

BOARD MEETING DATE: November 8, 1996

AGENDA NO.

PROPOSAL: Amend Rule 1113 - Architectural Coatings

SYNOPSIS: The proposed amendment will clarify rule requirements, decrease VOC limits for clear and pigmented lacquers, flat coatings, traffic coatings, and multi-color coatings, and increase VOC limits for fire-proofing exterior coatings, japans/faux finishing coatings, and magnesite cement coatings to reflect current technology. The amendments will also implement a portion of the AQMP Control Measure for architectural coatings.

COMMITTEE: Stationary Source, September 20, 1996, Reviewed

RECOMMENDED ACTION:

1. Certify the Final Subsequent Environmental Assessment for Proposed Amended Rule 1113 - Architectural Coatings; and
2. Amend Rule 1113 - Architectural Coatings.

James M. Lents, Ph.D.  
Executive Officer

PL:JPB:FL:NB

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**Background**

On October 11, the Governing Board held a Public Hearing to consider amendments to Rule 1113 - Architectural Coatings. Staff presented the proposed amendments, and public testimony was presented. The Board continued the Public Hearing to allow additional time for public testimony and for interested parties to review the staff proposal, and supporting documentation. This letter summarizes the public testimony relative to the issues presented and provides the staff's responses. This letter supplements the October Board letter and staff report. Substitute the attached proposed Board Resolution, proposed

amended Rule 1113, and Attachment 1 for the previous proposed Board Resolution, proposed amended Rule 1113, and Attachment 1.

Although the architectural coatings rule was adopted nineteen years ago and has been revised eighteen times, eleven of the eighteen amendments were at the request of manufacturers or directed by the Board to define specialty coating categories, relax limits, and clarify requirements. Four of the amendments were in response to CARB comments, requiring SIP fixes and did not achieve any emission reductions. Only three amendments were designed to obtain significant emission reductions, and part of one of those amendments was stayed by the Superior Court. These three amendments were based on technology-forcing limits. In contrast, the current proposed amendments are based on currently available technology. The staff report contains a detailed history of the amendments to Rule 1113.

Current daily emissions from architectural and industrial maintenance (AIM) coatings are estimated at 60 tons per day (tpd), based on the latest CARB survey completed in 1994. The CARB has been conducting coating surveys and estimating AIM coating emissions for many years. Figures 1 and 2, included as Attachment D, show the results of these surveys since 1975. Figure 1 has AIM coating sales, VOC emissions and population for the state. Figure 2 shows per capita data for sales, VOC emissions, and VOC content. Figure 2 shows that coating usage has not significantly changed since Rule 1113 first went into effect in September 1979. However, the average VOC content of AIM coatings has decreased 42 %, from 2.06 to 1.19 lbs/gal of material, and the per capita VOC emissions declined 34 %, from 4.60 to 3.04 lbs/person-yr. These results demonstrate the success of technology advancements and the coating manufacturers in obtaining VOC emission reductions. These trends are consistent with national trends for AIM coatings.

## **Proposal**

### ***Proposed Amendments***

Staff is proposing to establish future lower VOC limits for a few coating categories based on currently available technology. These categories are flats, lacquers, multi-color, and traffic coatings. Table 1 summarizes the key amendments.

Additionally, for flat coatings, the proposed amended rule (PAR) includes a provision for a technology assessment for feasibility by July 1, 2000 for the 100 g/l limit and by July 1, 2007 for the 50 g/l limit. The PAR also includes an averaging provision to allow manufacturers to average the VOC content of their flat coatings, on a sales weighted basis, upon plan submittal and approval. For lacquers, the PAR also includes a provision for a technology assessment for feasibility of the 275 g/l limit by January 1, 2004. In addition, the PAR includes an exemption for lacquers to add up to 10% retarder above the VOC

limit during cool, humid days to address blushing issues with acetone formulated lacquers.

<b>TABLE 1</b>					
<b>Summary of Key Proposed Amendments</b>					
<b>Category</b>	<b>Current Limits (g/l)</b>	<b>Implementation Date</b>	<b>Proposed Limits (g/l)</b>	<b>Emission Change (Tons/day)</b>	<b>Total Emission Change (Tons/day)</b>
Lacquers	680	1/98 1/2005	550 275	-1.4 -1.1	- 2.5
Traffic Coatings	250	1/98	150	-1.5	-1.5
Flats	250				-6.4
Interior		7/2001 7/2008	100 50	-1.7 -2.6	
Exterior		7/2001 7/2008	100 50	-0.8 -1.3	
Multi-Color Coatings	420	1/98	250	-0.1	-0.1
					<b>-10.5</b>

Lowering the VOC limits for flats, traffic, multi-color, and lacquers will achieve an emission reduction of 10.5 tpd based on the current emission inventory. Partially offsetting these reductions will be an increase of 0.14 tpd for japans, magnesite, and fire-proofing coatings, since staff is also recommending to increase the VOC limits for these specialty coating categories that are currently under variance.

Staff recommends deletion, consolidation, and addition of definitions, as well as reinstatement of VOC limits and definitions pursuant to the Superior Court judgment. The exemption for quick-dry primers, sealers and undercoaters will continue, provided the manufacturer continues to submit to the Executive Officer annual reports of those coatings sold in the AQMD. In addition, staff has reorganized the Table of Standards coating categories into alphabetical order, eliminated coating categories that have been at the default 250 g/l limit of paragraph (c)(1) for at least three years, and consolidated similar categories with the same VOC limit.

In a letter dated October 10, 1996, the EPA supported the proposed amended rule by indicating that the EPA, "...commends the District for its recognition of the current technology in low-VOC architectural coatings and for its inclusion of the averaging provisions." A copy of the letter is included in Attachment E.

### ***Additional Proposed Amendments***

Based on the comments and concerns received during the October public hearing, staff is proposing two new provisions to the rule, including a provision that addresses the impact on small manufacturers of flats and lacquers, and a reevaluation of the proposed limits for lacquers and flats based on a review of future CARB surveys. The first proposed provision will result in a loss of emission reductions of approximately 0.2 tpd in 2008.

Staff is further proposing an additional resolution for AQMD staff to monitor any job impacts as a result of these Rule 1113 amendments.

### **Key Policy Issues**

Several issues were raised with respect to the proposed limits for flats and lacquers as part of the public testimony during the October 11, 1996 Board meeting. Some of these issues are listed in Attachment A along with staff's responses. The remaining key issues relative to the staff's proposal for these two categories are reviewed below. The staff's response is also provided.

#### Performance

Some manufacturers and painting contractors testified that the low- and zero-VOC flats and lacquers are not as durable and do not perform as well as products formulated at higher VOC levels. Specifically, it was stated that the lower VOC flats exhibit lower hiding ability, adhesion, and stain resistance. As such, these lower VOC products cover less and require more frequent recoating, and more touch-up and repair. For example, Dunn-Edwards' technical research director provided scrub resistance test results comparing some of the currently available zero-VOC products with currently available products formulated at 65 g/l and 130 g/l. Data was also presented comparing Behr Process' Interior Flat Wall Super Scrub (1400) paint (VOC = 161 g/l) with Dunn Edwards' Decoval and Suprema, that indicated both Dunn Edwards' products had overall superior scrub resistance.

#### *Response*

*The proposed amendments would require flats to ultimately achieve a VOC limit of 50 g/l, which is closer to the 65 g/l flat coating tested by Dunn Edwards than the zero-VOC flats. Nevertheless, zero-VOC flats are currently manufactured by three different nationally recognized companies (ICI- Glidden, Benjamin Moore, and Frazee) and several smaller companies located in different parts of the country. Low (275 g/l) VOC lacquers, primarily water-based lacquers, are produced by several manufacturers. According to these manufacturers' technical information, these products have equivalent to superior performance characteristics. Zero-VOC flats and water-based lacquers provide similar coverage, including dry mil-thickness, as conventional systems. Surface preparation for these products is identical and the estimated life of*

*these products is also identical. However, any thinning or clean-up for these products is usually done with water, not VOCs.*

*In any event, staff has established a significant time period for implementation since only a limited number of manufacturers currently produce these products, and to provide adequate time for the other manufacturers to reformulate their products. This time period consists of five and 12 years to meet the proposed 100 and 50 g/l limits for flats respectively. For lacquers, it consists of 14 months and eight years to meet the proposed 550 and 275 g/l limits. These same limits for lacquers were previously proposed and adopted in February 1990. Moreover, staff has also proposed a technology review prior to implementing the 100 g/l, 50 g/l, and 275 g/l limits. For these reviews, staff will assess the state of the technology and propose amendments to the Board as necessary. Finally, for flats, the manufacturers can make use of the averaging provisions in the rule. Several manufacturers have already indicated to staff that they will utilize this provision in the rule to meet the proposed 2001 limit of 100 g/l. Presumably, industry will also make use of the averaging provision to comply with the final 50 g/l limit.*

#### Flammability of Acetone-Based Lacquers

Some manufactures testified that lacquers formulated with acetone to meet the future 550 g/l limit in 1998, may cause an increase in fire risks in field applications.

#### *Response*

*When compared to conventional solvents such as methyl ethyl ketone, toluene or butyl acetate, based on the 1994 Uniform Fire Code (UFC) hazard classifications, acetone has identical health and physical hazard classifications. Staff has relied upon Los Angeles and Orange County fire departments, which indicate that such products pose the same degree of fire hazard as conventional lacquers. Thus, acetone would not create an increased fire hazard, and as a solvent, handling characteristics would be identical relative to fire department procedures. The UFC treats all of the mentioned solvents as Class I Flammable liquids, and considers them all to present the same relative degree of fire hazard. Letters from the Los Angeles County Fire Department and Orange County Fire Authority addressing this issue are included in Attachment E*

*However, acetone is significantly less toxic than solvents used in traditional solvent-based lacquers. The daily exposure limits are more than seven times lower for xylenes, more than three times lower for toluene and MEK, and almost two times lower for isopropanol, as compared to the daily exposure limit for acetone. The extremely lower toxicity of acetone as compared to other, traditional solvents is further illustrated by the Immediate Danger to Life or Health (IDLH) exposure limits. Allowable acetone exposure limits are ten times greater than toluene, more than six times greater than MEK, and two times greater than xylene. In the Federal Register dated June 16, 1996, the EPA granted a petition to delete acetone from the list of toxic chemicals under Section 313 of the*

*Emergency Planning and Community Right-to-Know Act, better known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986.*

#### Impact of Low-VOC Coatings on Painters

Several speakers raised concern over the impact lower-VOC products will have on the painting contracting industry. Specifically, the painters contend that since they are held accountable for the final product, that their jobs are at stake if the low- and zero-VOC flats do not perform as well as currently available products.

#### *Response*

*Throughout the development of these amendments staff conducted numerous site visits and observations of painting in the field of low- and zero-VOC paints. Attachment B provides a short list of current users of low- and zero-VOC flats in the South Coast Air Basin (Basin).*

*During these field observations, painters indicated that both the low- and zero-VOC flats performed well, but the zero-VOC flats require a slightly different technique that must be employed due to the faster dry times. Namely that when painting walls using a roller, a smaller area is painted at a time to maintain a wet edge, as opposed to the current method, where the perimeter of a wall is painted first before proceeding to cover the full wall space.*

*Additionally, staff has proposed future effective limits for flats that are several years in the future. This is to allow sufficient time for manufacturers to incorporate the necessary technologies and for painters to become accustomed to their use. Furthermore, the AQMD, along with manufacturers of the zero-VOC paints, plan to initiate training programs for painters and the paint contracting community. AQMD staff will also develop literature with manufacturers for the do-it-yourself end users.*

#### Interior Versus Exterior Flats

Representatives of Sherwin Williams, Benjamin Moore, and the National Paint and Coatings Association suggested that the Board establish a separate category for exterior flats with a limit of 200 g/l in 2001. They claim that due to the environmental conditions that these paints must meet, exterior flats generally must be formulated at a higher VOC content to provide the film forming characteristics for their softer resins. At present, they claim most exterior flats would not meet the proposed 2001 limit of 100 g/l. They also stated that zero-VOC exterior flats have only recently been introduced on the market, and have had only limited use.

