

**VENTURA COUNTY APCD
FINAL STAFF REPORT
REVISIONS TO RULE 74.18, MOTOR VEHICLE
AND MOBILE EQUIPMENT COATING OPERATION
November 11, 2008**

EXECUTIVE SUMMARY

As a nonattainment area for both federal and state ozone air quality standards, Ventura County is subject to requirements of both the federal Clean Air Act Amendments of 1990 and the California Clean Air Act. Health and Safety Code Section 40914 requires a five percent annual emission reduction unless the District uses an alternative strategy that includes All Feasible Measures. On October 20, 2005, the California Air Resources Board (ARB) adopted a Suggested Control Measure (SCM) for Automotive Coatings. This SCM is a feasible measure required to be adopted by Districts to comply with Health and Safety Code Section 40914.

Adopting the SCM by Ventura County APCD will garner significant emission reductions of Reactive Organic Compounds (ROC), a precursor to ambient ozone formation. ROC emission reductions of approximately 73 tons per year are expected from the proposed new standards for coatings and solvent cleaners used by the automobile and truck refinish industry. These emission reductions will help the District to attain its goals of meeting both the federal eight-hour and state one-hour ozone standards.

The proposed amendments to Rule 74.18 include all the new requirements established by the SCM for automotive coatings and cleaners. The most significant proposed change is the new low-ROC content requirement for color coats used commonly in basecoat/clearcoat auto body shop repairs.

According to the coating manufacturers, water-based color coats are the only available coating technology able to meet this proposed new ROC limit. Although water-based color coating technology was developed over a decade ago as described in a 1994 VCAPCD Rule 74.18 staff report, this new requirement will finally cause this technological break-through to be implemented.

Two other significant change to the coating ROC limits includes a new limit of 340 grams per liter for single-stage topcoats and a new limit of 250 grams per liter for primer sealers. This topcoat limit applies to both metallic or iridescent coatings as well as nonmetallic topcoats. These coatings may still be solvent-based as exemplified by two-component polyurethane coatings. The new primer sealers may

also be solvent-based, and are available in either two-component or ready-to-spray, one-component systems.

Another proposed rule amendment based on the SCM that impacts coatings is the deletion of the specialty coating category. In the current rule, this was a catch-all category of small use coatings that were allowed a higher ROC content limit of 840 grams per liter. Instead of the specialty coating category, the Air Resources Board has created several individual coating categories to obtain additional emission reductions. These new categories include truck bed liner coatings, underbody coatings, and uniform finish coatings. In addition, there is a new default coating category with an ROC limit of 250 grams per liter for all those coatings that do not belong to one of the coating categories defined in the rule.

The other major proposed change to Rule 74.18 based on the SCM is the new low ROC standard for cleaning solvents. The new ROC limit for all cleaners, including substrate surface preparation and spray gun cleaning is 25 grams per liter except for a new small-use exemption for substrate surface preparation. Low-ROC cleaners may include exempt ROC solvents or exempt solvent blends that contain acetone, methyl acetate, or parachlorobenzotrifluoride (PCBTF). Also, new water-based cleaners have been developed to clean spray guns using the waterborne coatings.

The new small-use exemption from the 25 grams per liter limit for surface preparation cleaners is an exception from the SCM, and is based on comments received at the April 29, 2008, APCD rule workshop and the adoption of a similar exemption by the Santa Barbara County APCD on June 19, 2008. Although the ARB recommends eliminating this exemption because of stringency concerns, Santa Barbara's adopted amendments to Rule 339 were not disapproved because the rule reduces ROC emissions overall.

The major cost of complying with the proposed rule amendments to the 136 permitted auto and truck repair and refinishing facilities in the county centers around the conversion to the waterborne color coat. These coatings are typically used at auto body shops to

repair damaged vehicles. The costs of this conversion for a one spray booth operation was estimated by ARB to be \$6,600 per facility. This includes costs for additional air movement equipment or fans to decrease dry times, new or modified spray equipment, new spray gun washers, and cost of painter training to understand how to spray the new coatings. The cost-effectiveness of the proposed rule amendments was estimated by ARB at \$1.43 per pound of ROC reduced. This compares favorably with the \$9 per pound cost-effectiveness used to evaluate the cost of air pollution control equipment by new sources.

The proposed rule amendments do provide some relief to industry in the form of reduced recordkeeping requirements. Daily records of coatings applied and mixed will no longer be required, and monthly usage records of specialty coatings will no longer be needed.

Finally, the enforcement of the rule by District inspectors will be more easily accomplished by implementing proposed changes to the rule. Two significant changes are the deletion of the averaging provision for multi-stage topcoats, and the new requirement that prohibits possession of illegal coatings or cleaning solvents. The averaging provision made the enforcement of the sales prohibition especially difficult for multistage topcoats because high-ROC color coats could be averaged

with low-ROC clear coats. Now that they will have separate ROC limits, compliance with these rule requirements will be more easily determined. The new prohibition against possession of illegal products will allow inspectors to cite violators without having to observe vehicle refinishing in progress.

This report contains six additional sections: (1) Background, (2) Regulatory History (3) Proposed Rule Requirements, (4) Comparison of Proposed Rule Requirements with Other Air Pollution Control Requirements, (5) Impact of the Proposed Rule, and (6) Environmental Impacts of Methods of Compliance/California Environmental Quality Act (CEQA). The first section provides background information including a description of sources affected by Rule 74.18, and health effects of ROC emissions. The second section describes the regulatory history of the rule since it was adopted in 1992, and the current history of the 2005 SCM. The third section explains the key features of the proposed revisions to Rule 74.18. The fourth section compares the proposed requirements with existing federal requirements and Best Available Control Technology (BACT). The fifth section is an analysis of the proposed amendments' effect on ROC emissions and socioeconomic impacts. The last section examines the environmental impacts of compliance methods and the mitigations of those impacts, and CEQA Compliance.

