

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for:

Proposed Amended Rule 1113 - Architectural Coatings

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PREFACE

The Draft Environmental Assessment (EA) for the Proposed Amended Rule 1113 – Architectural Coatings was circulated for a 45-day public review and comment period from April 5, 2006 to May 19, 2006. Two public comment letters were received and responses to the comments are included in Appendix E of the Final EA. Minor modifications were made to the Draft EA so it is now a Final EA. Deletions and additions to the text of the EA are denoted using ~~striketrough~~ and underlined, respectively. Changes to the project description are minor, considered within the scope of the proposed project analysis or one of the alternatives analyzed, and do not change the conclusions made in the Draft EA or worsen the environmental impact analyzed in the Draft EA. Pursuant to CEQA Guidelines §15073.5(c)(2), recirculation is not necessary since the information provided does not result in new avoidable significant effects.

Two other rule proposal options have been introduced since the release of the Draft EA. The first option would amend the effective date for the July 1, 2006 emission limits in Rule 1113 - Architectural Coatings for 90 days until October 6, 2006, except for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels; and varnish and sanding sealers in containers greater than one quart, and exercise enforcement discretion for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart until the environmental impacts from delaying the compliance date for these specific coating categories have been analyzed in accordance to CEQA requirements. The delay in the compliance date for the other coating categories currently subject to the July 1, 2006 effective date have been effectively analyzed within the scope of the Alternatives B and C analyzed in the EA.

The second rule proposal option would implement Alternative B already analyzed in the EA which is also the National Paint and Coatings Association (NPCA) proposal.

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CHAPTER 1

EXECUTIVE SUMMARY

Introduction

Legislative Authority

California Environmental Quality Act

CEQA Documentation for PAR 1113 – Architectural Coatings

Intended Uses of this Document

Areas of Controversy

Executive Summary

INTRODUCTION

Rule 1113 - Architectural Coatings, was originally adopted by the South Coast Air Quality Management District (SCAQMD) on September 2, 1977, to regulate the volatile organic compounds (VOC) emissions from the application of architectural coatings, and has since undergone numerous amendments. Future VOC limits for many coating categories are to take effect on July 1 of 2006, 2007 and 2008. The SCAQMD's 2003 Air Quality Management Plan (AQMP) concluded that major reductions in criteria pollutant emissions, such as oxides of nitrogen (NO_x), and precursor pollutants, such as VOCs, are necessary to attain the state and national ambient air quality standards for ozone, and coarse and fine particulate matter (PM₁₀ and PM_{2.5}).

The current rule contains a requirement for staff to conduct a technology assessment prior to implementation of the lower limits. As a result of the comprehensive technology assessment, summarized in the 2005 Annual Status Report on Rule 1113 – Architectural Coatings¹ (Status Report), staff has developed the currently proposed amendments to Rule (PAR) 1113 to implement the recommendations from the Status Report. Public comments on the Status Report were considered in preparing the recommendations for amendments to Rule 1113.

The proposed amendments to Rule 1113 will allow the coating manufacturers to use tertiary butyl acetate (TBAC) as an exempt solvent to formulate industrial maintenance (IM) coatings only, including zinc-rich industrial maintenance primers. PAR 1113 also establishes a new high-gloss subcategory of nonflat coatings and postpones the 50 grams per liter (g/l) final VOC content limit by one year to July 1, 2007 for those nonflat high gloss coatings. Interim limits of 150 g/l and 250 g/l are proposed for quick dry enamel coatings and specialty primers, respectively, while delaying the final VOC content limit of 50 g/l for one year until July 1, 2007. In addition, the proposed amendments will require lowering the VOC content limit for the following three existing coating categories: concrete-curing compounds (except for those used for roadways, bridges and bridge decks), dry-fog coatings, and traffic coatings by July 1, 2007. The coating category of fire-retardant coatings will be eliminated and those coatings will be subject to the VOC content limit of the coating category this particular type of coating is normally classified as (i.e., primer, sealer, flat, nonflat). These specific coating categories targeted for VOC content reductions were identified by SCAQMD staff and in one of the five proposals from the National Paint and Coating Association (NPCA) as potential cost-effective means of offsetting the VOC emissions foregone due to the delay in implementation of the final VOC content limit compliance date for nonflat high gloss, quick-dry enamel and specialty coating categories. The delay in emission reductions is

¹ Presented to the Governing Board at its January 6, 2006 public hearing and can be accessed online at <http://www.aqmd.gov/hb/2006/060126a.html>

expected to exceed the SCAQMD's significance threshold and, thus, generate a significant impact on air quality.