### *Response*

*Exterior flats comprise approximately one-third of the total flats sold in the Basin. The 1994 CARB survey indicates that 31% of the flats sold in 1990 complying with the proposed 100 g/l limit are recommended for exterior use only, 53% for interior use only, and 16% for either interior or exterior use. Furthermore, since a significant portion of the interior flats sold already meet the future limit, manufacturers can utilize the averaging provision to meet the future limits. With regard to the zero-VOC limit for exterior flats, manufacturers have 12 years for the technology to continue to develop and refine the coatings to meet this future limit and the performance requirements. Additionally, staff will review the technology prior to the effective date of the rule and provide recommendations to the Board as necessary.*

### Impact on Small Manufacturers

A few speakers testified that the proposed limits for flats and lacquers will disproportionately impact small manufacturers in the Basin. These speakers testified that there may be small manufacturers that produce higher-VOC specialized products to meet specific niche markets. Further, these manufacturers cannot make use of the averaging provisions in the rule for flats since they do not produce lower-VOC products to offset their specialized products.

### *Response*

*CARB conducts an extensive survey of paint production and sales in California every few years. According to the latest CARB survey, there are approximately 19 manufacturers of flats and eight manufacturers of lacquers located in the Basin. In response to these potential impacts on small manufacturers, staff is proposing to add a provision to the rule which will address the concerns of small manufacturers by delaying the final January 1, 2005 compliance date for lacquers to January 1, 2007 and exempting them from the final July 1, 2008 VOC limit for flats. A small manufacturer includes any manufacturer that has total gross annual receipts of \$2,000,000 or less and 100 or less employees, which is consistent with the definition used in Rule 1302 - Definitions.*

### Future Surveys and Studies

Finally, several speakers recommended that the Board not adopt the proposed limits for flats and lacquers and wait until several ongoing or soon-to-be-initiated studies are completed. Attachment C summarizes the ongoing study being conducted by Eastern Michigan University for staff, as well as the reactivity studies by North American Research Strategy for Tropospheric Ozone (NARSTO), CARB, and EPA. It also reviews the status of the CARB architectural coating survey and expected completion date.

### *Response*

*To the extent these studies are relevant to the proposed rulemaking, staff will consider the results of these studies as part of the required technology assessments, which should be conducted at approximately the time these studies will be completed. The AQMD staff study by Eastern Michigan University specifically examines the performance issues associated with specialty coatings which are not the subject of this proposed amendment. The reactivity studies by CARB and EPA have only been recently initiated and are not expected to be completed for several years. Finally, the CARB survey is anticipated to commence next year. CARB staff has indicated that it will take more than two years to collect the sales data through confidentiality agreements, as well as collect and analyze the samples from the over two hundred manufacturers of architectural coatings. Lastly, staff is monitoring work being done by NARSTO to evaluate research studies conducted at the national and local level.*

*AQMD staff does not believe delaying these rule amendments to incorporate these future studies is appropriate, since the proposed limits are based on currently available technology and are required to be implemented pursuant to the 1994 AQMP.*

### **AQMP and Legal Mandates**

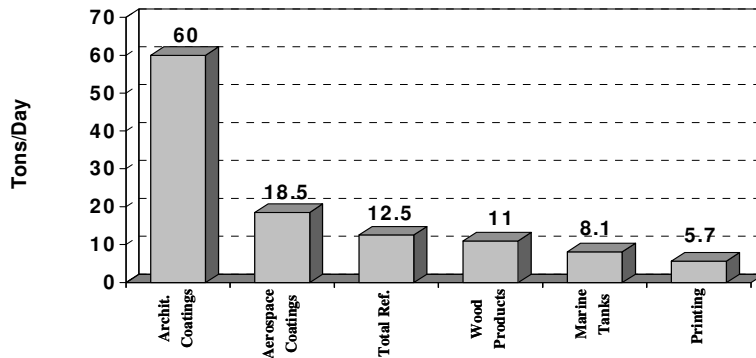
The 1994 AQMP, which included a specific control measure (CTS-07) to reduce AIM VOC emissions by 75 % by the year 2010, received SIP approval on September 26, 1996 and is therefore considered federally enforceable. The AQMP incorporates the concepts that each industry will reduce their fair share of emissions and there should be relative equity in the costs of these reductions.

These proposed Rule 1113 amendments implement a small portion of the 1994 AQMP because they include lowering the VOC limits for only a few of the coating categories discussed in the control measure. The proposed amendments will only reduce AIM emissions by 17.2%, which equates to approximately an 11.8 tpd reduction in 2010. This is only a fraction of the 75% emission reduction that will eventually be required from AIM coatings to provide their fair share of the required emission reductions.

As presented to the board, emissions from architectural coatings are the largest stationary source category of emissions subject to AQMD requirements. They are larger than all of the refinery emissions, wood furniture facilities, printing, marine tanks, and aerospace facilities combined. Figure 1 compares emissions from these sources.

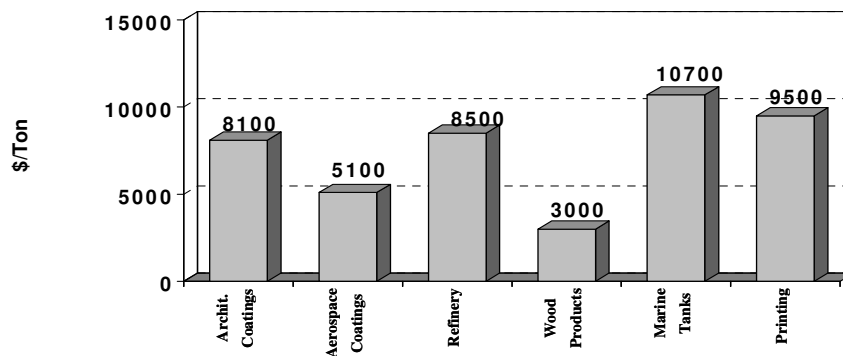


Figure 1  
Comparison of Daily VOC Emissions



The additional proposed revisions contained in Attachment F were added to reduce cost impacts to small businesses. This cost savings however, is not easily quantifiable and for purposes of calculating cost-effectiveness figures, it is conservatively assumed that no cost savings is achieved while some emissions reductions are lost. As a result, cost-effectiveness figures are slightly, but insignificantly, changed for the proposed rule. These changes are listed in the attached revised Table 8 of the socioeconomic impact assessment (Attachment G). The cost-effectiveness of the proposed amendments is estimated to be \$8,100 per ton and is not within the ranking order of control measures in the 1994 AQMP. Figure 2 illustrates a comparison between the cost-effectiveness of various VOC control rules and the proposed amendments. As can be seen, the cost effectiveness of the proposed amendments is within the range of other amended rules, including Rule 1124 - Aerospace Coatings, Rule 1173 - Fugitive Emissions of VOCs, Rule 1136 - Wood Products Coatings, Rule 1142 - Marine Tank Vessel Operations, and Rule 1130 - Graphic Arts. The draft 1997 AQMP considers this control measure to be a key element of its strategy to achieve the national standard for ozone by the year 2010.

Figure 2  
Cost-Effectiveness Comparison



**Attachments**

Additional issues raised

Example of current low- and zero-VOC coating users

Ongoing and future studies

CARB Survey - Summaries

Letters from EPA and Fire Departments

Additional Proposed Amendments

Revised Table 8 of Socioeconomic Impact Assessment

## ATTACHMENT A

### ADDITIONAL ISSUES RAISED

Rule 1113	
Issue	Response
Thinning of lacquers in the field due to increased solids content	Manufacturers can reformulate existing lacquers using acetone or water, as accomplished by manufacturers of lacquers for the Wood Products Industry, without increasing the solids content or viscosity of the coating. However, if thinning is necessary, the coating would be thinned with acetone or water. Even assuming thinning with lacquer retarder under a worst case scenario of 12% addition of butyl cellusolve for 365 days, the proposed amendments still result in significant emission reductions. The 275 g/l waterborne lacquers and the waterborne flat coatings would be thinned with water, if necessary.
1980 CARB survey is accurate and should be used as a starting point for per capita emissions. Questions validity of 1975 and 1979 data.	According to the 1984 CARB survey, CARB staff indicated that for the 1980 survey, “the response to the survey was somewhat limited” and go on to indicate that the 1980 survey “represented about 70% of the architectural coatings sold in California that year.” In comparison, the 1984 CARB survey represented about 95% of all architectural coatings. The data for the 1975 and 1979 points were obtained from CARB memos pertaining to emissions from architectural coatings. The 1975 data is considered an important starting point, since the data preceded the 1979 implementation of AIM coating rules in California. Furthermore, it clearly illustrates the incompleteness of the 1980 survey. The figures are included in Attachment D. Even if the disputed 1975, 1979, and 1980 data points are not considered, the remaining data points clearly show a reduction in per capita emissions.

**ATTACHMENT A**

**ADDITIONAL ISSUES RAISED**

**CONTINUED**

<b>Rule 1113</b>	
<b>Issue</b>	<b>Response</b>
Acetone-based lacquers do not perform as well as conventional lacquers	Staff believes that acetone-based lacquers perform as well as conventional lacquers. This is based on site visits and other manufacturers' data collected during the extensive rulemaking for Rule 1136 - Wood Products Coatings. Staff has found that acetone-based lacquers are a little more sensitive to high humidity conditions than conventional lacquers and experience blushing, thus the proposed rule allows for addition of retarder (up to 10% butyl cellusolve) to eliminate the blushing problems during days when relative humidity is above 70% and temperature is below 65 degrees Fahrenheit.
Averaging proposal favors larger companies with many product lines and is unenforceable	The proposed averaging program parallels the CARB's Alternative Control Plan Regulation for Consumer Products which some manufacturers are already using. Staff has added additional language in the averaging provision to clarify the requirements of the averaging plan based on industry's comments. Staff has also determined that some smaller manufacturers have created a market niche by offering low- or zero-VOC coatings. For example, seven of the ten manufacturers of interior, zero-VOC flat coatings are smaller companies. Staff has evaluated and resolved concerns expressed by CARB regarding enforceability of the averaging provision by adding a specific violations section to the averaging provision. Neither CARB or EPA have expressed any additional concerns regarding the enforceability of the averaging provision.

**ATTACHMENT A**

**ADDITIONAL ISSUES RAISED**

**CONTINUED**

<b>Rule 1113</b>	
<b>Issue</b>	<b>Response</b>
Proposed amended Rule 1113 creates a confusing difference in limits for stains with Rule 1136	The proposed amendments do not affect limits for stains, but do add a definition for stains to consolidate the categories of “semi-transparent stains” and “opaque stains” into one category, “stains” without affecting the applicable VOC limit. Under Rule 1136, high-solids stains are stains containing more than 1 pound of solids per gallon of material, and include wiping stains, glazes, and opaque stains. Many coating suppliers agreed that reformulating with acetone could reduce VOC emissions for high-solids stains. Several suppliers have successfully reformulated their stains with acetone to achieve the final compliance VOC content limit of 240 g/l, but feel that colder, humid days may cause blushing. Recently amended Rule 1136 also allows for addition of retarder (up to 10%) to eliminate any blushing problems
No reliable test method at lower VOC levels	Test Method 24, which is approved and required by EPA, may be used to test the VOC content of coatings at lower levels of VOC. While there is an issue of the sensitivity of the test calculation at lower VOC levels, that concern does not render the lower limits unenforceable. In addition, other test methods are being developed to test coatings with low-VOC content by various educational institutions, manufacturers, and regulatory agencies, including California Polytechnic University, San Luis Obispo, Midwest Research Institute, USEPA, and AQMD. In particular, the AQMD is currently working on a direct measurement test method using a GC/MS to evaluate the overall VOC content.