BACKGROUND

Introduction

Rule 74.18 is applicable to any automotive, truck or mobile equipment coating operation in Ventura County. Automotive coatings are applied to motor vehicles and mobile equipment to protect and enhance the appearance of exterior surfaces. These coatings may be applied as a last step of a repair following an accident, to rectify damage that occurred in transit, or to correct a defect that occurred during the manufacturing process. An entire or portion of a vehicle may also simply be recoated to change their color or appearance. Finally, mobile equipment may be coated as one of the last steps in the manufacturing process. Motor vehicle and mobile equipment coating facilities include six broad categories:

- Auto body repair/paint shops
- Production auto body paint shops
- New car dealer repair/paint shops

- Fleet operators repair/paint shops
- Truck body-builders
- Mobile equipment manufacturers/dealers

Coating may be done on a spot, a panel, or the entire vehicle or mobile equipment. Spot repair and paint work is generally performed on a small damaged area. The repair work would generally include the physical repair of the damaged area, conditioning of the substrate, and application of primers and topcoats. Panel repair is similar to that of a spot repair except that the work area is larger, as it may include a hood, fender or door. Complete paint jobs are performed to repair a faded color on a vehicle or mobile equipment, or simply to change the color of the vehicle.

Health Effects

ROC emissions from automotive coatings and cleaning solvents are precursors to the formation of

both ozone and fine particulate matter (PM). Ventura County exceeds both the state and federal standards for ambient ozone, and the state standard for PM. Ozone is formed from photochemical reactions of oxides of nitrogen and ROCs. Scientific studies show that exposure to ozone can result in reduced lung function, increased respiratory symptoms, and increased airway inflammation. Exposure to ozone is associated with premature death, hospitalization for cardiopulmonary causes, asthma episodes, and restrictions in physical activity.

Ozone is a strong oxidizer and exposure to levels of ozone exceeding the current ambient standards lead to a variety of adverse health effects, as well as reduction of crop production, and damage to plants and property. Emissions of ROCs also react in the atmosphere to form fine particulate matter (PM10 and PM2.5). Inhalation of these fine particles reduces pulmonary function. Premature death is also linked to PM exposure, and are comparable to deaths from motor vehicle accidents and second-hand smoke.

REGULATORY HISTORY

Introduction

Ventura County APCD Rule 74.18 was first adopted on January 28, 1992, and at the same time the District required APCD Permits for every automotive coating facility in the county, without exception. At the time of the rule adoption, industry voiced concern that underground or “black market” automotive painting shops would have an unfair advantage over the regulated vehicle refinish community. At the time, this industry was one of the largest source of ROC emissions that had not been previously regulated. Also, the District was the recipient of numerous nuisance complaints resulting from overspray or odor problems.

Two of the new requirements from the original adoption of Rule 74.18 not only reduced ROC emissions but saved costs by reducing material usages. The High Volume Low Pressure spray equipment increased the coating transfer efficiency over conventional sprayers, which reduced overspray. This operational change enabled reduced consumption of coatings while enabling the application of a quality finish. The other new requirement from the original rule adoption was the spray gun cleaner, which reduces cleaning solvent usage. These are two examples of changes to the industry that not only benefitted the environment, but made for more efficient operations.

An overall evaluation of the impact of Rule 74.18 over the past sixteen years reveals how industry and APCD have worked together to accomplish both emission reductions with improved environmental practices at the same time as a thriving automotive refinish industry whose end product has improved over the years. The 1992 staff report for the original rule adoption estimated that the rule would impact

approximately 100 companies. The District data base of all permitted operations impacted by Rule 74.18 lists 136 facilities (detailed in Appendix A). Clearly, the adoption of this regulation in 1992 has not led to the abandonment, consolidation, or shrinkage of the vehicle refinish industry in the county.

The last major amendments to Rule 74.18 were approved by the Ventura County Air Pollution Control District Board on December 13, 1994. The last amendments adopted on September 10, 1996, were minor rule cleanups. The 1994 amendments and a 1998 product variance provided industry with extra time to develop the high-solid, low-ROC clear coats at 2.1 pounds ROC per gallon. This coating was used to average with the high-ROC, color coats to meet the multistage topcoat limit in Rule 74.18 at 3.5 pounds ROC per gallon. The new proposal would no longer allow this averaging of ROC contents of color coats with clear coats. One of the major provisions of the proposed rule will require that these high-ROC, color coats be reformulated as low-ROC coatings. Based on early adopters of the proposed SCM by auto body shops in the southland, the new technology for color coats will be waterborne coatings.

2005 Suggested Control Measure

On October 20, 2005, the Air Resources Board adopted the Suggested Control Measure (SCM) for Automotive Coatings. This SCM is designed to be adopted by the Districts to further reduce ROC emissions and is a requirement for Districts subject to Health and Safety Code Section 40914. Since Ventura County is a nonattainment area for ozone, VCAPCD is required by this state law to adopt all feasible measures to show progress in achieving these standards. According to a letter from the Air Resources Board, dated June 8, 2007, the ARB has

determined that the SCM is a feasible measure that must be adopted by VCAPCD.

In developing the SCM, ARB worked with both industry and the Districts to create a reasonable control measure that will reduce significant ROC emissions. ARB used a survey of automotive coatings sold in California that was performed in 2001 to assess the emission inventory. Approximately 3.7 million gallons of automotive coatings were sold in California in 2001. On a population basis, this would translate to sales of about 74,000 gallons per year sold in Ventura County. Approximately 95 percent of these coatings were supplied by seven automotive coating manufacturers including Dupont, Akzo Nobel, BASF, Ellis Paint, PPG, and Sherwin Williams.

ARB staff reviewed the feasibility and availability of coatings that would comply with the proposed ROC limits, and determined that complying coatings for all coating categories would be available by January 1, 2009, except for three coating categories including primer sealers, single-stage coatings, and adhesion promoters. The effective date was pushed back an additional year to January 1, 2010, for these coatings.

The SCM also contained new ROC limits for surface prep solvents and solvent cleaners used to clean spray guns. This new limit at 25 grams of ROC per liter of material was based on a requirement from South Coast AQMD Rule 1171, Solvent Cleaning, and a Technology Assessment prepared for the South Coast AQMD entitled, "Assessment, Development, and Demonstration of Low-VOC Cleaning Systems for South Coast Air Quality Management District Rule 1171." This report was prepared in August of 2003 by Mike Morris and Katy Wolf of IRTA.