PAR 1113 is considered to be a project pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code §§21000 et seq.), and, therefore, a Draft Environmental Assessment (EA) was prepared to analyze potential adverse environmental impacts from implementing the proposed project. Based upon an initial evaluation of PAR 1113, a Notice of Preparation and Initial Study (NOP/IS) prepared for the proposed amendments was prepared and released to the public on January 24, 2006 for a 30-day public review and comment period ending February 22, 2006. Air quality was the only environmental topic identified as having the potential to be adversely affected by the proposed amendments.

LEGISLATIVE AUTHORITY

The California Legislature created the SCAQMD in 1977² as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an AQMP demonstrating compliance with all federal and state ambient air quality standards for the areas over which the SCAQMD has jurisdiction³. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP⁴. The 2003 AQMP concluded that major reductions in emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) are necessary to attain the air quality standards for ozone and coarse and fine particulate matter (PM10 and PM2.5). While the proposed project will delay anticipated VOC emission reductions, ultimately the proposed project will recover foregone VOC emission reductions and achieve additional VOC emission reductions when the new lower VOC content limits becomes effective. As a result, PAR 1113 will contribute to attainment of the state and national ambient air quality standards for ozone by the timeframes mandated under state and federal law.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments to Rule 1113 are a "project" as defined by the CEQA Guidelines §15378 and, therefore, is subject to the requirements of CEQA. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The

² The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).

³ Health & Safety Code, §40460 (a).

⁴ Health & Safety Code, §40440 (a).

SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. Rule 110 requires an assessment of anticipated environmental impacts as well as an analysis of feasible methods to substantially reduce any significant adverse environmental impacts identified. To fulfill the purpose and intent of CEQA and Rule 110, the SCAQMD has prepared this Draft EA to address the potential adverse environmental impacts associated with implementing PAR 1113. This Draft EA is intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

All comments received during the public comment period on the analysis presented in the Draft EA will be responded to and included in the Final EA. Prior to making a decision on the proposed amended rule, the SCAQMD Governing Board must review and certify the EA as providing adequate information on the potential adverse environmental impacts of the proposed amended rule.

SCAQMD's review of the proposed project shows that the project would have a significant adverse effect on the environment. Therefore, pursuant to CEQA Guidelines §15126.4, feasible mitigation measures which could minimize significant adverse impacts are required if available and feasible. In addition, a range of reasonable alternatives to the proposed project is required in accordance with CEQA Guidelines §15126.6. The analysis in Chapter 4 concludes that adverse air quality impacts are significant. Discussions of the remaining environmental topics support the finding of no significant adverse impacts to these environmental topic areas. Because no feasible mitigation measures were identified to reduce air quality impacts to less than significant, a Statement of Findings and a Statement of Overriding Considerations will be prepared in accordance with CEQA Guidelines §§15091 and 15093, respectively.

CEQA DOCUMENTATION FOR RULE 1113 - ARCHITECTURAL COATINGS

In addition to this Draft EA, a number of CEQA documents have been prepared for previous amendments to Rule 1113. The following subsections briefly summarize the previously prepared CEQA documents for Rule 1113.

November 2003 – Final Environmental Assessment (EA) - Proposed Amendments to Rule 1113 - Architectural Coatings

In December 2003, the SCAQMD Governing Board lowered VOC content limits for the following coating categories: clear wood finishes (varnish and sanding sealers), waterproofing sealers, waterproofing concrete/masonry sealers, stains, and roof coatings. The proposed amendments required reporting with a sunset date to phase-out the one-quart or less usage exemption for clear wood finishes and expanded the scope of the averaging compliance option to include the categories where the VOC content limits were proposed to be lowered.

