Coatings". 2008.
3. SJVAPCD. "Ozone Plan". 2007.
4. Ventura County APCD. "Final Staff Report Revisions to Rule 74.18, Motor Vehicle and Mobile Equipment Coating Operation". November 11, 2008.

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