ARB staff also prepared an environmental impacts analysis and economic impacts analysis of the SCM. The cost-effectiveness of the SCM proposal was estimated at \$1.43 per pound of ROC reduced. This is well within the cost range of recently adopted regulations, and much less than the \$9 per pound of ROC threshold required for new air pollution sources.

An Exception to the SCM

One exception to the SCM being proposed is a small-use exemption for surface preparation cleaners subject to the new solvent cleaning requirement of 25 grams of ROC/liter, effective January 1, 2010. Staff became convinced that this exemption was needed after hearing comments at the April 29, 2008, rule workshop on the ineffectiveness of existing cleaners meeting the existing 200 g/l limit, not to mention the

problems anticipated when the ROC limits drops to 25 g/l.

This proposed exemption (described in detail in the New Proposed Rule Requirements section) is based on a similar exemption adopted by Santa Barbara County APCD on June 19, 2008. ARB had recommended that Santa Barbara delete this exemption from their rule proposal based on lower rule stringency (No similar exemption is contained in the SCM), but over half the auto body shops in Santa Barbara county signed a petition requesting the exemption. In the end, ARB did not disapprove the Santa Barbara rule amendments because ROC emissions were reduced overall, based on the new coating limits.

Other Air District Auto Body Rules

On December 2, 2005, the South Coast AQMD adopted amendments to their Rule 1151, Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations, which were based on the proposed SCM coating limits. In fact, the starting point for the SCM development was the SCAQMD Rule 1151. Approximately 90 percent of the proposed emission reduction are due to the lowering the ROC content of the color coat, and its waterborne technology. Waterborne color coats have been used in Europe for many years and its use there was mandated starting in January 1, 2007. Thus, the European adoption of this technology set the stage for its implementation in California.

The only other Air District to fully adopt the SCM is the San Joaquin Valley APCD, which adopted Rule 4612, Motor Vehicle and Mobile Equipment Coating, Phase II, on September 21, 2006. Recently, Santa Barbara County APCD adopted amendments to their Rule 339, which was based on the SCM except for a small use exemption for surface preparation cleaning solvents.

Field Research – Early SCM Adopters

One advantage of not being the first District to adopt new rule requirements is that we can get real-world feedback from auto body shops that have already adopted the SCM requirements. Staff visited four auto body shops that are currently using the waterborne color coats and low ROC cleaners. These include three shops in Ventura County: Superior Collision Center in Oxnard, Tony's Body Shop in Oxnard, and North Ranch Body Craft in Thousand Oaks. Also, staff visited 101 Collision in Westlake Village, which is located in Los Angeles County and

governed by South Coast AQMD Rules 1151 and 1171.

The color coats used at Superior Collision Center are manufactured by Spies Hecker, a German company that has partnered with Dupont. The other shops listed used color coats manufactured by Akzo Nobel's Sikkens Division, which has their headquarters in Amsterdam. It is no surprise that the European multinational companies are introducing their products early because European requirements became effective at the beginning of 2007. Another European multinational automotive coating company, BASF, has already converted most of their shops in Ventura County to the new waterborne color coats.

For all shops visited, the new color coats are performing at levels equal to or superior than the solvent-based versions. The transformation from a solvent-based to waterborne system has not been without some adjustments by the shops and their

painters. Capital costs to upgrade shops have been in the thousands of dollars, but the spray booth upgrades can be accomplished in a few days usually over the weekend. These upgrades consists of adding fans or air movement equipment to accelerate the drying of the waterborne coatings.

All four shops were also using the new low-ROC cleaners at 25 grams per liter for both spray gun cleaning and substrate surface preparation. These cleaners seem to be working well enough for the shops to maintain their product quality without sacrificing production. However, more recent workshop comments have indicated that there may still be problems associated with removing road tar, waxes, and other contaminants from surfaces prior to coating. Based on this limited survey, the bottom line for each of these field visits is that the SCM requirements are feasible to implement, with one exception being the low-ROC surface preparation cleaners.

NEW PROPOSED RULE REQUIREMENTS

New ROC Content Standards for Coatings (Section B.1)

The proposed ROC content standards for coatings are identical to the limits adopted by the ARB in the Suggested Control Measure (Table 1). The effective dates for most of the new coating requirements including the new color coating category is January 1, 2009. At the time of the adoption of the SCM in October 2005, the coatings industry requested an additional year for some of the coating categories where additional time was needed for reformulation and testing. These categories included adhesion promoters, the primer sealer category, and the single-stage topcoat category.

A significant proposal, which will increase the enforceability of the rule, will no longer average the ROC contents of the colorcoat and clearcoat in the former category known as multistage topcoats. Each of these subcategories will have their own ROC content limit as shown in Table 1. This will simplify enforcement and enable inspectors to cite illegal colorcoats or clearcoats without having to determine which coatings belong together in a system. This will be especially true at retail coating outlets where determining coating systems in the past was very difficult to prove for on-the-shelf coatings in the enforcement of the sales prohibition.

Another significant change to the coating requirements was the deletion of the catch-all

specialty coating category, which allowed limited use of some high ROC coatings. Instead ARB adopted new individual categories that were formerly included in the specialty coating category. Examples of these former specialty coatings that have their own ROC limit include adhesion promoters, multi-color coatings, truck bed liner coating, underbody coating, and uniform finish coating. Finally, ARB has proposed a default category with a 250 gram/liter ROC content limit for any coating that is not defined by one of the listed categories.

The proposed rule amendments contain a new exemption for aerosol coatings that meet the state consumer product regulations. Use of these products may be suitable for small use specialized situations, and provide coating choices that were formerly regulated under the specialty coating category.