These amendments are currently a subject of litigation but the case has not been heard, so ruling has been determined yet.

December 2002 – Final Subsequent Environmental Assessment (SEA) - Proposed Amendments to Rule 1113 - Architectural Coatings

In December 2002, the SCAQMD Governing Board readopted amendments to Rule 1113 which were originally adopted in May 1999, but vacated by the Court of Appeal on June 24, 2002. In response to the Court's decision the SCAQMD staff proposed to readopt the 1999 amendments and incorporate the modifications to the 1999 amendments that were made after the notice of public hearing was published. In connection with readopting the 1999 amendments to Rule 1113 plus the modifications, the SCAQMD staff prepared a Draft SEA to evaluate potential adverse environmental impacts of the 1999 amendments as revised. Rule 1113 was amended in 1999 to implement, in part, both the 1994 and the 1997 AQMP control measure CTS-07 – Further Emission Reductions from Architectural Coatings, which called for a reduction of the allowable VOC content limit per liter of coating from the following coating categories: industrial maintenance (IM); non-flats; primers, sealers, and undercoaters; quick-dry enamels; quick-dry primers, sealers, and undercoaters; roof coatings; stains; and waterproofing wood sealers. The 1999 amendments to Rule 1113 also added several new coating categories: bituminous roof primers; floor coatings; high temperature IM coatings; nonflats; quick-dry primers, sealers, and undercoaters; recycled coatings; rust preventative coatings; specialty primers; zinc-rich IM primers, and waterproofing concrete/masonry sealers. The proposal also expanded and clarified the averaging provision to provide additional flexibility to manufacturers.

These amendments are also currently a subject of litigation. The case has been partially heard but the ruling has yet to be announced.

July 2001 – Final Environmental Assessment - Proposed Amendments to Rule 1113 - Architectural Coatings

In July 2001, the SCAQMD Governing Board adopted amendments to Rule 1113. The amendments included the creation of a new coating category for clear wood finish brushing lacquers with an allowable VOC content of 680 grams per liter until January 1, 2005, when the clear wood finish brushing lacquers would be limited to a VOC content of 275 grams per liter. The rule amendments also established labeling and reporting requirements for brushing lacquers to ensure their proper use and thus minimize emissions. By postponing compliance with the existing VOC content limit requirement for lacquers in general, the EA prepared for this amendment concluded that 162 pounds of anticipated VOC emission reductions per day would be foregone until the clear brushing lacquers are required to comply with the final VOC content limit in 2005.

May 1999 – Final Subsequent Environmental Assessment - Proposed Amendments to Rule 1113 - Architectural Coatings

In May 1999, the SCAQMD Board adopted amendments to Rule 1113. The amendments called for a reduction of the allowable VOC content limit per liter of coating from the following coating categories: industrial maintenance; non-flats; quick-dry enamels; primers, sealers, and undercoaters; quick-dry primers, sealers, and undercoaters; stains; roof coatings; and waterproofing wood sealers. The proposed amendments to Rule 1113 also added several new coating categories, high temperature IM coatings, rust preventative coatings, bituminous roof coatings, recycled flats and nonflats, essential public service coatings, floor coatings, and waterproofing concrete/masonry sealers. The proposal also expanded and clarified the averaging provision to provide additional flexibility to manufacturers. At full implementation of the amendments, the overall VOC emission reductions were anticipated to be approximately 21.8 tons per day by the year 2010. On June 24, 2002, the Court of Appeal vacated the SCAQMD's adoption of the 1999 amendments.

November 1996 – Final Subsequent Environmental Assessment - Proposed Amendments to Rule 1113 - Architectural Coatings

In November 1996, the SCAQMD Board adopted amendments to Rule 1113. These amendments reduced the VOC content limits of four coating categories: lacquers, flats (interior and exterior), traffic coatings, and multi-color coatings, resulting in an overall net reduction of 10.3 tons per day of VOC emissions from this source category. In addition, the amendments temporarily increased the VOC content limits for four coating categories. Other components of the proposed amendments included addition of and modification to some definitions, updating the analytical test methods, and establishing an averaging methodology for flats to provide flexibility for complying with future VOC content limits.