**ATTACHMENT A**

**ADDITIONAL ISSUES RAISED**

**CONTINUED**

<b>Rule 1113</b>	
<b>Issue</b>	<b>Response</b>
<p>There are a variety of uses and coatings under the flat coating category. Flats should be divided at least into interior and exterior flat categories subject to different VOC limits.</p>	<p>Compliant coatings for flats are currently available for both interior and exterior uses. Staff has found these compliant coatings to have equivalent performance characteristics found in some higher-solvent containing flat coatings. Staff recognizes that there are limited, special use flat coatings which may require additional development to meet the 50 g/l limit, such as elastomeric coatings. Staff has proposed, in accordance with industry comments, additional time for reformulation and market acceptance, nearly five years to meet the interim limit and nearly twelve years to meet the final limit. Staff notes that based on the CARB survey, over 40% of all flat coatings sold in California comply with the interim limit. In addition, staff has included a commitment for a detailed technology assessment one year prior to the implementation dates to re-evaluate available coatings. Lastly, and most importantly, staff has included an averaging provision for manufacturers to enable them to average the emissions from the flat coatings. This provision would allow them to continue selling non-compliant coatings, as long as the average sales weighted emissions are equivalent or lower than emissions based on the VOC limits.</p>

**ATTACHMENT A**

**ADDITIONAL ISSUES RAISED**

**CONTINUED**

<b>Rule 1113</b>	
<b>Issue</b>	<b>Response</b>
Socioeconomic report flawed	<p>The AQMD has satisfied all the requirements in the California Health and Safety Code Sections 40440.5, 40440.8, 40728.5 and 40920.6. The socioeconomic analysis (Appendix H) was performed based on the assumption that existing coatings will be reformulated to meet future VOC limits, given the currently available compliant coatings. The socioeconomic impact assessment for the proposed amendments analyzes affected industries, a range of control costs, cost-effectiveness, incremental cost-effectiveness, and employment impacts by ethnicity, by industry, and by occupation group. The average annual compliance cost of the proposed amendments is about \$14.5 million.</p> <p>The impacts of the proposed amendments on end users were analyzed in the socioeconomic impact assessment. Painting contractors (SIC 172) and do-it-yourself paint users would pay higher prices for reformulated coatings. The impacts on independent retail dealers are presented as impacts on the retail sector (SICs 52-75, 59). The socioeconomic assessment also covers other potential economic impacts, including impacts on competitiveness of affected industries, small business impacts, and impacts on the price index of consumption by different income groups.</p>

## ATTACHMENT B

### EXAMPLE OF CURRENT LOW/ZERO VOC USERS\*

User of Zero-VOC Coatings (<50 g/l)	Users of Low-VOC Coatings (<100 g/l)
City of Hope	Do-it-yourself market
City of San Diego	Los Angeles Unified School District
Disneyland	McDonnell Douglas
Do-it-yourself market	Paramount Studios
Jet Propulsion Laboratories	J. Paul Getty Museum
Kaiser Hospital	Universal Studios
Lockheed Martin	Various Contractors
Parks Water District	
Rockwell	
SBV Junior College	
SCAQMD	
The Gas Company	
TRW	
U.S. Air Force	
Vandenberg Air Force Base	
Various Contractors	

\* - Based upon SCAQMD site visits and telephone discussions



## ATTACHMENT C

### ONGOING AND FUTURE STUDIES

<b>Rule 1113</b>	
Study	Comment
Eastern Michigan University	Contract #96136 was awarded to Eastern Michigan University, Coatings Research Institute, on June 7, 1996 to perform an informational study of currently available low-VOC specialty coatings, an evaluation of the lowest VOC limits achievable for some of the specialty coating categories by 2000 and 2005, and to assess and address six specific issues raised by industry for the specialty coatings. A Draft Final Report is due on December 31, 1996.
CARB Survey	The CARB plans to conduct another architectural coatings use survey in 1997, which will be completed in approximately two years from the starting date.
NARSTO Study	AQMD staff is also continuing to monitor studies being conducted by NARSTO, both at the local and national level regarding atmospheric measurements. This is a long-term study and will take several years to complete.
CARB Reactivity Studies	The CARB has recently contracted a research study to Dr. William Carter to assess the reactivity of solvents found in consumer products and industrial solvents. The CARB has prioritized the need for better reactivity factors for solvents used in waterborne coatings. The EPA and Dr. Carter have indicated a need for better reactivity data before promulgating a reactivity-based ozone control strategy. This is a two-year study and is expected to be completed by the end of 1998.

# ATTACHMENT D

## CARB SURVEYS - 1975 TO 1990 DATA

Figure 1  
California AIM Coating Sales,  
VOC Emissions and Population

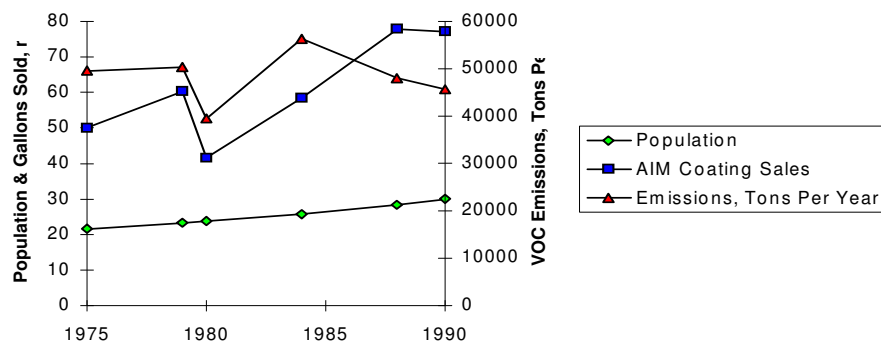
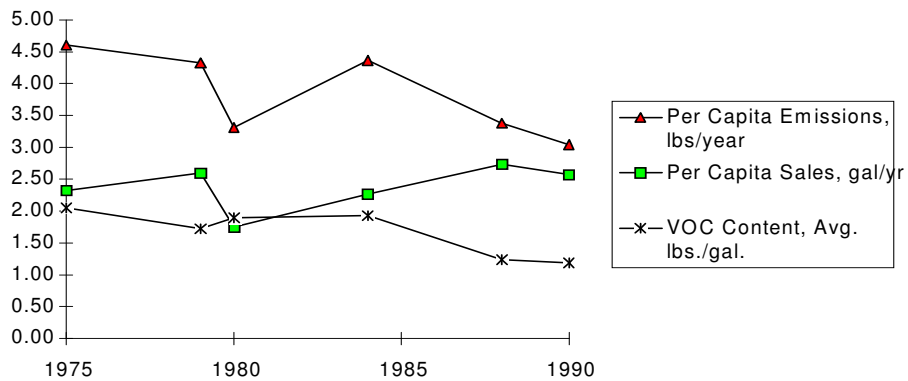


Figure 2  
California Per Capita AIM Coating Sales,  
VOC Emissions and VOC Content



**ATTACHMENT E - Letters**

**USEPA  
Orange County Fire Authority  
Los Angeles County Fire Department**

## ATTACHMENT F

### Additional Proposed Amendments

#### Small Business Manufacturers Provision

(g) Exemptions

- (4) The January 1, 2005 VOC limit for lacquers shall not be applicable until January 1, 2007 and the July 1, 2008 VOC limit for flat coatings shall not be applicable to any manufacturer which meets all of the following criteria.
- (A) The total gross annual receipts are \$2,000,000 or less, and
  - (B) The total number of employees is 100 or less, and
  - (C) The manufacturer requesting this exemption files a written request with the Executive Officer annually which includes, but is not limited to,
    - (i) The total gross annual receipts for each of the last three years.
    - (ii) The total number of employees for each of the last three years

For the purposes of determining the total gross annual receipts and the total number of employees, a manufacturer shall include data from all facilities (both within and outside of the District) which they own, operate, have an ownership interest, or are legally affiliated. If a manufacturer exceeds the criteria specified in subparagraphs (g)(4)(A) or (g)(4)(B) any time after the initial request is filed with the Executive Officer, this exemption shall be immediately terminated, the manufacturer shall forfeit any future eligibility for this exemption, and the manufacturer shall be considered in violation of this rule for each and every day that lacquers or flat coatings which do not comply with the respective VOC limit in the Table of Standards are supplied, sold, or offered for sale within the District. The loss of this exemption due to the manufacturer exceeding the criteria in subparagraphs (g)(1)(A) or (g)(1)(B) shall apply only to the manufacturer.

#### Review of Future CARB Surveys Provision

(f) Technology Assessment for Flats and Lacquers

The Executive Officer shall conduct:

- (1) A technology assessment for the future VOC limits for flat coatings as specified in paragraph (c)(2) by July 1, 2000 and July 1, 2007.
- (2) A technology assessment for the future VOC limit for lacquers specified in paragraph (c)(2) by January 1, 2004.
- (3) In conducting the above technology assessments, the Executive Officer shall consider any applicable future California Air Resources Board surveys on architectural coatings. After each technology assessment, the Executive Officer shall report to the Governing Board as to the appropriateness of maintaining the future VOC limit.

**ATTACHMENT G**

**Revised Table 8**

**Comparison of Alternatives to Proposed Amendments  
(Millions of 1995 \$)**

Alternative	Emissions duction (tons/day)	Re-	Cost- Effectiveness (\$/ton)*	Annual Aver- age Cost (1998-2010)	Annual Aver- age Job Impact (1998-2010)
Proposed Amendments	10.3		\$8,100**	\$14.5	-305
Alternative A	0.0		N/A	0.0	0
Alternative B	6.4		\$12,000	\$13.3	-278
Alternative C	2.5		\$1,400	\$1.1	-30
Alternative D	10.5		\$18,000	\$14.0	-295
Alternative E	1.6		N/A	0.0	0

\* The cost-effectiveness values represent only the categories which have cost impacts associated with them.

\*\* Revised from \$8,000 from original Table 8 of the Socioeconomic Impact Assessment Report.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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San Francisco, CA 94105-3901

October 10, 1996

Ms. Patricia Leyden  
South Coast Air Quality Management District  
21665 E. Copley Drive  
Diamond Bar, CA 91765-4182

Re: Proposed Amended Rule 1113 - Architectural Coatings

Dear Ms. Leyden:

EPA has reviewed the 9/23/96 version of Proposed Amended Rule 1113 - Architectural Coatings, and commends the District for its recognition of the current technology in low-VOC architectural coatings and for its inclusion of averaging provisions that provide flexibility to coating manufacturers. EPA considers adoption of the proposed changes to Rule 1113, representing a mass emissions based strategy, to be an important part of the AQMD's ozone control strategy and the AQMP.

Although Proposed Amended Rule 1113 will achieve significant emission reductions through use of currently available compliant coatings, EPA recognizes that there are some coating situations where these compliant coatings may not perform adequately. EPA also recognizes that the proposed Rule 1113 allows significant time for development to enhance the performance characteristics of these compliant coatings. As a result, EPA understands that the District will continue to assess the feasibility of low-VOC technologies. If, in the future, the District decides to revise Rule 1113, EPA would be able to approve a revision to the applicable state implementation plan (SIP) provided that the District demonstrates that the revision will not interfere with reasonable further progress, attainment, or any other requirement of the Clean Air Act. EPA understands that the District believes such a demonstration may be made if revision of Rule 1113 is necessitated because the technologies relied upon in this rule have been found to be technologically infeasible or ineffective in achieving emission reductions in the near-term. In addition, EPA realizes the importance of minimizing the amount of time it takes to approve a revision to the SIP and will expedite its review of any revisions to Rule 1113.