Table 1. Proposed New Coating ROC Regulatory Limits (grams/liter)

Coating Category	Effective Adoption Date	Effective January 1, 2009	Effective January 1, 2010
Adhesion Promoter	840		540
Clear Coating	250		
Color Coating	760	420	
Multi-Color Coating	840	680	
Pretreatment Coating	780	660	
Primer	250		
Primer Sealer	340		250
Single-Stage Coating Nonmetallic/Noniridescent	420		340
Single Stage Metallic/Iridescent Coating	520		340
Temporary Protective Coating	420	60	
Truck Bed Liner Coating	840	310	
Underbody Coating	840	430	
Uniform Finish Coating	840	540	
Water Reducible Electrophoretic Brake Component Coating	440		
Any other coating type (default)	840	250	

New Cleaning Standard (Sections B.8)

Effective January 1, 2010, the proposed ROC Content standard for surface prep, general cleanup, and application equipment cleaning will be 25 grams/liter except for a small-use surface preparation cleaner exemption (described on the following page). Except for this one exemption, this proposal is identical to the SCM.

The existing Rule 74.18 does not have an exemption for aerosol cleaners nor is a broad-use aerosol exemption being considered for this rule proposal. However, as part of the small-use exemption for surface preparation cleaners, limited amounts of aerosol cleaners will be allowed provided all conditions for use are met. If allowed and used by body shops, the general use of aerosol cleaners would negate much of the anticipated emission reductions gained by this rule proposal. The unlimited use of aerosol cleaners, which have very high ROC content, would undermine the emission reduction potential of the new low ROC content cleaner requirement.

Prohibition of Possession (Section B.10)

A new enforcement provision from the SCM is the prohibition of possession. This provision will enable District inspectors to cite operators who have illegal coatings or cleaning solvents at their facility. This will increase the rule's enforceability by enabling

inspectors to cite shops without having to witness the actual use of illegal materials.

Two proposed exemptions from the prohibition of possession are paint strippers and surface prep cleaners designated in a pre-approved compliance plan and tagged with a unique label or sticker. Paint strippers are not regulated by Rule 74.18, and ROC emissions from surface preparation cleaners are proposed to be limited to 136 pounds of ROC per year per shop.

Air Toxic Control Measure for Automotive Coatings (Section B.11)

Existing state regulations (Title 17, Section 93112) prohibit the use of coatings containing the air toxics, hexavalent chromium and cadmium. This provision is included in Rule 74.18 to reinforce state regulations that are more stringent than the existing air toxic requirements for chromium and cadmium. Compounds containing hexavalent chromium or cadmium are very hazardous to human health and are considered to be human carcinogens.

OSHA Standard for Spray Finishing Operations (Section B.14)

The state Occupational Safety and Health standards for spray finishing operations are cited in Rule 74.18 to emphasize the potential flammability hazard from using acetone or acetone blends as cleaning agents.

These state regulations require the proper storage and handling of flammable materials including prevention of spills, closed containers, and adequate ventilation. The District shall not be liable for the misuse of any of these flammable materials.

“Clean Air Solvent” Exemption (Section C.8)

Clean Air Solvents are proposed to be exempt from the rule because of their low emission potential. The concept of clean air solvents was developed by the South Coast AQMD to encourage the use of low-emitting cleaners. These products are defined by SCAQMD Rule 102 (definitions). A Clean Air Solvent is a VOC-containing material used to perform solvent cleaning, solvent finishing, or surface preparation operations or activities which:

- Contains no more than 25 grams per liter of material, as applied;
- Has a VOC composite partial vapor pressure less than 5mm of Hg at 20 °C;
- Reacts to form ozone at a rate not exceeding that of toluene;
- Contains no compounds classified as Hazardous Air Pollutants (HAPs) by the federal Clean Air Act, or ozone-depleting compounds as defined by SCAQMD, or global-warming compounds as defined by SCAQMD; and
- Has been certified by the SCAQMD to meet the above criteria using test methods and procedures approved by the SCAQMD.

A Clean Air Solvent Certificate is issued by the SCAQMD for a solvent that meets the criteria in the above definition. This written proof of certification is needed to qualify for this proposed exemption from Rule 74.18.

Exemption for Agricultural Sources (Section C.10)

Senate Bill 700, which was adopted by the legislature in 2003, revised air quality regulations by removing the exemption of agricultural sources of air pollution from permit and local air quality regulations. Since the agricultural sources of vehicle coating emissions is a very small part of inventory, staff is proposing to keep these small operations exempt from Rule 74.18. The definition of agricultural sources of air pollution in the proposed exemption is derived directly from Health and Safety Code Section 39011.5.

Small-Use Exemption for Surface Preparation Cleaners (Section C.12)

The proposed surface preparation cleaner small-use exemption has been designed to be flexible and enforceable. The Santa Barbara version is based on an allowance of 20 gallons of non-compliant cleaner per year (having a maximum 6.5 pounds ROC per gallon) per shop, and prohibits the use of aerosol cleaners. The Ventura proposal is more flexible because it allows the use of aerosol cleaners in addition to bulk liquid cleaners by establishing an exemption emission threshold in terms of pounds rather than gallons. Using the Santa Barbara rule, this threshold is proposed to be 130 pounds ROC per year (based on 20 gallons X 6.5 pounds/gallon).

The Ventura proposal is more enforceable because it requires operators who are interested in obtaining this exemption to implement a simple compliance plan. This compliance plan contains a list of pre-designated non-compliant cleaners and establishes a labeling or tagging system to identify all non-compliant cleaners in the shop covered under the exemption. Another one of ARB's concerns with Santa Barbara's exemption was that by allowing the use of any noncompliant cleaners, it would nullify the new prohibition of possession requirement. This new illegal possession provision increases the rule's enforceability by providing inspectors with a new enforcement tool to more easily determine compliance. Ventura's proposal would help restore the effectiveness of this provision.

New Recordkeeping Requirements (Section D)

Staff is proposing to delete the daily recordkeeping requirements of coatings applied and mixing ratios. It is no longer necessary to monitor these coatings so closely to enforce the ROC limits in the rule. This is especially true for the waterborne coatings. Instead, monthly purchase records of coatings and cleaning solvents are required.