Subsequent to the adoption of the amendments to Rule 1113, industry filed three separate lawsuits, questioning the validity of the proposed future limits for the lacquer and flat coating categories. The SCAQMD has prevailed in all three cases.

August 1996 – Final Environmental Assessment - Proposed Amendments to Rule 1113 - Architectural Coatings

These amendments incorporated an exemption from the VOC limits for coatings sold in containers one-quart size or less. The analysis in the Final Environmental Assessment concluded that adopting a small container exemption would result in significant adverse air quality impacts.

February 1990 - Determination of No Significant Impacts - Proposed Amendments to Rule 1113 - Architectural Coatings.

In February 1990, the SCAQMD Governing Board adopted amendments to Rule 1113 - Architectural Coatings that were based on the California Air Resources Board (CARB) and California Air Pollution Control Officers Association (CAPCOA) Suggested Control Measure (SCM). The 1990 amendments included the following provisions: exemptions for 11 categories of specialty coatings were eliminated, leaving only exemptions for quart or smaller containers and emulsion type bituminous pavement sealers; lower VOC content limits for 15 new coating categories; technology-forcing low VOC limits for ten existing coating categories effective December 1, 1993; consolidation of the industrial maintenance coating categories from ten to three; and reorganization of the subdivisions of the rule.

The 1990 Court Order

In 1990, the Dunn-Edwards Corporation challenged the 1990 amendments to Rule 1113 in court (Dunn-Edwards Corporation, et. al. v. SCAQMD). That case challenged, in part, the CEQA document prepared for the amendments to Rule 1113 adopted in February 1990, specifically the amendments that lowered the VOC limits for the following six coating categories: IM high temperature coatings; industrial maintenance anti-graffiti coatings; IM primers and topcoats; lacquers; quick-dry primers and sealers; and quick-dry enamels. The lawsuit alleged that the CEQA document was inadequate because it did not fully analyze potential significant adverse air quality impacts in seven areas that were alleged to arise from implementing the lower VOC content limits. The SCAQMD prevailed in six of the seven alleged impact areas, but the lower court requested the SCAQMD to further study whether or not illegal thinning of coatings in the field resulted in a negative air quality impact before readopting the February 1990 amendments.

The results of an architectural coatings field study undertaken during the latter half of 1998 by CARB staff, with the help of local air pollution control and air quality management district personnel, suggest that there is not a significant amount of illegal thinning resulting in noncompliant architectural coatings. Thirty-six percent of the coatings sampled were solvent-borne. Fifty-three percent of these were thinned with material containing VOCs. However, of all of the solvent-borne coatings sampled, only 14 percent were thinned and noncompliant with district rules. Overall, solvent-borne thinned, noncompliant coatings made up only five percent of all the coatings observed.

While the SCAQMD agreed to study the illegal thinning issue, the plaintiff appealed the court's decision to dismiss their claims regarding the six other potential air quality impacts. In 1993, the Court of Appeals in a published decision (*Dunn-Edwards Corporation, et. al. v. SCAQMD*) rejected the plaintiffs' appeal. Plaintiffs then appealed the appellate decision to the California Supreme Court that denied review on December 2, 1993.

Other Rule 1113 Amendments

Rule 1113 has been amended a number of times since January 1, 1990, as summarized in the following bullet points. For each amendment described below the proposed project was concluded to be exempt from CEQA and, thus, a Notice of Exemption was prepared.

- **July 9, 2004** - The amendments addressed SIP approvability issues identified by the USEPA relative to the alternative compliance option of the rule, the averaging compliance option (ACO). Amendments included requiring specific records to be kept by manufacturers choosing to use the ACO to comply with VOC limits, establishing additional criteria for violations of the ACO program and making other changes to the rule to enhance clarity and enforceability. The SCAQMD committed to periodically evaluating the ACO program to determine if emission reductions commitments are met as specified in the State Implementation Plan (SIP).
- **March 8, 1996** - These amendments established a definition for aerosol coatings consistent with the CARB definition, revised the definition of exempt compounds by referencing Rule 102 - Definition of Terms, and created an exemption for aerosol coatings.
- **September 6, 1991** - These amendments created a new coating category, low-solids stain, and also incorporated a calculation method for determining VOC content on a materials basis. The amendment also

prohibited use of Group II exempt compounds, including ozone-depleting chlorofluorocarbons (CFCs) and several toxic solvents.