EPA urges adoption of Rule 1113 by the South Coast AQMD Governing Board and looks forward to receiving a fully approvable version of Rule 1113 for incorporation into the SIP. The attainment strategy in the ozone SIP necessarily counts on still further emission reductions from this very large VOC source category.

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EPA looks forward to working with the District to ensure that continued progress occurs and these additional emission reductions are achieved.

Sincerely,

  
David P. Howekamp  
Director, Air & Toxics Division

cc: Jack Broadbent, SCAQMD  
Naveen Berry, SCAQMD  
Peter Venturini, CARB



**COUNTY OF LOS ANGELES**

**FIRE DEPARTMENT**

1320 NORTH EASTERN AVENUE  
 LOS ANGELES, CALIFORNIA 90003-3294  
 (213) 890-4132

P. MICHAEL FREEMAN  
 FIRE CHIEF  
 FORESTER & FIRE WARDEN

June 12, 1996

Mr. David DeBoer  
 Air Quality Management District  
 21685 E. Copley Dr.  
 Diamond Bar, CA 91765-4182

**Re: RELATIVE HAZARDS OF SOLVENTS USED IN PAINTS**

Dear Mr. DeBoer:

After our phone conversation concerning the substitution of acetone for other solvents commonly used in paints, I reviewed the properties of the materials you named:

SOLVENT	HEALTH	NFPA 704 FIRE	FP	BP	FLAMMABLE RANGE	IGNITION TEMP
ACETONE	1	3	4	133	2.5 -- 13	869
BUTYL ACETATE	1	3	72	260	1.7 -- 7.6	797
MRK	1	3	16	176	1.4 -- 11.4	759
XYLENE	2	3	81	262	1.1 -- 7.0	962

Xylene is the least flammable and is listed as a Class I-C Flammable Liquid, but has a higher health hazard. The other three are Class I-B Flammable Liquids.

The Uniform Fire Code treats all four of the above solvents as Class I Flammable Liquids, considering them all to present the same relative degree of fire hazard. The Fire Code sets the same requirements for the storage, use and handling of all three.

There are many factors that would contribute to the fire hazard when any of these solvents are used in paint. When spread thinly over a surface at normal ambient temperature (70 degrees fahrenheit), the first three would emit a sufficient quantity of vapors to be ignited. Spraying paint with these solvents in it, greatly increases the fire hazard.

**SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:**

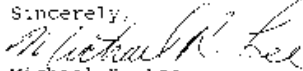
AGOURA HILLS	CALABASAS	GLENDORA	LAKELAND	MAYWOOD	RANCHO PALOS VERDES	SOUTH PL MONTE
ARTESIA	CARSON	HAWAIIAN GARDENS	LA BREA	NORWALK	ROLLING HILLS	SOUTH GATE
ATLANTA	CERRITOS	HIDDEN HILLS	LANCASTER	PALMDALE	ROLLING HILLS ESTATES	TEMPLE CITY
BALDWIN PARK	CLAREMONT	HUNTINGTON PARK	LA PUENTE	PALOS VERDES ESTATES	ROSEMEAD	WALNUT
BELL	CODDING	INDUSTRY	LANDALE	PARAMOUNT	SAN DIMAS	WEST HOLLYWOOD
BELLFLOWER	DIAMOND BAR	IRVINDALE	LOMITA	RICO RIVERA	SANTA CLAIRA	WESTLARE VILLAGE
BELL GARDENS	DUARTE	LA CANADA FLINTRIDGE	MAJUBA	ROMONA	SIGNAL HILL	WHITTIER



Mr. David DeBoer  
page 2

In my opinion, acetone presents the highest degree of fire hazard of the four solvents considered, but is not significantly more hazardous than the others. All four should be used with extreme caution, with proper safeguards in place.

Should you need further information or assistance on this matter, please contact me at (213) 890 4112.

Sincerely,  
  
Michael R. Lee  
Captain, Petroleum-Chemical Unit  
Fire Prevention Division

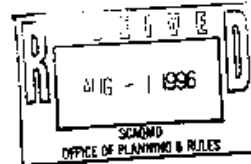
cc:  
Burriaga  
Lyle  
Lee  
x



**ORANGE COUNTY FIRE AUTHORITY**

**HAZARDOUS MATERIALS DISCLOSURE OFFICE**  
180 South Water St. • Orange, CA 92666-2175 • (714) 744-0463

Larry J. Holms, Director of Fire Services



July 24, 1996

Mr. Darren W. Stroud  
Office of Planning & Development  
South Coast AQMD  
21865 E. Copley Drive  
Diamond Bar, CA 91765-4182

**SUBJECT: Rule 1113 Amendments -Acetone As A Reducing Agent  
Draft Subsequent Environmental Assessment (SEA)**

Dear Mr. Stroud:

This letter is in response to the draft SEA pertaining to the relative hazards of utilizing Acetone as a substitute reducing agent for Toluene, MEK, Butyl Acetate or Xylene in the formulation of architectural coatings. These comments are based upon the relative hazards of these materials as defined by the 1994 Uniform Fire Code (UFC).

I have reviewed the UFC hazard classifications of these materials and have found that Acetone has identical physical and health hazard classifications when compared to Toluene, MEK and Butyl Acetate. Acetone is classified as a class 1B flammable liquid and as an irritant material. Xylene is classified as a class 1C flammable liquid, irritant and other health hazard material. I have also reviewed the flammable limits range for these four materials and found them to be very similar, with MEK presenting the widest flammable range (1.4 -11.4 %/volume).

Based upon the identified hazard classifications, Acetone would not pose any greater relative physical or health hazard when compared to Toluene, MEK or Butyl Acetate. Acetone does pose a somewhat increased flammability hazard when compared to Xylene. This comparison assumes that the revised formulation of the architectural coatings will allow for an equivalent percentage of Acetone when compared to the other reducing agents.


I would also note that the storage and use of all of these materials are specifically regulated under Articles 79 & 80 of the 1994 Uniform Fire Code (1995 California Fire Code) which has been adopted by the State of California at Title 24, Part 9, CCR. The fire code limits the allowable quantities of these materials for both interior/ exterior storage and use. The fire code also requires various safety control systems and specifies handling methods.

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**RESIDENTIAL SPRINKLERS AND SMOKE DETECTORS SAVE LIVES**

I hope the information provided is useful to the AQMD in developing amendments to rule 1113. If you have any additional questions, I may be contacted at (714) 744-0465.

Respectfully,

  
Brett Petroff

Senior Fire Safety Specialist

pc: Christine Boyd/ OCFA/ Manager/ Hazardous Materials Disclosure Office  
Laura Blaul/ OCFA/ Deputy Fire Marshal/ Planning & Development

RESOLUTION NO. 96-

**A Resolution of the Governing Board of the South Coast Air Quality Management District (“AQMD”) certifying the Final Subsequent Environmental Assessment prepared for the proposed amendments to Rule 1113.**

**A Resolution of the AQMD Governing Board Amending Rule 1113 - Architectural Coatings.**

**WHEREAS**, AQMD staff has proposed additional revisions to the October 11, 1996 staff rule proposal, contained in Attachment F of the November 8, 1996 Board Letter, in order to address economic impacts to small paint manufacturers and to incorporate a review of future California Air Resources Board architectural coatings surveys in the proposed technology assessments; and

**WHEREAS**, the AQMD Governing has determined that the additional revisions are not significant within the meaning of California Environmental Quality Act Guidelines Section 15088.5 and California Health & Safety Code Section 40726; and

**WHEREAS**, the AQMD Governing Board finds and determines that the proposed amendments to Rule 1113 - Architectural Coatings, which now includes the proposed revisions contained in Attachment F, are considered a "project" pursuant to the California Environmental Quality Act (CEQA); and

**WHEREAS**, the AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and has conducted CEQA review and analysis pursuant to such program (Rule 110); and

**WHEREAS**, the 1994 AQMP contained a control measure, #94CTS-07, which Proposed Amended Rule 1113 partially implements, for which a program EIR was prepared and certified; and

**WHEREAS**, new information regarding the use of acetone in place of other traditional solvents became available after the certification of the 1994 AQMP program EIR, such that AQMD staff has prepared a Draft Subsequent Environmental Assessment (SEA) pursuant to AQMD Rule 110 setting forth the potential environmental consequences of adopting Proposed Rule 1113 - Architectural Coatings; and

**WHEREAS**, the SEA also constitutes a subsequent CEQA document to the February 1990 CEQA document for Rule 1113 in compliance with a Superior Court order relating to lacquers; and

**WHEREAS**, it is necessary that the adequacy of the environmental document be determined by the AQMD Governing Board prior to its certification; and

**WHEREAS**, a potentially significant environmental impact was identified for the proposed project due to forgone potential air emission reductions resulting from the immediate increase of VOC limits for certain specialty coatings that consist of japans, magnesite, and fireproofing coatings, which cannot be mitigated to a level of insignificance; and

**WHEREAS**, such forgone emissions reductions would be more than offset by other proposed amendments which lower VOC limits for lacquers, flats, traffic coatings, and multi-color coatings, with some of these lowered limits taking effect on January 1, 1998; and

**WHEREAS**, several comment letters were received commenting on the Draft SEA; and

**WHEREAS**, the Draft SEA has been revised and responses to comments have been prepared such that it is now a Final SEA; and

**WHEREAS**, no feasible mitigation measures or project alternatives have been identified to mitigate the identified potential temporary significant air quality impact to insignificance for the reasons stated in Attachment 1; and

**WHEREAS**, a Statement of Overriding Considerations, set forth in Attachment 1, has been prepared stating the specific reasons for this Board's action in finding that the benefits of the proposed project outweigh the unavoidable environmental effects, such that the adverse effects may be considered acceptable; and

**WHEREAS**, the final SEA and Attachment 1 have been completed in compliance with CEQA and Rule 110; and

**WHEREAS**, the staff report, which includes the final SEA and the Socioeconomic Impact Analysis, this November 8, 1996 Board letter, Attachment 1, and other supporting documentation was presented to the AQMD Governing Board and that the Board has reviewed and considered the entirety of this information prior to approving the project; and

**WHEREAS**, the AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Sections 40000, 40001, 40440, 40463, 40702, and 40725 through 40728 of the California Health and Safety Code; and

**WHEREAS**, the AQMD Governing Board has determined that a need exists to amend Rule 1113 - Architectural Coatings to achieve VOC emission reductions of up to 17.2 % of the VOC emissions inventory for architectural coatings, in accordance with the Air Quality Management Plan ("AQMP") Control Measure CTS-07, which equates to about 10.3 tons per day based upon current emissions inventory and about 11.6 tons per day based upon projected 2010 emissions inventory, to raise VOC limits for

certain specialty coatings, to reinstate certain VOC limits to comply with a superior court order, and to clarify rule language; and

**WHEREAS**, the AQMD Governing Board has determined that the proposed amendments to Rule 1113 - Architectural Coatings, are written and displayed so that the meaning can be easily understood by persons directly affected by them; and

**WHEREAS**, the AQMD Governing Board has determined that Rule 1113 - Architectural Coatings, as proposed to be amended, is in harmony with, and not in conflict with, or contradictory to, existing statutes, court decisions, or state or federal regulations; and

**WHEREAS**, the AQMD Governing Board has determined that Rule 1113 - Architectural Coatings, as proposed to be amended, does not impose the same requirement as any existing state or federal regulation, and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the AQMD; and