COMPARISON OF PROPOSED RULE REQUIREMENTS WITH OTHER AIR POLLUTION CONTROL REQUIREMENTS

Health and Safety Code Section 40727.2 requires Districts to compare the requirements of a proposed revised rule with other air pollution control requirements. These other air pollution control requirements include federal New Source Performance Standards (NSPS), federal National Emissions Standards for Hazardous Air Pollutants (NESHAPS), Best Available Control Technology (BACT) and any other District rule applying to the same equipment.

Comparison with Federal and APCD Regulations

On September 11, 1998, the Environmental Protection Agency (EPA) promulgated national volatile organic compound (VOC) standards for automobile refinish coatings pursuant to Section 183(e) of the Clean Air Act. On Page 48808 of the Federal Register (September 11, 1998, Volume 63, Number 176), EPA states that although regulated entities in all states will be required to comply with the national standards, some states may wish to promulgate VOC standards more stringent than the national rule to assist in achieving attainment with the federal ambient air quality standards for ozone. VOC or ROC emission are precursors to the formation of ozone. The proposed standards adopted by ARB in their SCM are more stringent than the national rule.

On January 9, 2008, EPA adopted a National Emissions Standard for Hazardous Air Pollutants

(NESHAPS) for Paint Stripping and Automotive Refinishing. These regulations only apply if the shops use paint strippers containing methylene chloride or if the coatings applied contain any one of the following target Hazardous Air Pollutants (HAPs): chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni) or cadmium (Cd). Proposed amendments to Rule 74.18 will contain a provision that adopts the California Air Toxic Control Measure restricting the use of hexavalent chromium and cadmium.

For those sources that apply toners containing lead, non-hexavalent chromium or nickel, they may be subject to the new NESHAP, which has similar requirements to APCD Rule 74.18 with one exception. The EPA regulation has a required painter training provision not found in Rule 74.18. Almost all of the new coating and toners have been reformulated without these toxic metals so that sources may petition EPA to be exempt from the NESHAP.

Comparison with BACT Requirements

Health and Safety Code Section 40727.2 (a) requires the proposed amendments to Rule 74.18 be compared with Best Available Control Technology (BACT). The 2005 SCM developed by the Air Resources Board has new requirements that are considered to be BACT. This rule development is based directly on and contains all the requirements of the SCM.

IMPACT OF THE PROPOSED RULE

ROC Emissions Impacts

The current permitted ROC emission inventory from the vehicle coating operations is about 220 tons of ROC per year. The actual ROC emissions are approximately 168 tons per year based on the 2002 ARB statewide survey, corrected for county population. The estimated control of actual emissions is about 0.2 tons per day or about 73 tons of ROC per year.

Cost-Effectiveness

According to the 2005 ARB staff report for the Suggested Control Measure, the overall estimated cost-effectiveness is \$1.43 per pound of ROC

reduced. ARB performed an analysis of economic impacts on the implementation of the SCM. This analysis may be found in Chapter VII of the Staff Report for the Proposed SCM for Automotive Coatings dated October 2005.

Incremental Cost-Effectiveness Analysis

Health and Safety Code Section 40920.6(a) requires districts to identify one or more potential control options, assess the cost-effectiveness of those options, and calculate the incremental cost-effectiveness. Health and Safety Code Section 40920.6 also requires an assessment of the incremental cost-effectiveness for proposed regulations relative to ozone, carbon monoxide (CO),

sulfur oxides (SOx), nitrogen oxides (NOx), and their precursors.

Incremental cost-effectiveness is defined as the difference in control costs divided by the difference in emission reductions between two potential control options achieving the same emission reduction goal of a regulation. The proposed amendments require the most stringent viable ROC limits with no other viable control option that can achieve the same amount of emission reductions. Therefore, the incremental cost-effectiveness analysis does not apply to this rulemaking.

Socioeconomic Analysis

Assembly Bill 2061 (Polanco), effective January 1, 1992, requires the District Board consider the socioeconomic impacts of any new rule. The Board must evaluate the following socioeconomic information on proposed amendments to Rule 74.18.

- (1) *The type of industries or businesses, including small business, affected by the rule or regulation.*

The adoption of amendments to Rule 74.18 will directly affect the sources that coat motor vehicles and mobile equipment in the county (see list in Appendix A).

- (2) *The impact of the rule amendments on employment and the economy of the region.*

Revisions to Rule 74.18 are not expected to have a negative impact on either employment or the economy of Ventura County. Currently, at least 10 percent of the auto body shops in the county have already adopted the new waterborne color coat technologies. The ARB staff report in Chapter VII, Section C, evaluated the economic impacts on California businesses.

According to this report, the estimated average decline in profitability is about 15 percent for the automotive refinish facilities. If the entire cost of the proposed SCM were passed on to consumers, the average price for a repair or refinish would increase by about \$11, which represents an increase of 0.5% for a \$2,200 repair.

- (3) *The range of probable costs, including costs to industry or business, and including small business, of the rule or regulation.*

According to the ARB staff report, the overall cost-effectiveness is approximately \$1.43 per pound of ROC reduced. This compares favorably to new sources that are subject to BACT controls up to \$9 per pound of ROC reduced.

- (4) *The availability and cost-effectiveness of alternatives to the rule or regulation being proposed or amended.*

The SCM adopted by ARB was negotiated with the automotive coating manufacturers and the National Paint and Coating Association. Specialty coating categories were included for low-use operations requiring higher ROC coatings. Additionally, implementation dates were delayed by one year for certain coating categories requiring reformulation. No alternatives to the SCM were proposed by ARB.

- (5) *The emission reduction potential of the rule or regulation.*

The anticipated emission reduction potential of the proposed rule amendments is about 0.2 tons per day of ROC emissions. Over 90 percent of the ROC emission reductions result from the switch from solvent to waterborne coatings for the color or base coat applied at almost all auto body shops.

- (6) *The necessity of adopting, amending, or repealing the rule or regulation in order to attain state and federal ambient air standards pursuant to Chapter 10 (commencing with Section 40910).*

Ventura County is classified as a nonattainment area for both federal and California Ambient Air Quality Standards for ozone. These proposed rule amendments will reduce ROC emissions that are precursors to the formation of ozone. According to the draft 2007 Air Quality Management Plan (AQMP), these emission reductions will help the District in its effort to attain the standards.