- **December 7, 1990** - These amendments incorporated new definitions for specialty coatings and established a specific VOC content limit in the table of standards for specialty coatings.
- **November 2, 1990** - These amendments incorporated new definitions for specialty coatings and established a specific VOC content limit in the table of standards for specialty coatings.
- **February 2, 1990** - These amendments incorporated new definitions for specialty coatings and established a specific VOC content limit in the table of standards for specialty coatings.

INTENDED USES OF THIS DOCUMENT

In general, a CEQA document is an informational document that informs a public agency's decision-makers, and the public generally, of potentially significant adverse environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121). A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this revised Draft EA is intended to: (a) provide the SCAQMD Governing Board and the public with information on the environmental effects of the proposed project; and (b) be used as a tool by the SCAQMD Governing Board to facilitate decision making on the proposed project.

Additionally, CEQA Guidelines §15124(d)(1) requires a public agency to identify the following specific types of intended uses of a CEQA document:

1. A list of the agencies that are expected to use the EA in their decision-making;
2. A list of permits and other approvals required to implement the project; and
3. A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

To the extent that local public agencies, such as cities, county planning commissions, etc., are responsible for making land use and planning decisions related to projects that must comply with the proposed amendments to Rule 1113, they could possibly rely on this EA during their decision-making process. Similarly, other single purpose public agencies approving projects at facilities complying with the proposed amendments to Rule 1113 may rely on this EA.

AREAS OF CONTROVERSY

In accordance to CEQA Guidelines §15123(b)(2), the areas of controversy known to the lead agency including issues raised by agencies and the public shall be identified in the CEQA document. Table 1-1 highlights the areas of controversy raised by the public during the rule development process either in public meetings or in written comments.

TABLE 1-1
Areas of Controversy

	Area of Controversy	Topics Raised by Public	SCAQMD Evaluation
1.	Potential toxicity of TBAC	TBAC should not be used as an exempt solvent due to its potential toxicity.	The proposed amendments limit the use of TBAC to IM coatings and the toxics analysis in this Draft EA examines both cancer and non-cancer health effects from IM coatings, which could be reformulated with TBAC to meet the lower VOC content limit. There is little available information on the toxicity of TBAC, but there is some toxicity information available on one of its metabolites, tert butyl alcohol (TBA). Estimated risk factors for TBA provided by OEHHA staff members was used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAC. It should be noted that these surrogate risk factors developed by OEHHA staff have not been formally approved by the Scientific Review Panel yet. However, they reflect the best available information from OEHHA at this time. Using conservative assumptions, these factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAC used under the proposed project.
2.	Expand VOC exemption for TBAC	Expand the proposed limited VOC exemption of TBAC from only IM coatings to all architectural coatings categories, or add TBAC to the list of exempt materials in Rule 102.	Based on the potential, but unknown toxicity of TBAC, the proposed limited exemption of TBAC is more health protective compared to the complete exemption while providing the coating manufacturers with flexibility in formulating compliant products with the future limits of PAR 1113 for IM coatings. IM coatings have exceptionally long durability, typically require personal protection equipment during application, and some are required to adhere to stringent MWD criteria. With regard to expanding the exemption to other coatings, according to 2001 CARB survey results as listed in Table 2 of the 2005 Annual Status report, some coatings have already recorded high sales data of coatings complying with the lower future VOC content limit. For example, 36 percent of the clear wood finishes had already achieved the future lower VOC content limit. Further, applicators of other coating categories do not typically wear personal protection equipment worn by professionals who apply IM coatings. Staff is opposed to allowing TBAC use in residential applications until final conclusions regarding the toxicity of TBAC have been concluded.