**WHEREAS**, the AQMD Governing Board in amending the regulation, references the following statutes which the AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001 (rules to achieve ambient air quality standards), 40440(a) (rules to carry out the Air Quality Management Plan), 40440(b) (BARCT), and 40440(c) (cost effectiveness), and Federal Clean Air Act Section 171 et seq., 181 et seq. and 116; and

**WHEREAS**, the AQMD Governing Board determines that there is a problem that Proposed Amended Rule 1113 - Architectural Coatings will alleviate, (i.e., the South Coast Air Basin does not meet state or federal standards for ozone) and the proposed amendment will promote the attainment or maintenance of such air quality standards; and

**WHEREAS**, the AQMD Governing Board has determined that the socioeconomic impact assessment for proposed Rule 1113 - Architectural Coatings, as updated by this November 8, 1996 Board letter, is consistent with the March 17, 1989 and October 14, 1994 Board Socioeconomic Resolution for rule adoption; and

**WHEREAS**, the AQMD Governing Board has determined that the socioeconomic impact assessment as updated is consistent with the provisions of Health and Safety Code Sections 40440.8, 40728.5 and 40920.6; and

**WHEREAS**, the AQMD Governing Board has determined that the proposed amendments to Rule 1113 - Architectural Coatings will result in increased costs to industry, yet are considered cost effective with a cost effectiveness as described in the socioeconomic impact assessment as updated; and

**WHEREAS**, Proposed Amended Rule 1113 - Architectural Coatings is a control measure in the 1994 AQMP and, thus, has been ranked by cost-effectiveness relative to other AQMP control measures in the 1994 AQMP; and

**WHEREAS**, the socioeconomic impact assessment further presents incremental cost effectiveness data between CEQA alternatives; and

**WHEREAS**, the AQMD Governing Board has actively considered the socioeconomic impact assessment as updated and has made a good faith effort to minimize such impacts; and

**WHEREAS**, the proposed amendments to Rule 1113 - Architectural Coatings helps achieve the maximum feasible emission reduction of VOCs from the coating categories of flats, lacquers, traffic and multi-color coatings, which is estimated to be up to 10.3 tons/day, and that even after considering the socioeconomic impact assessment as updated, the adoption of such amendments is necessary for achieving the federal and state standards for ozone and for implementing the AQMP; and

**WHEREAS**, a public hearing has been properly noticed in accordance with all provisions of Health and Safety Code, Section 40725; and

**WHEREAS**, the AQMD Governing Board has held two public hearings in accordance with all provisions of law; and

**WHEREAS**, the AQMD specifies the Manager of Rule 1113 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this proposed amendment is based, which are located at the South Coast Air Quality Management District, 21865 E. Copley Drive, Diamond Bar, California.

**NOW, THEREFORE BE IT RESOLVED** that the AQMD Governing Board does hereby approve the written responses to the comments to the draft SEA, adopt Attachment 1 including the contained Statement of Overriding Considerations, and certify the Final SEA for Proposed Amended Rule 1113 - Architectural Coatings, which was completed in compliance with CEQA and Rule 110 provisions; and find that the Final SEA was presented to the AQMD Governing Board, whose members reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1113 - Architectural Coatings; and

**BE IT FURTHER RESOLVED**, that the AQMD Governing Board does hereby amend, pursuant to the authority granted by law, Rule 1113 - Architectural Coatings, as set forth in the attached, and incorporated herein by this reference.

**BE IT FURTHER RESOLVED** that AQMD staff will monitor employment impacts on small manufacturers of flat coatings and lacquers in the South

Coast Air Basin and shall include a report of such impacts in the technology assessment reports to the AQMD Governing Board.

**BE IT FURTHER RESOLVED** that the Board directs AQMD staff to work with CARB and USEPA to expeditiously amend the State Implementation Plan (“SIP”) if the technology assessments result in the need to amend the future VOC limits for lacquers or flats, and to work with the USEPA to establish an administrative method of reporting in Title V permits, rules which have been amended but for which amendments have not yet been approved in the SIP without a finding of non-compliance due to following the amended rules.

Attachment

DATE: \_\_\_\_\_

\_\_\_\_\_  
CLERK OF THE BOARDS



**ATTACHMENT 1  
TO THE BOARD RESOLUTION**

---

**STATEMENT OF FINDINGS  
AND OVERRIDING  
CONSIDERATIONS**

**Introduction**

**Potential Adverse Impacts Found To Be Significant**

**Statement of Findings**

**Statement of Overriding Considerations**

**Mitigation Monitoring**

**Conclusions**

## **INTRODUCTION**

CEQA requires a public agency's decision makers to consider the information in the CEQA document along with other information which may be presented to the agency when deciding to approve a project. This Attachment, as well as the Final Subsequent Environmental Assessment sets forth the factors considered in the AQMD Governing Board's evaluation of environmental benefits and potential impacts resulting from implementing the proposed amendments to Rule 1113.

## **POTENTIAL ADVERSE IMPACTS FOUND TO BE SIGNIFICANT**

### **Air Quality Impacts**

PAR 1113 would lower the VOC limits for specific coating categories including: lacquers, flat coatings, multi-color, and traffic coatings. The proposed amendments also include increasing allowable VOC limits for certain specialty coatings which are currently under variances because they cannot meet the existing rule limits. These specialty coatings include: exterior fire proofing coatings, magnesite cement coatings, and japans/faux finishing coatings. Implementation of all rule changes will result in a net VOC emission reduction of 10.3 tons per day.

Partially offsetting these anticipated VOC emission reductions is an increase of 0.10 tons per day of VOCs where the higher VOC content limits are being proposed. These coatings however, have been sold at these higher limits under a variance for the past two years, and as a result, there will be no actual increase in VOC emissions. The proposed amendments to increase the VOC limits will take effect upon adoption, while the other amendments to reduce VOC limits will take effect no earlier than 14 months after adoption.

These temporary forgone emission reductions nevertheless exceed the AQMD's significance threshold of 55 pounds of VOC per day contained in the AQMD's CEQA Air Quality Handbook (AQMD, 1993). These forgone emission reductions are therefore considered potentially significant. This adverse air quality impact would last approximately 14 months, until other provision of the

proposed amended rule become effective. If adopted, the overall affect of these proposed amendments would be to reduce potential VOC emissions by 10.3 tons per day by the year 2010. As a result, the October amendments to Rule 1113 would more than offset the 0.10 ton per year of forgone VOC emission reductions. This short-term effect, however, is still considered to be significant.

## **STATEMENT OF FINDINGS**

When approving a project which may have one or more significant adverse environmental effects, CEQA requires a public agency to make one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. Further, the findings must be supported by substantial evidence in the record. Therefore, based upon the substantial evidence presented in the Final EA for proposed amended Rule 1113:

The AQMD Governing Board finds that proposed amended Rule 1113 has the potential to generate significant adverse air quality impacts for a period of approximately 14 months. The basis for this finding is that the proposed amendments have the potential to result in a loss of VOC emission reductions originally anticipated for the rule as a result of increasing the VOC content limits for several specialty coatings, by an amount that exceeds the AQMD's significance threshold.

The AQMD Governing Board finds further that no feasible mitigation measures or project alternatives have been identified which would reduce the potentially significant air quality impact to a level of insignificance. Due to the current and future unavailability of compliant coatings in limited specialty categories of fire proofing coatings, magnesite cement coatings, and japans/faux finish coatings, non-compliant coatings are currently being used under a temporary variance. As a result, there is an urgent need to provide relief from the rule requirements. While other proposed amendments to Rule 1113 could offset these forgone emission reductions, a delay in the effective date of these other amendments is necessary to allow coating manufacturers time to meet the new lowered VOC limits.

## **STATEMENT OF OVERRIDING CONSIDERATIONS**

Despite the fact that no feasible measures or alternatives are available to mitigate potentially significant adverse air quality impacts from the project, the AQMD Governing Board finds that the following benefits of the project outweigh the unmitigated adverse impacts for the following reasons:

- The use of the above-referenced specialty coatings, while limited, is extremely vital to the specific industries that employ the use of these coatings, and therefore their continued use provides a significant economic benefit to them.
- Raising the VOC content limits of the specialty coatings does not increase actual VOC emissions for this source category since non-compliant coatings are currently being used under a variance. The proposed amendments will result in forgone emission reductions, which would not affect existing air quality.
- The potential significant adverse air quality impacts from raising the VOC content of the specialty coatings would last approximately 14 months, until other provisions of the proposed amendments become effective resulting in VOC emission reductions that would more than offset those forgone.
- The net effect on air quality from the entire project is a potential reduction of VOC emissions from architectural coatings of up to 10.3 tons per day based upon the current emissions inventory and about 11.6 tons per day based upon the projected 2010 emissions inventory.
- The proposed amendments implement in, part, the AQMP control measure CTS-07, which is a necessary part of the AQMD's strategy to attain all state and national ambient air quality standards for ozone, as required by law.

## **MITIGATION MONITORING**

The SEA examined the potential impacts associated with the proposed amendments to Rule 1113. Air quality impacts were found to be significant on a

project specific basis. No feasible mitigation measures or project alternatives were identified that would reduce significant adverse air quality impacts to a level of insignificance, therefore, a Mitigation Monitoring Plan was not prepared for the proposed amendments.

## **CONCLUSIONS**

Based on a worst-case analysis, the potential adverse air quality impacts from the implementation of the amendments to Rule 1113 are considered significant. Significant adverse air quality impacts result from the loss of VOC emission reductions due to increasing the VOC content limit for specialty coatings. The significant adverse impact generated by proposed amended Rule 1113 would last approximately 14 months, until other provisions of the proposed amendments first become effective. Ultimately, overall reductions in VOC emissions of 10.3 tons per day are expected from implementation of the proposed amendments. No feasible mitigation measures or project alternatives have been identified that would minimize the short-term loss of forgone potential emission reductions associated with the proposed amendment while still achieving the overall objectives of the project.

(Adopted Sept. 2, 1977)(Amended Dec. 2, 1977)(Amended Feb. 3, 1978)  
(Amended Sept. 5, 1980)(Amended Apr. 3, 1981)(Amended July 3, 1981)  
(Amended by California Air Resources Board Oct. 21, 1981)  
(Amended Aug. 5, 1983)(Amended Mar. 16, 1984)  
(Amended Aug. 2, 1985)(Amended Nov. 1, 1985)  
(Amended Feb. 6, 1987)(Amended Jan. 5, 1990)(Amended Feb. 2, 1990)  
(Amended Nov. 2, 1990)(Amended Dec. 7, 1990)(Amended Sept. 6, 1991)  
(Amended March 8, 1996)(Amended August 9, 1996)

*(Amended November 8, 1996)*

## **Draft Proposed Amended RULE 1113. ARCHITECTURAL COATINGS**

### (a) Applicability

This rule is applicable to any person who supplies, sells, offers for sale, applies, solicits the application of, or manufactures for use in the District any architectural coating intended to be applied to stationary structures or their appurtenances, and to mobile homes, pavements or curbs.