ENVIRONMENTAL IMPACTS OF METHODS OF COMPLIANCE/CEQA

California Public Resources Code Section 21159 requires the District to perform an environmental analysis of the reasonably foreseeable methods of compliance. The analysis must include the following information on proposed revisions to Rule 74.18:

- (1) *An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.*
- (2) *An analysis of the reasonably foreseeable mitigation measures.*
- (3) *An analysis of the reasonably foreseeable alternative means of compliance with the rule or regulation.*

Table 4 lists all reasonably foreseeable compliance methods, the environmental impacts of those methods, and measures that could be used to mitigate the environmental impacts. In addition, Chapter VI of ARB’s staff report contains an analysis of reasonably foreseeable environmental impacts of the method of compliance with the SCM. Based on available information, the ARB has determined that no significant adverse environmental impacts should occur as a result of districts adopting the SCM. Chapter VI summarized the potential impacts that the proposed SCM may have on wastewater treatment, air quality, and hazardous waste disposal.

Table 4
Environmental Impacts and Mitigations of Methods of Compliance

Compliance Methods (including all reasonably foreseeable alternative means of compliance)	Reasonably Foreseeable Environmental Impacts	Reasonably Foreseeable Mitigation Measures
Reformulation of coatings or cleaning solvents	Air Quality Impacts: Reformulation may result in the use of toxic materials.	Operators must use reformulated products with less or no toxic materials.
	Water Impacts: Improper disposal of cleaning solvents or coatings may cause water impacts	Compliance with wastewater discharge standards and waste disposal requirements will mitigate these impacts.
	Human Health Impacts: Cleaning solvents and coatings may be replaced with products containing more toxic compounds.	Compliance with OSHA safety guidelines (e.g., personal protective equipment, prevention and response, emergency first aid procedures) reduces these impacts.
	Hazardous Waste Disposal: Cleaning solvents and coatings should be treated as hazardous waste.	Compliance with federal and state hazardous waste disposal requirements should mitigate these impacts.

ARB staff also analyzed the potential for air quality impacts from the use of new low-ROC coating formulations that will comply with the proposed coating ROC standards. During past regulatory efforts affecting coatings, industry representatives have alleged that use of low-ROC coatings may create certain significant adverse air quality impacts. While similar concerns were not raised during the development of the SCM, ARB staff examined the following issues to determine if any of these concerns were applicable:

Issue No. 1: Will the use of lower ROC automotive coatings result in a thicker film coating?

ARB Response: No. In previous rulemakings on coatings, some industry representatives contended that lower ROC coatings are formulated with high solids contents and were therefore difficult to handle during application, tending to produce a thick film when applied. A thicker film supposedly indicates that a smaller surface area is covered with a given amount of material, thereby increasing ROC emissions per unit of area covered compared to higher ROC coatings. Although high-solid, low ROC coatings are being used (for single stage topcoats and primers), the

recommended film thickness for these coatings is similar to that for higher ROC coatings. Thus, a lower ROC coating would cover the same or larger surface area than a higher ROC coating. Furthermore, the largest change to the proposed rule involves the switch from solvent-based to waterborne coatings, where coating film thickness will be unaffected. In fact, coating manufacturers have claimed that coating material usage for the same job will decrease which means more coverage per gallon applied and fewer ROC emissions.

Issue No. 2: Will the use of lower ROC automotive coatings result in the illegal thinning of the product?

ARB Response: Excessive thinning is not expected to be a problem because many of the coatings already comply with the SCM limits. Additionally, the ROC limit for color coatings is expected to be met with waterborne formulations. Even if thinning with reducers occurs, it would likely be done with water or exempt solvents. As a result, the potential for excessive thinning is minor and concerns about significant adverse air quality impacts are not warranted.

Issue No. 3: Will the use of lower ROC automotive coatings require additional priming for proper adhesion to the substrate?

ARB Response: No. Most automotive coating primers are already solvent-borne coatings, and many already meet the ROC limits in the proposed SCM. Manufacturer's data show that substrate preparation for low ROC color coatings is similar to substrate preparation for higher ROC color coatings. No instances of poor adhesion between primers and low ROC color coatings are expected.

Issue No. 4: Will the use of lower ROC automotive coatings require the use of more topcoats?

ARB Response: In previous rulemakings on coatings, some industry representatives have claimed that the proposed lower ROC coating limits would yield products that provide inferior coverage, resulting in the use of more coats to provide the same coverage as the high ROC counterparts. This is not the case with automotive coatings. In fact, some low ROC water-borne coatings provide greater coverage than their solvent-based counterparts. So additional coats would not be required to obtain the same quality finish.

Issue No. 5: Will the use of lower ROC automotive coatings require more frequent recoating?

ARB Response: No. Water-borne automotive coatings have been used successfully by the majority of automobile manufacturers for several years. They are also used in manufacturer's vehicle processing centers, where cars are touched up prior to distribution. Data from the automotive coatings sector do not support the claim that lower ROC automotive coatings require more frequent recoating.

Issue No. 6: Will the use of lower ROC automotive coatings result in product substitution by the end-users?

ARB Response: There are currently available low ROC automotive coatings with performance characteristics comparable to higher ROC automotive coatings. Therefore, it is not anticipated that painters will substitute a product from a higher ROC category. Typically, manufacturers market coatings as a system and will not warranty the product's performance if the user deviates from the recommended coatings. Additionally, the products within each automotive coating category are specific to certain applications, and may not be used successfully for different applications.

Issue No. 7: Will the use of lower ROC automotive coatings result in coatings with higher reactivity?