TABLE 1-1 (CONTINUED)**Areas of Controversy**

	Area of Controversy	Topics Raised by Public	SCAQMD Evaluation
3.	New lower VOC content limits	Feasibility of achieving a newly proposed lower VOC content limit as future VOC limits for existing coating categories.	At both the August 10, 2005, and September 14, 2005, Ad Hoc subcommittee meetings, the National Paint and Coating Association (NPCA) suggested additional emission reductions in Rule 1113 by lowering the VOC content limit for bond breakers, concrete curing compounds, dry fog coatings, and traffic coatings to 100 grams per liter. A comprehensive technical assessment was conducted and included in the Annual Status Report on Rule 1113 submitted to the SCAQMD Governing Board on February 3, 2006, that supports the conclusion that affected coatings achieving the lower VOC content limit are commercially available. Further, the rule proposal allows additional time to meet the lower VOC content limit.
4.	Extending the compliance date for IM coatings	Even with delisting TBAC as a VOC, the manufacturers are concerned there is not enough time to successfully reformulate with TBAC to comply with 7/1/06 compliance date to a lower VOC content limit for IM coatings.	There has been a wide debate among interested parties whether TBAC is considered a “drop in” substitute or whether a complex reformulation needs to take place. If TBAC is a “drop in” substitution, then extending the compliance date for IM coatings to meet the lower VOC content limit is not necessary. The strong desire to use TBAC to comply with the lower VOC content limit requirement for IM coatings implies that TBAC has been already tested and has proven to assist IM coatings in successfully complying with the lower VOC content limit requirement. Current availability of future compliant IM coatings is evident according to a web search compiled in Table 4 of the 2005 Annual Status report, and according to the store sales data in the 2001 CARB survey as listed in Table 2 of the Annual Status report, 11 percent market penetration of IM coatings meeting the 100 grams per liter VOC content limit has already occurred. The current percentage of IM coatings complying with 100 grams per liter is expected to have increased over the five years since the survey revealed 11 percent market penetration. The Essential Public Service Agency’s technology assessment included satisfactory performance from number compliant IM coatings that did not use TBAC, but also highlighted the need for TBAC for coatings with exceptionally long service life. The recently completed UMR study also found superior performing IM coating systems that meet future lower VOC limits. Discussions with new material suppliers indicate that resins and additives can be delivered in exempt solvents, like TBAC, if demanded by the OEMS. Finally, IM coating manufacturers can use the three-year sell-through provision, product averaging and variance if they need additional time to reformulate.

TABLE 1-1 (CONTINUED)**Areas of Controversy**

	Area of Controversy	Topics Raised by Public	SCAQMD Evaluation
5.	Reactivity	Some coating manufacturers assert that a reactivity-based approach should be used to regulate VOC.	Different types of solvents have different degrees of "reactivity," which is the ability to accelerate the formation of ground-level ozone. The use of reactivity as a regulatory tool has been debated at the local, state, and national level for over 20 years. Dr. William Carter, one of the principal researchers of reactivities of various VOC species, identified the state of science with respect to VOC reactivity and described areas where additional work is needed in order to reduce the uncertainty associated with different approaches to assessing reactivity. According to CARB ⁵ , a number of studies have found that relative reactivities have much smaller uncertainties than absolute reactivities. CARB has implemented a limited reactivity-based rule and the U.S.EPA has also issued a guidance to have states evaluate reactivity-based approaches. CARB is finalizing their new survey which will include revised speciation data and will evaluate the feasibility of reactivity-based approach as part of their next SCM. However, based on the 2001 survey, mass-based VOC control approach was deemed effective for most categories and shows a lower SWA-MIR value for low-VOC coatings. The SCAQMD will continue to work with CARB and U.S.EPA staff on a potential reactivity-based approach.
6.	More thickness	Industry representatives contend that reformulated compliant water- and solvent-borne coatings are very viscous (e.g. are formulated using a high-solids content) and, therefore, are difficult to handle during application, tending to produce a thick film when applied directly from the can. A thicker film indicates that a smaller surface area is covered with a given amount of material, thereby increasing VOC emissions per unit of area covered.	Staff has asserted in the past and continues to maintain that a coating with more solids will actually cover a greater surface area. Currently available low-VOC coatings are not necessarily formulated with higher solids content. Further, higher solids content does not result in a substantial reduction in the coverage area. The coating product data sheets tend to corroborate a positive correlation between solids content and the coverage area. A past CARB Survey yielded similar results for average VOC content with a random sampling of low-VOC coatings compared to their conventional counterparts. Based upon the results of the SCAQMD and CARB surveys, staff concludes that the data does not support the industry's assertion that compliant low-VOC coatings are solely formulated with higher solids content than conventional coatings. Further, the data does not support their assertion that there is an inverse correlation between solids content and coverage area.