### (b) Definitions

For the purpose of this rule, the following definitions shall apply:

- (1) AEROSOL COATING PRODUCT means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground marking and traffic marking applications.
- (2) APPURTENANCES are accessories to ~~an architectural a stationary~~ structure, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, ~~(heating and air conditioning)~~ equipment, other mechanical equipment, large fixed stationary tools, signs, motion picture and television production sets, and concrete forms.
- (3) ARCHITECTURAL COATINGS are any coatings applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.
- (4) BELOW-GROUND WOOD PRESERVATIVES are ~~coatings-wood~~ preservatives formulated to protect below-ground wood ~~from decay or insect attack and which contain a wood preservative chemical registered by the California Department of Food and Agriculture.~~

- (5) BITUMINOUS COATINGS MATERIALS are black or brownish coating materials, soluble in carbon disulfide, consisting mainly of hydrocarbons and which are obtained from natural deposits, or as residues from the distillation of crude petroleum oils, or of low grades of coal.
- (6) BOND BREAKERS are coatings applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the substrate over which it is poured.
- (7) CLEAR WOOD FINISHES are clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.
- (8) COATING is a material which is applied to a surface in order to beautify, protect, or provide a barrier to such surface.
- ~~(9)(8)~~ COLORANTS are solutions of dyes or suspensions of pigments.
- ~~(10)(8)~~ CONCRETE-CURING COMPOUNDS are coatings applied to freshly poured concrete to retard the evaporation of water.
- ~~(11)(9)~~ DRY-FOG COATINGS are coatings which are formulated only for spray application so that when sprayed, overspray droplets dry before falling on floors and other surfaces.
- (12) EXEMPT COMPOUNDS (See Rule 102-Definition of Terms.)
- (13) FIRE-PROOFING EXTERIOR COATINGS are opaque coatings formulated to protect the structural integrity of outdoor steel and other outdoor construction materials and listed by Underwriter's Laboratories, Inc. for the fire protection of steel.
- ~~(14)(4)~~ FIRE-RETARDANT COATINGS are coatings which have listed by Underwriter's Laboratories, Inc. as fire-retardant coatings with a flame spread index of less than 25. ~~when tested in accordance with ASTM Designation E-84-87, "Standard Test Method for Surface Burning Characteristics of Building Material," after application to Douglas fir according to the manufacturer's recommendations, or when tested using an equivalent method approved by the Executive Officer~~
- (15) FLAT COATINGS are coatings that register a gloss of less than 15 on an 85-degree meter or less than 5 on a 60-degree meter.
- ~~(12) FORM-RELEASE COMPOUNDS are coatings applied to a concrete form to prevent the freshly poured concrete from bonding to the~~

~~form. The form may consist of wood, metal, or some material other than concrete.~~

~~(16)(13)~~ GRAMS OF VOC PER LITER OF COATING, LESS WATER AND LESS EXEMPT COMPOUNDS, is the weight of VOC per combined volume of VOC and coating solids. ~~It and~~ and can be calculated by the following equation:

$$\begin{array}{l} \text{Grams of VOC per Liter of Coating, Less} \\ \text{Water and Less Exempt Compounds} \end{array} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:

- $W_s$  = weight of volatile compounds in grams
- $W_w$  = weight of water in grams
- $W_{es}$  = weight of exempt compounds in grams
- $V_m$  = volume of material in liters
- $V_w$  = volume of water in liters
- $V_{es}$  = volume of exempt compounds in liters

For coatings that contain reactive diluents, the Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds, shall be calculated by the following equation:

$$\begin{array}{l} \text{Grams of VOC per Liter of Coating, Less} \\ \text{Water and Less Exempt Compounds} \end{array} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:

- $W_s$  = weight of volatile compounds ~~not consumed~~ emitted during curing, in grams
- $W_w$  = weight of water ~~not consumed~~ emitted during curing, in grams
- $W_{es}$  = weight of exempt compounds ~~not consumed~~ emitted during curing, in grams
- $V_m$  = volume of the material prior to reaction, in liters
- $V_w$  = volume of water ~~not consumed~~ emitted during curing, in liters
- $V_{es}$  = volume of exempt compounds ~~not consumed~~ emitted during curing, in liters



- ~~(17)~~(14) GRAMS OF VOC PER LITER OF MATERIAL is the weight of VOC per volume of material and can be calculated by the following equation:

$$\text{Grams of VOC per Liter of Material} = \frac{W_s - W_w - W_{es}}{V_m}$$

- Where:
- $W_s$  = weight of volatile compounds grams
  - $W_w$  = weight of water in grams
  - $W_{es}$  = weight of exempt compounds in grams
  - $V_m$  = volume of the material in liters

- ~~(18)~~(15) GRAPHIC ARTS COATINGS (Sign Paints) are coatings formulated for and hand-applied by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.

~~(16)~~ ~~HIGH TEMPERATURE INDUSTRIAL MAINTENANCE COATINGS~~ are industrial maintenance coatings formulated for and applied to substrates exposed continuously or intermittently to temperatures above 400 degrees Fahrenheit.

~~(18)~~(17) ~~INDUSTRIAL MAINTENANCE ANTI-GRAFFITI COATINGS~~ are two component clear industrial maintenance coatings formulated for and applied to exterior walls, and murals to resist repeated scrubbing and exposure to harsh solvents.

~~(19)~~(18) ~~INDUSTRIAL MAINTENANCE COATINGS~~ are high performance coatings formulated for and applied to substrates in industrial, commercial, or institutional situations that are exposed to one or more of the following extreme environmental conditions:

- ~~(A)~~ immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
- ~~(B)~~ acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, chemical mixtures, or solutions;
- ~~(C)~~ repeated exposure to temperatures in excess of 250 degrees Fahrenheit;

- ~~————(D) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleaners, or scouring agents; or~~
- ~~————(E) exterior exposure of metal structures.~~
- ~~————Industrial Maintenance Coatings are not for residential use or for use in areas of industrial, commercial, or institutional facilities, such as office space and meeting rooms.~~

(19) INDUSTRIAL MAINTENANCE PRIMERS AND TOPCOATS are coatings which are intended to be applied to a surface prior to the application of an industrial maintenance topcoat, to provide a firm bond between the substrate and subsequent coats and high performance coatings which are formulated for the purpose of heavy abrasion, water immersion, chemical, corrosion, temperature, electrical or solvent resistance.

(A) Alkyds

Synthetic resins formed by the condensation of polyhydric alcohols with polybasic acids.

(B) Catalyzed Epoxy

Cross-linking resins made by the reaction of epoxides with other materials such as amines, alcohols, phenols, carboxylic acids, and unsaturated compounds.

(C) Bituminous Coatings Materials

Black or brownish coating materials, soluble in carbon disulfide, consisting mainly of hydrocarbons and which are obtained from natural deposits, or any residues from the distillation of crude petroleum oils, or of low grades of coal.

(D) Inorganic Polymers

Substances whose principal structural features are made up on homopolar inter linkages between multivalent elements other than carbon. This does not preclude the presence of carbon containing groups in the side branches, or as inter linkages between principal structural members. Examples of such polymers are ethyl and butyl silicates.

(E) Vinyl Chloride Polymers

Polymers made by the polymerization of vinyl chloride or copolymerization of vinyl chloride with other unsaturated

compounds, the vinyl chloride being in greatest amount by weight.

(F) Chlorinated Rubber

Resin formed by the reaction of rubber with chlorine.

(G) Acrylic Polymers

Polymers resulting from the polymerization of derivatives of acrylic acids, including esters of acrylic acid, methacrylic acid, acrylonitrile, and their copolymers. Also known as acrylic resins and acrylate resins.

(H) Urethane Polymers

Coating vehicles containing a polyisocyanate monomer reacted in such a manner as to yield polymers containing any ratio, proportion, or combination of urethane linkages, active isocyanate groups, or polyisocyanate monomer.

(I) Silicones

A resin containing silicon, unlike organic resins which all contain carbon. The basic structure of silicones consists of silicon-oxygen linkages.

(J) Unique Vehicles

Generic polymer components not defined by any of the preceding, e.g., hypalon or phenoxy.

- (20) JAPANS/FAUX FINISHING COATINGS are glazes designed for wet-in-wet techniques used as a stain or glaze to create artistic effects, including but not limited to, dirt, old age, smoke damage, and simulated marble and wood grain.
- (21)(19) LACQUERS are clear or pigmented wood finishes, including clear lacquer sanding sealers, coatings formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction and to provide a quick-drying, solid protective film.
- (22)(20) LOW-SOLIDS STAINSCOATINGS are stainscoatings containing one pound or less of solids per gallon of material, and containing no Group II exempt compounds listed in (b)(10)(B) as defined in Rule 102.
- (23)(21) MAGNESITE CEMENT COATINGS are coatings formulated for and applied to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

- (24)(22) MASTIC COATINGS are coatings formulated to cover holes and minor cracks and to conceal surface irregularities, and applied in a thickness of at least 10 mils (dry, single coat).
- (25)(23) METALLIC PIGMENTED COATINGS are coatings containing at least 0.4 pound of elemental metallic pigment per gallon (50 grams/liter) of coating as applied.
- (26)(24) MULTI-COLORED COATINGS are coatings which exhibit more than one color when applied and which are packaged in a single container and applied in a single coat.
- ~~(25) OPAQUE STAINS are all stains that are not classified as semi-transparent stains.~~
- ~~(26) OPAQUE WOOD PRESERVATIVES are all wood preservatives not classified as clear or semi-transparent wood preservatives, or as below-ground wood preservatives.~~
- (27) PRE-TREATMENT WASH PRIMERS are coatings which contain a minimum of 1/2 percent acid, by weight, applied directly to bare metal surfaces to provide necessary surface etching.
- (28) PRIMERS are coatings applied to a surface to provide a firm bond between the substrate and subsequent coats.
- (29) QUICK-DRY ENAMELS are non-flat coatings which comply with the following:
- (i) Shall be capable of being applied directly from the container by brush or roller under normal conditions, normal conditions being ambient temperatures between 60°F and 80°F;
  - (ii) When tested in accordance with ASTM D 1640 they shall: set-to-touch in two hours or less, dry-hard in eight hours or less, and be tack-free in four hours or less by the mechanical test method; and
  - (iii) Shall have a 60° dried film gloss of no less than 70.
- ~~(30) QUICK-DRY PRIMERS, SEALERS, AND UNDERCOATERS are primers, sealers, and undercoaters which are intended to be applied to a surface to provide a firm bond between the substrate and subsequent coats and which are dry-to-touch in one-half hour and can be recoated in two hours (ASTM D 1640).~~
- ~~(31) REACTIVE DILUENT is a liquid which is a VOC during application and one in which, through chemical and/or physical reaction, such as polymerization, becomes an integral part of the coating.~~

- ~~(29) RESIDENTIAL USE is use in areas where people reside or lodge including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.~~
- (32)(30) ROOF COATINGS are coatings formulated for application to exterior roofs and for the primary purpose of preventing penetration of the substrate by water, or reflecting heat and ~~reflecting~~ ultraviolet radiation. Metallic pigmented roof coatings which qualify as metallic pigmented coatings shall not be considered to be in this category, but shall be considered to be in the metallic pigmented coatings category.
- (33)(31) SANDING SEALERS are clear wood coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish coatings. To be considered a sanding sealer a coating must be clearly ~~labeled~~ labelled as such.
- (34)(32) SEALERS are coatings applied to substrates to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.
- ~~(33) SEMI-TRANSPARENT STAINS are coatings which are formulated to change the color of a surface but not conceal its texture.~~
- ~~(34) SEMI-TRANSPARENT WOOD PRESERVATIVES are wood preservative stains formulated to protect exposed wood from decay or insect attack by the addition of a wood preservative chemical registered by the California Department of Food and Agriculture, and which may change the color of a surface but do not conceal the surface, including clear wood preservatives.~~
- (35) SHELLACS are clear or pigmented coatings formulated solely with the resinous secretions of the lac beetle (*laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.
- (36) SOLICIT is to require for use or to specify, by written or oral contract.
- (37) STAINS are opaque or semi-transparent coatings which are formulated to change the color but not conceal the grain pattern or texture.
- (38)(37) SWIMMING POOL COATINGS are coatings specifically formulated to coat the interior of swimming pools and to resist swimming pool chemicals.