ARB Response: Using the Maximum Incremental Reactivity (MIR) scale, developed by Professor Carter of UC Riverside, as the basis for comparing reactivity of ROCs, it is true that some of the solvents in solvent-based coatings (mineral spirits) have a lower reactivity than some ROCs in waterborne coatings. For example, a typical solvent in waterborne coatings, propylene glycol, is two to three times more reactive than mineral spirits. However, less reactive solvents such as mineral spirits are not extensively used in automotive coatings. These coatings tend to have solvents with higher reactivity, such as xylene and toluene. The reactivity of propylene glycol is approximately one-third the reactivity, on a per gram basis, of xylene or toluene. Additionally, it is anticipated that manufacturers will incorporate the use of water and exempt solvents when formulating to meet the ROC limits of the

SCM. We have concluded, based on this information, that the total reactivity of the lower ROC automotive coatings will be less than the reactivity of the higher ROC automotive coatings.

This analysis demonstrates the adoption of revisions to Rule 74.18 will not have a significant effect on the environment due to unusual circumstances. The amendments overall reduce emissions by an estimate of 0.2 tons per day of ROC, and are thus categorically exempt from CEQA under Sections 15307 and 15308 of the state CEQA Guidelines.

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DISCLAIMER

This report contains references to company and product names to illustrate product availability. Mention of these names is not to be considered an endorsement by the Ventura County Air Pollution Control District.

Appendix A. Permitted Vehicle Refinish Operations in Ventura County

SIC Code	SIC Description	Facility Name	City
7532	Auto Repair & Painting	1-Day Paint & Body Centers Inc	Oxnard
7532	Auto Repair & Painting	101 Collision LP	Oxnard
7532	Auto Repair & Painting	212 Body and Restoration	Ojai
7532	Auto Repair & Painting	A & A Auto Collision Center	Oxnard
7532	Auto Repair & Painting	A & G Auto Painter	Santa Paula
7532	Auto Repair & Painting	A & R Auto Collision Center, Inc.	Oxnard
7532	Auto Repair & Painting	A-1 Truck and Equipment Co.	Ventura
7532	Auto Repair & Painting	Affordable Collision Center	Ventura
7532	Auto Repair & Painting	Al Innocenti	Oxnard
7532	Auto Repair & Painting	America Antiques & Classics	Ventura
7532	Auto Repair & Painting	Amigos Auto Body	Oxnard
7532	Auto Repair & Painting	Auto Body International	Oxnard
7532	Auto Repair & Painting	Auto Body Unlimited, Inc.	Simi Valley
7532	Auto Repair & Painting	Auto Image Restorations and Customs	Camarillo
7532	Auto Repair & Painting	Autofinders LLC	Oxnard
7532	Auto Repair & Painting	Avenue Body Shop	Ventura
7532	Auto Repair & Painting	B & B Auto Body	Thousand Oaks
7532	Auto Repair & Painting	Barber Ford Body Shop	Ventura
7532	Auto Repair & Painting	Becker Automotive Design, Inc.	Oxnard
7532	Auto Repair & Painting	Biggs Customs	Camarillo
5012	Automobile Wholesalers	BMW of North America, LLC	Oxnard
7532	Auto Repair & Painting	Bodymaster U.S.A.	Ventura
7532	Auto Repair & Painting	Bodytech Ltd.	Ventura
7532	Auto Repair & Painting	Brue's Body Shop	Ojai
7532	Auto Repair & Painting	Buena Vista Collision Ctr. of Ven	Ventura
7532	Auto Repair & Painting	Bump & Shine	Ventura
7532	Auto Repair & Painting	Bundy & Bevilacqua Inc.	Simi Valley
7532	Auto Repair & Painting	Bundy & Bevilacqua Inc.	Simi Valley
7532	Auto Repair & Painting	Bunnin Buick-GMC, Inc.	Oxnard
7532	Auto Repair & Painting	California Collision Specialists	Ventura
7532	Auto Repair & Painting	California Motors LLC	Camarillo
7532	Auto Repair & Painting	Camarillo Auto Body	Camarillo
7532	Auto Repair & Painting	Campbell's Custom Paint & Body	Moorpark
7532	Auto Repair & Painting	Candace Steven dba C & S RV	Oxnard
7532	Auto Repair & Painting	Channel Island Auto Body	Oxnard
7532	Auto Repair & Painting	City of Thousand Oaks	Thousand Oaks
7532	Auto Repair & Painting	Class A Auto Body & Paint	Simi Valley
7532	Auto Repair & Painting	Classic Motor Cars	Oxnard
7532	Auto Repair & Painting	Coachcraft	Fillmore
7532	Auto Repair & Painting	Commercial Auto Body Shop	Oxnard
7532	Auto Repair & Painting	Conejo Valley Auto Body	Thousand Oaks
5511	New & Used Car Dealers	Courtesy Chevrolet	Thousand Oaks
5511	New & Used Car Dealers	Crown Dodge dba Crown Auto Body	Ventura
7532	Auto Repair & Painting	Custom Refinishers	Ventura
7532	Auto Repair & Painting	Daedalus Auto Body Shop	Camarillo
7532	Auto Repair & Painting	DJ's Auto Collision Center	Oxnard
7532	Auto Repair & Painting	Don & Sons Body & Paint	Oxnard
7532	Auto Repair & Painting	Dualans Auto Body	Oxnard
7532	Auto Repair & Painting	E & I Paint & Body	Oxnard

7532	Auto Repair & Painting	E. J. Harrison & Sons, Inc.	Ventura
7532	Auto Repair & Painting	Earl Scheib of California Inc. #89	Oxnard
7532	Auto Repair & Painting	EPR Collision	Camarillo
7532	Auto Repair & Painting	Fender Mender Body Shop	Ventura
7532	Auto Repair & Painting	First Collision Center Inc.	Simi Valley
5511	New & Used Car Dealers	Ford of Simi Valley, Inc.	Simi Valley
7532	Auto Repair & Painting	G.I. Rubbish Company	Simi Valley
5511	New & Used Car Dealers	Gibbs International Truck Inc.	Oxnard
7532	Auto Repair & Painting	Global Auto Processing Services,Inc	Port Hueneme
7532	Auto Repair & Painting	GM Celes Body Shop	Fillmore
7532	Auto Repair & Painting	Gold Coast Acura	Ventura
7532	Auto Repair & Painting	Gold Coast Custom	Canyon Country
7532	Auto Repair & Painting	Great American Auto Body	Ventura
7532	Auto Repair & Painting	Grimaldo Enterprises	Fillmore
7532	Auto Repair & Painting	GTS Customs	Simi Valley
7532	Auto Repair & Painting	Hub Auto Body	Saticoy
7532	Auto Repair & Painting	Integrity Autobody Collision	Oxnard
7532	Auto Repair & Painting	Iron Horse Custom Factory	Simi Valley
7532	Auto Repair & Painting	J & C Auto Body	Ventura
7532	Auto Repair & Painting	Jazz Auto Body	Oxnard
7532	Auto Repair & Painting	Jim's Fillmore Towing	Fillmore
5511	New & Used Car Dealers	Kemp Ford	Thousand Oaks
7538	General Auto Repair Shops	Ken's Automotive Engine Inc.	Ventura
5511	New & Used Car Dealers	Kirby Oldsmobile-Jeep/Eagle	Ventura
7532	Auto Repair & Painting	Leo's Body Shop	Ventura
7532	Auto Repair & Painting	Maaco Auto Painting/Body Works	Ventura
7532	Auto Repair & Painting	Marc Hench Auto Repair	Ventura
7532	Auto Repair & Painting	Mendez Body Shop	Oxnard
7532	Auto Repair & Painting	Mike's Auto Body	Thousand Oaks
7532	Auto Repair & Painting	New Era Body Shop	Oxnard
5511	New & Used Car Dealers	New Image Auto Body	Santa Paula
7532	Auto Repair & Painting	New Vehicle Auto Body & Paint	Oxnard
7532	Auto Repair & Painting	Newcastle Motors	Simi Valley
7532	Auto Repair & Painting	North Ranch Bodycraft	Thousand Oaks
7532	Auto Repair & Painting	O'Loughlin & Company	Simi Valley
7532	Auto Repair & Painting	Ocean Body Shop	Ventura
7532	Auto Repair & Painting	Ortega's Collision Center	Ventura
7532	Auto Repair & Painting	Oxnard Auto Collision Center	Oxnard
8222	Junior Colleges	Oxnard College	Oxnard
7532	Auto Repair & Painting	Pacific Coast Auto Body Inc.	Moorpark
7532	Auto Repair & Painting	Pacific Const. & Maint. Inc.	Santa Paula
5012	Automobile Wholesalers	Pacific Vehicle Processors Inc	Oxnard
7532	Auto Repair & Painting	Paintin' Place Auto Body	Thousand Oaks
7532	Auto Repair & Painting	Palmers Custom Collision	Camarillo
5511	New & Used Car Dealers	Paradise Chevrolet	Ventura
7532	Auto Repair & Painting	Performance Collision	Camarillo
7532	Auto Repair & Painting	Poco Loco Customs	Oxnard
5511	New & Used Car Dealers	Precision Auto Body	Thousand Oaks
7532	Auto Repair & Painting	Premier Coach	Thousand Oaks
7532	Auto Repair & Painting	Prestige Bodyworks	Oxnard
5083	Retail Farm Equipment	Quinn Company Inc.	Oxnard
7532	Auto Repair & Painting	R & J Auto Body & Paint	Oxnard

7532	Auto Repair & Painting	Recon To Go	Moorpark
7532	Auto Repair & Painting	Santa Paula Airport Association	Santa Paula
5511	New & Used Car Dealers	Santa Paula Chevrolet Inc.	Santa Paula
7532	Auto Repair & Painting	Santa Paula Collision	Santa Paula
7532	Auto Repair & Painting	Santos Truck & Auto Repair	Oxnard
7532	Auto Repair & Painting	Saticoy Auto Body & Paint	Saticoy
7532	Auto Repair & Painting	Scotty's Body Shop	Thousand Oaks
7532	Auto Repair & Painting	Simi Valley Auto Body	Simi Valley
7532	Auto Repair & Painting	Star Auto Body, Inc.	Simi Valley
7532	Auto Repair & Painting	Star Paint & Body	Oxnard
7532	Auto Repair & Painting	Studebaker Srvs. Autobody/Collision	Moorpark
7532	Auto Repair & Painting	Supercraft Auto Body	Oxnard
7532	Auto Repair & Painting	Superior Collision, Inc.	Simi Valley
7532	Auto Repair & Painting	Supertech Paint & Body	Ventura
7532	Auto Repair & Painting	T&S Auto Refinishing	Ventura
7532	Auto Repair & Painting	The Body Shop	Simi Valley
7532	Auto Repair & Painting	The Collision Center, Inc.	Thousand Oaks
7532	Auto Repair & Painting	The Spot Shop Auto Body Restoration	Santa Paula
5511	New & Used Car Dealers	Thousand Oaks Toyota	Thousand Oaks
7532	Auto Repair & Painting	Timeless Kustoms	Camarillo
7532	Auto Repair & Painting	Tip Top Body & Paint Shop	Ventura
7532	Auto Repair & Painting	Todey Motor Company Inc.	Oxnard
7532	Auto Repair & Painting	Tony's Body Shop	Oxnard
7532	Auto Repair & Painting	Tri-County Auto Body & Paint	Ventura
9711	National Security	U.S. Coast Guard	Oxnard
7532	Auto Repair & Painting	Unique Auto Works	Ventura
7532	Auto Repair & Painting	Ventura Co-GSA Fleet Services	Ventura
8222	Junior Colleges	Ventura College	Ventura
7532	Auto Repair & Painting	Ventura County Office of Education	Camarillo
7532	Auto Repair & Painting	Vilma Inc.	Simi Valley
7532	Auto Repair & Painting	Virgil's Auto Body	Newbury Park
7532	Auto Repair & Painting	Vista Ford Oxnard, LLC	Oxnard
3711	Motor Vehicle Mfg.	Volvo Cars of North America	Camarillo
3537	Fork Lift Manufacturing	Wiggins Lift Company Inc.	Oxnard
7532	Auto Repair & Painting	World Class Paint & Body	Simi Valley