- (3938) SWIMMING POOL REPAIR COATINGS are chlorinated, rubber-based coatings used for the repair and maintenance of swimming pools over existing chlorinated, rubber-based coatings.
- (4039) TINT BASE is an architectural coating to which colorants are added.
- (4140) TRAFFIC COATINGS are coatings formulated for and applied to public streets, highways, and other surfaces including, but not limited to, curbs, berms, driveways, and parking lots.
- (42)(41) UNDERCOATERS are coatings formulated and applied to substrates to provide a smooth surface for subsequent coats.
- (43)(42) VARNISHES are clear wood finishes formulated with various resins to dry by chemical reaction on exposure to air.
- (44)(43) VOLATILE ORGANIC COMPOUND (VOC)  
See Rule 102.  
~~is any volatile compounds which contains the element carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds.~~
- (45)(44) WATERPROOFING SEALERS are colorless coatings which are formulated for the sole purpose of preventing penetration of porous substrates by water and which do not alter surface appearance or texture.
- (4648) WOOD PRESERVATIVES are coatings formulated to protect wood from decay or insect attack by the addition of a wood preservative chemical registered by the California Environmental Protection Agency.

(c) Requirements

- (1) Except as provided in ~~subsections-paragraphs~~ (c)(2), (c)(3), and (c)(4), no person shall supply, sell, offer for sale, apply, or solicit the application of, any architectural coating which, at the time of sale or manufacture, contains more than 250 grams of ~~volatile organic compounds-VOC~~ per liter of coating (2.08 pounds per gallon), ~~excluding less~~ water, less exempt compounds, and less any colorant added to tint bases, or manufacture, blend, or repackage such a coating for use within the District.
- (2) Except as provided in ~~subsections-paragraphs~~ (c)(3) and (c)(4), no person shall supply, sell, offer for sale, apply, ~~or~~ solicit the

application of, manufacture, blend, or repackage, for use within the District, any architectural coating listed in the Table of Standards which contains VOC volatile organic compounds (less water and exempt compounds, and excluding any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the corresponding effective date specified, or manufacture, blend, or repackage such a coating for use within the District.

**TABLE OF STANDARDS**

**VOC LIMITS**

**Grams of VOC Per Liter of Coating,  
Less Water And Less Exempt Compounds**

<b>COATING</b>	<b>Effective at Adoption (2/2/90)</b>	<b>Effective Dec. 1, 1990</b>	<b>Effective Dec. 1, 1993</b>
<del>Clear Wood Finishes</del>			
<del>    Varnish</del>	<del>350</del>	<del>350</del>	<del>350</del>
<del>    Sanding Sealers</del>	<del>---</del>	<del>550</del>	<del>350</del>
<del>    Lacquer</del>	<del>680</del>	<del>550</del>	<del>275 (7-1-94)</del>
Semi-transparent Stains	350	350	350
Opaque Stains	350	350	350
<del>Semi-transparent and Clear Wood Preservatives</del>	<del>350</del>	<del>350</del>	<del>350</del>
Below Ground Wood Preservatives		600	350
Opaque Wood Preservatives	350	350	350
Primers, Sealers, and Undercoaters	350	350	350
Bond Breakers		750	350 (7-1-91)
Industrial Maintenance Coatings	420	420	340
<del>Industrial Maintenance Anti-Graffiti Coatings</del>	<del>---</del>	<del>600</del>	<del>340</del>
<del>Industrial Maintenance High-Temperature Coatings</del>	<del>---</del>	<del>650</del>	<del>550</del>
<del>Fire Retardant Coatings</del>			
<del>    Clear</del>	<del>---</del>	<del>650</del>	<del>650</del>
<del>    Pigmented</del>	<del>---</del>	<del>350</del>	<del>350</del>
Form Release Compounds		250	250
Graphic Arts (Sign) Coatings		500	500
Magnesite Cement Coatings		600	450
Metallic Pigmented Coatings		500	500
<del>Dry Fog Coatings</del>			
<del>    Flats</del>	<del>420</del>	<del>400</del>	<del>400</del>
<del>    Non Flats</del>	<del>400</del>	<del>400</del>	<del>400</del>
Multi-Color Coatings		580	420
Pretreatment Wash Primers		780	780
Waterproof Sealers	400	400	400

Concrete-Curing Compounds	350	350	350
Mastic Coatings	300	300	300
Traffic Paints for Public Streets and Highways	250	250	250
For Other Surfaces	250	250	250
Black Traffic Coatings		250	250
Shellac			
Clear		730	730
Pigmented		550	550
Swimming Pool Coatings		650	340
Swimming Pool Repair and Maintenance Coatings		650	650



**TABLE OF STANDARDS****VOC LIMITS****Grams of VOC Per Liter of Coating,  
Less Water And Less Exempt Compounds**

<u>COATING</u>	<u>Limit *</u>	<u>Effective Date of Adoption</u>	<u>Effective 1/1/1998</u>	<u>Effective 1/1/1999</u>	<u>Effective 7/1/2001</u>	<u>Effective 1/1/2005</u>	<u>Effective 7/1/2008</u>
Bond Breakers	350						
Clear Wood Finishes							
Varnish	350						
Sanding Sealers	350						
<b>Lacquer</b>	<b>680</b>		<b>550</b>			<b>275</b>	
Concrete-Curing Compounds	350						
Dry-Fog Coatings	400						
<b>Fire-proofing Exterior Coatings</b>	<b>350</b>	<b>450</b>		<b>350</b>			
Fire-Retardant Coatings							
Clear	650						
Pigmented	350						
<b>Flats</b>	<b>250</b>				<b>100</b>		<b>50</b>
Graphic Arts (Sign) Coatings	500						
Industrial Maintenance Primers and Topcoats							
Alkyds	420						
Catalyzed Epoxy	420						
Bituminous Coatings Materials	420						
Inorganic Polymers	420						
Vinyl Chloride Polymers	420						
Chlorinated Rubber	420						
Acrylic Polymers	420						
Urethane Polymers	420						
Silicones	420						
Unique Vehicles	420						
<b>Japans/Faux Finishing Coatings</b>	<b>350</b>	<b>700</b>		<b>350</b>			
<b>Magnesite Cement Coatings</b>	<b>600</b>			<b>450</b>			
Mastic Coatings	300						
Metallic Pigmented Coatings	500						
<b>Multi-Color Coatings</b>	<b>420</b>		<b>250</b>				
<b>Pigmented Lacquer</b>	<b>680</b>		<b>550</b>			<b>275</b>	
Pre-Treatment Wash Primers	780						
Primers, Sealers, and Undercoaters	350						
Quick-Dry Enamels	400						
Roof Coatings	300						
Shellac							
Clear	730						
Pigmented	550						
Stains	350						
Swimming Pool Coatings							
Repair	650						
Other	340						
<b>Traffic Coatings</b>	<b>250</b>		<b>150</b>				
Waterproofing Sealers	400						
Wood Preservatives							
Below-Ground	350						
Other	350						

\* The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards

TABLE OF STANDARDS (cont.)VOC LIMITSGrams of VOC Per Liter of Material

<u>COATING</u>	<u>Limit</u>
<u>Low-Solids Coating</u>	<u>120</u>

- (3) If anywhere on the container of any coating listed in the Table of Standards, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the coating may be used as, or is suitable for use as, a coating for which a lower VOC standard is specified in the table or in ~~subsection-paragraph~~ (c)(1), then the lowest VOC standard shall apply. This requirement does not apply to the representation of the following coatings in the manner specified:

~~(A) high temperature industrial maintenance coatings, which may be represented as metallic pigmented coatings for use consistent with the definition of high temperature industrial maintenance coatings;~~

(AB) lacquer sanding sealers, which may be recommended for use as sanding sealers in conjunction with clear lacquer topcoats;

(BC) metallic pigmented coatings, which may be recommended for use as primers, sealers, undercoaters, roof coatings, or industrial maintenance coatings; ~~and~~

(CD) shellacs; ~~and~~

(D) low-solids coatings.

- (4) Except where already required to be in compliance with ~~a~~the previous version of this rule, sale or application of a coating manufactured prior to the effective date of the corresponding standard in the Table of Standards, and not complying with that standard, shall not constitute a violation of ~~subsection-paragraph~~ (c)(2) until three years after the effective date of the standard.

~~(5) The manufacture of a coating subject to a standard listed in the Table of Standards and not complying with that standard shall not constitute a violation of subsection (c)(2) until thirty days after the effective date of the standard.~~

(5) All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, or repaired.

(6) Averaging Provisions

On or after July 1, 2001, manufacturers may comply with the provisions of paragraph (c)(2) for flat coatings by complying with the following averaging provisions:

(A) The manufacturer shall demonstrate that actual emissions from the flat coatings being averaged are less than or equal to the allowable emissions, for the specified compliance period using the following equation:

$$\frac{\sum_{i=1}^n ER_i (U_i)}{\sum_{i=1}^n VOC_i (U_i)}$$

Where:

$$\frac{\sum_{i=1}^n VOC_i (U_i)}{\quad} = \text{Allowable Emissions}$$

$$\frac{\sum_{i=1}^n ER_i (U_i)}{\quad} = \text{Actual Emissions}$$

VOC<sub>i</sub> = Pounds of VOC per pound of coating solids (lbs/lb);

U<sub>i</sub> = Quantity of coating “i” sold for use within the District (pounds of coating solids); and

ER<sub>i</sub> = VOC content of coating “i”, as supplied (lbs/lb).

The averaging is limited only to flat coatings selected by the manufacturer. Any flat coating not included in the averaging plan shall comply with the VOC limit in paragraph (c)(2).

(B) Averaging Plan (Plan)

Manufacturers using the averaging approach shall submit a Plan, pursuant to Rule 221 - Plans, to the Executive Officer. The Plan may not be implemented until it is approved in writing by the Executive Officer. Submittal of the Plan does not provide an exemption from the rule requirements. The Plan shall meet the requirements specified in Appendix A.

## (d) Administrative Requirements

- (1) Containers for all coatings subject to this rule shall display the date of manufacture of the contents or a code indicating the date of manufacture. The manufacturers of such coatings shall file with the Executive Officer of the District and the Executive Officer of the Air Resources Board an explanation of each code.
- (2) Containers for all coatings subject to the requirements of this rule shall carry a statement of the manufacturer's recommendation regarding thinning of the coating. This recommendation shall not apply to the thinning of architectural coatings with water. The recommendation shall specify that the coating is to be employed without thinning or diluting under normal environmental and application conditions, unless any thinning recommended on the label for normal environmental and application conditions does not cause a coating to exceed its applicable standard.
- (3) Each container of any coating subject to this rule shall display the maximum VOC content of the coating, as ~~supplied~~applied, and after any thinning as recommended by the manufacturer. The VOC content of low-solids ~~coatings stains~~ shall ~~also~~ be displayed as grams of VOC per liter of material (excluding any colorant added to the tint bases) and the VOC content of any other coating shall ~~also~~ be displayed as grams of VOC per liter of coating (less water and less exempt compounds, and excluding any colorant added to tint bases). VOC content displayed may be calculated using product formulation data, or may be determined using the test method in ~~sub~~section ~~and~~division (e).
- ~~(4) The labels of all industrial maintenance coatings shall include the statement "Not for Residential Use," or "Not for Residential Use in California," prominently displayed.~~
- ~~(4) After January 1, 1998, the coating container label or container shall include the words "Quick-Dry" or shall list the following:
  - (A) The recoat time for quick-dry primers, sealers, and undercoaters, or
  - (B) The dry-hard time for quick-dry enamels.Containers and container labels shall not contain the words "Quick-Dry" unless the material meets the dry times specified in the~~

respective definitions or the material complies with the respective general VOC limit for enamels or primers, sealers, and undercoaters.

(e) Test Methods

For the purpose of this rule, the following test methods shall be used. ~~Other test methods determined to be equivalent after review by the staffs of the District, the California Air Resources Board, and the United States Environmental Protection Agency (USEPA), and approved in writing by the District Executive Officer may also be used.~~

(1) VOC Content of Coatings

The VOC content of coatings subject to the provisions of this rule shall be determined by:

- (A) The United States Environmental Protection Agency (USEPA) Reference Test Method 24 (Determination of ~~n~~ Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, Code of Federal Regulations Title 40, Part 60, Appendix A): with ~~T~~the exempt compound's' content shall be determined by Method 303 (Determination of Exempt Compounds) in the South Coast Air Quality Management District's (SCAQMD) "Laboratory Methods of Analysis for Enforcement Samples" ~~manual~~ Section III, Methods 19 and 22, or
- (B) Method 304 [Determination of Volatile Organic Compounds (VOC) in Various Materials] in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples" ~~manual~~ Section III, Methods 16, 17, 19, 22, and 24.

(C) Exempt Perfluorocarbons

The following classes of compounds:

cyclic, branched, or linear, completely fluorinated alkanes

cyclic, branched, or linear, completely fluorinated ethers with no unsaturations

cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations

sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine

will be analyzed as exempt compounds for compliance with subdivision (c), only when manufacturers specify which individual compounds are used in the coating formulations. In addition, the manufacturers must identify the USEPA, ARB, and SCAQMD approved test methods, which can be used to quantify the amount of each exempt compound.

(2) Acid Content of Coatings

The acid content of a coating subject to the provisions of this rule shall be determined by ASTM Test Method D\_1613-85 (Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products).

(3) Metal Content of Coatings

The metallic content of a coating subject to the provisions of this rule shall be determined by Method 311 (Determination of Percent Metal in Metallic Coatings by Spectrographic Method) in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples" manual.

(4) Flame Spread Index

The flame spread index of a fire-retardant coating subject to the provisions of this rule shall be determined by ASTM Test Method E 84-91A (Standard Test Method for Surface Burning Characteristics of Building Material) after application to an organic or inorganic substrate, based on the manufacturer's recommendations.

(5) Drying Times

The set-to-touch, dry-hard, dry-to-touch, and dry-to-recoat times of a coating subject to the provisions of this rule shall be determined by ASTM Test Method D 1640 (Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature). The tack-free time of a coating subject to the provisions of this rule shall be determined by ASTM Test Method D 1640, according to the Mechanical Test Method.

(6) Gloss Determination

The gloss shall be determined by ASTM Test Method D 523 (Specular Gloss).

(7) Equivalent Test Methods

Other test methods determined to be equivalent after review by the staffs of the District, the California Air Resources Board, and the

USEPA, and approved in writing by the District Executive Officer may also be used.

(8) Multiple Test Methods

When more than one test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.

(9) All test methods referenced in this subdivision shall be the version most recently approved by the appropriate governmental entities.

(f) Technology Assessment for Flats and Lacquers

The Executive Officer shall conduct:

(1) A technology assessment for the future VOC limit for flat coatings as specified in paragraph (c)(2) by July 1, 2000 and July 1, 2007.

(2) A technology assessment for the future VOC limit for lacquers specified in paragraph (c)(2) by January 1, 2004.

(3) In conducting the above technology assessments, the Executive Officer shall consider any applicable future California Air Resources Board surveys on architectural coatings.

After each technology assessment, the Executive Officer shall report to the Governing Board as to the appropriateness of maintaining the future VOC limit.

(gf) Exemptions

(1) The provisions of this rule shall not apply to:

(A)(1) architectural coatings in containers having capacities of one quart or less, provided that the manufacturer shall submit an annual report to the Executive Officer within three months of the end of each calendar year. The report shall contain information as required by the Executive Officer to monitor the use of the small container exemption. The loss of this exemption due to the failure of the manufacturer to submit an annual report shall apply only to the manufacturer; or

(B)(2) architectural coatings sold in this District for shipment outside of this District or for shipment to other manufacturers for repackaging; or

(C)(3) emulsion type bituminous pavement sealers; or

(D)(4) aerosol coating products.

- (E) Use of stains and lacquers in all areas within the District at an elevation of 4,000 feet or greater above sea level.
- (2) For architectural coatings recommended by the manufacturer for use solely as quick-dry primers, sealers and undercoaters, the provisions of subdivision (c) shall not apply to:
  - (A) the manufacture, blending or repackaging of such coatings, or
  - (B) the application, sale, offering for sale or soliciting the application of such coatings, provided that the manufacturer submits an annual report to the Executive Officer within three months of the end of each calendar year. The report shall include for each exempt coating gallons sold in California.-
- (3) Notwithstanding the provisions of paragraph (c)(2), a person or facility may add up to 10 percent by volume of VOC to a lacquer to avoid blushing of the finish during days with relative humidity greater than 70 percent and temperature below 65 degrees Fahrenheit, at the time of application provided that:
  - (A) the coating is not applied from April 1 to October 31 of any year;
  - (B) the coating contains acetone and no more than 550 grams of VOC per liter of coating, less water and exempt compounds, prior to the addition of VOC.
- (4) The January 1, 2005 VOC limit for lacquers shall not be applicable until January 1, 2007 and the July 1, 2008 VOC limit for flat coatings shall not be applicable to any manufacturer which meets all of the following criteria:
  - (A) The total gross annual receipts are \$2,000,000 or less, and
  - (B) The total number of employees is 100 or less, and
  - (C) The manufacturer requesting this exemption files a written request with the Executive Officer annually which includes, but is not limited to,
    - (i) The total gross annual receipts for each of the last three years.
    - (ii) The total number of employees for each of the last three years

For the purposes of determining the total gross annual receipts and the total number of employees, a manufacturer shall include data from all facilities (both within and outside of the District) which they own, operate, have an ownership interest, or are legally affiliated. If a manufacturer exceeds the



criteria specified in subparagraphs (g)(4)(A) or (g)(4)(B) any time after the initial request is filed with the Executive Officer, this exemption shall be immediately terminated, the manufacturer shall forfeit any future eligibility for this exemption, and the manufacturer shall be considered in violation of this rule for each and every day that lacquers or flat coatings which do not comply with the respective VOC limit in the Table of Standards are supplied, sold, or offered for sale within the District. The loss of this exemption due to the manufacturer exceeding the criteria in subparagraphs (g)(1)(A) or (g)(1)(B) shall apply only to the manufacturer.

## APPENDIX A: Averaging Provision

### (A) General Requirements

The Plan shall include, at a minimum:

- An identification of the contact persons, phone numbers, and name of the manufacturer who is submitting the Plan and will be implementing the requirements of the plan.
- A listing of the flat coatings, and available variations, legible copies of the existing labels for each coating, material safety data sheets, and VOC content (pounds of VOC per pound of solids), (grams of VOC per liter of coating), and grams of VOC per liter of material).
- An operational plan covering all the coatings for each compliance period that the Plan will be in effect. The operational plan shall contain all of the following:
  - ⇒ an identification of the compliance periods and dates for the manufacturer to report the information required by the Executive Officer. The length of the compliance period shall not exceed 365 days;
  - ⇒ an identification of specific sales records to be provided to the Executive Officer for approving and enforcing the Plan;
  - ⇒ for each coating listed, all VOC content levels which will be applicable for the coating during each compliance period;
  - ⇒ the projected sales for each coating at each different VOC content for every compliance period that the Plan will be in effect;
  - ⇒ a detailed demonstration showing that the projected actual emissions will not exceed the allowable emissions for each compliance period that the Plan will be in effect. The demonstration shall use the equation specified in subparagraph (c)(6)(A) for projecting the actual emissions and allowable emissions during each compliance period, and shall specify the methodology used for converting VOC content in g/l to lbs/lb for  $VOC_i$  and  $ER_i$ . The demonstration shall also include all VOC content levels and projected sales within the District for all coatings listed in the Plan during each compliance period;
  - ⇒ For each coating included in the Plan, the total sales volume (in gallons) within the District will be reported for the time period just completed which is equivalent to the requested initial compliance period.

- a statement, signed by a legal representative for the manufacturer, that all information and operational plans submitted with the Plan are true and correct.
- a reconciliation plan which commits the manufacturer to completely reconcile any shortfalls in any and all cases, to the extent permitted by law, even if the manufacturer files for bankruptcy protection. The reconciliation plan shall contain all of the following:
  - ⇒ a clear and convincing demonstration of how shortfalls of up to 5%, 10%, 15%, 25%, 50%, 75%, and 100% of the allowable emissions will be completely reconciled within 90 working days from the date the shortfall is determined;
  - ⇒ a listing of the specific records and other information that will be necessary to verify that the shortfalls were reconciled;
  - ⇒ a commitment to provide any record or information requested by the Executive Officer to verify that the shortfalls have been completely reconciled.

#### (B) Reporting Requirements

- A final report, demonstrating what the actual emissions and the allowable emissions were during the compliance period, shall be submitted to the Executive Officer within 60 days after the termination of the indicated compliance period.

#### (C) Renewal of a Plan

- If the Plan has no changes, except the compliance period, the manufacturer shall submit a notice in writing, specifying a new compliance period for the Plan. Otherwise, all of the information specified in Section A of this Appendix shall be submitted.

#### (D) Modification of a Plan

- If the Executive Officer determines that: (1) the information submitted pursuant to the approval process is no longer valid, or (2) the actual emissions are exceeding the allowable emissions specified in the approved Plan, then the Executive Officer shall notify the manufacturer of his/her findings and the manufacturer shall modify the Plan within 30 days, as necessary to ensure that

the Plan meets all of the applicable requirements and that the actual emissions will not exceed the allowable emissions for the compliance period.

- If the VOC standard specified in the Table of Standards for flat coating is modified in a future rulemaking, the Executive Officer shall notify the manufacturer of the change and the manufacturer shall modify, within 30 days, the allowable emissions specified in the approved Plan to reflect the modified VOC standard as of their effective dates.
- The manufacturer may modify the Plan during the compliance period to ensure that actual emissions are less than or equal to the allowable emissions. All such modifications shall be submitted to and approved by the Executive Officer prior to implementation.

(E) Termination of a Plan

- A Plan shall remain in effect until:
  - ⇒ the Plan reaches the expiration date specified in the Plan by the Executive Officer;
  - ⇒ the Plan is modified by the manufacturer and approved by the Executive Officer;
  - ⇒ the Plan is modified by the Executive Officer;
  - ⇒ the VOC standard for flat coatings is modified in future rulemaking, and the manufacturer informs the Executive Officer in writing that the Plan will terminate on the effective date of the modified standard.
  - ⇒ a manufacturer submits a written request for termination of the plan.
- The Executive Officer shall terminate a Plan if any of the following circumstances occur:
  - ⇒ the manufacturer demonstrates to the satisfaction of the Executive Officer that the continuation of the Plan will result in an extraordinary economic hardship;
  - ⇒ the manufacturer violates the requirements of the approved Plan, and the actual emissions exceed the allowable emissions by 20% or more after reconciliation;
  - ⇒ the manufacturer fails to meet the requirements of the reconciliation plan within the specified time periods;
  - ⇒ the manufacturer demonstrates a recurring pattern of violations and has consistently failed to take the necessary steps to correct those violations.

- Upon termination of a Plan, all flat coatings listed in the Plan must comply with the VOC standard specified in the Table of Standards for flat coatings. In addition, any shortfall for the current compliance period shall be reconciled by the manufacturer.

(F) Plan Approval Timeframes

- The provisions of Rule 210 - Applications and Rule 221 - Plans shall apply.

(G) Violations

- An exceedance of the allowable emissions for any compliance period that the Averaging Plan is in effect shall constitute a single, separate violation of the requirements of this section for each day of the applicable compliance period.