⁵ <http://www.arb.ca.gov/research/reactivity/reactivityhistory.htm>

TABLE 1-1 (CONTINUED)**Areas of Controversy**

	Area of Controversy	Topics Raised by Public	SCAQMD Evaluation
7.	Illegal Thinning	It has been asserted that, because reformulated compliant water- and solvent-borne coatings are more viscous (e.g. high-solids formulations), painters must adjust the properties of the coatings to make them easier to handle and apply. In particular for solvent-borne coatings this adjustment consists of thinning the coating, as supplied by the manufacturer by illegally adding solvent to reduce its viscosity. The added solvent increases VOC emissions.	Thinning should not be a problem because a majority of the coatings that would comply with future limits will be waterborne formulations and cannot be thinned with VOC containing solvents. Other compliant coatings are available and may be applied without thinning. Even if some thinning of compliant products occurs, thinning would likely be done with water or exempt solvents. Finally, surveys undertaken by both CARB and the SCAQMD indicate that coating applicators do not engage in widespread illegal thinning, and even when thinning occurs, the coatings VOC content limits are not exceeded. As a result, claims of thinning resulting in significant adverse air quality impacts are not supported by any evidence or data.
8.	More Priming	Substrates must be primed with typical solvent-borne primers to enhance the topcoat adherence quality. Industry representatives have testified that the use of water-borne compliant topcoats, could require more priming to promote adhesion. Additionally, it is has been asserted that water-borne sealers do not penetrate and seal porous substrates like wood, as well as traditional solvent-borne sealers. This allegedly results in three or four coats of the sealer per application compared to one coat for a solvent-borne sealer would be necessary, resulting in an overall increase in VOC emissions for the coating system.	Based on the coating manufacturer's coating product data sheets, the material needed and time necessary to prepare a surface for coating is approximately equivalent for conventional and low-VOC coatings. More primers are not needed because low-VOC coatings possess comparable qualities as conventional coatings including: coverage; similar adhesion qualities; and consistent resistance to stains, chemicals and corrosion. Low-VOC coatings do not tend to require any special surface preparation different from what is required before applying conventional coatings to a substrate. As part of good painting practices for any coating, water-borne or solvent-borne, the surface typically needs to be clean and dry for effective adhesion. These conclusions are supported by the University Missouri-Rolla (UMR), National Technical Systems (NTS) and other coating studies. Consequently, claims of significant air quality impacts resulting from more priming are unfounded.
9.	More Topcoats	Coating manufacturers and coating contractors assert that reformulated compliant water- and low-VOC solvent-borne topcoats may not cover, build, or flow-and-level as well as the solvent-borne formulations. Therefore, more coats are necessary to achieve equivalent cover and coating build-up.	Technology breakthroughs with additives used in recent formulations of low-VOC coatings have minimized or completely eliminated flow and leveling problems. Both low-VOC and conventional coatings have comparable coverage and superior performance. These low-VOC coatings possess scrub and stain resistant qualities, blocking and resistance to UV exposure for the exterior coatings. Both low-VOC and conventional IM coatings tend to have chemical and abrasion resistant qualities, gloss and color retention, and comparable adhesion qualities. These conclusions are supported by the UMR, NTS and other coating studies. With comparable coverage and equivalent durability qualities, additional topcoats for low-VOC coatings should not be required.

TABLE 1-1 (CONTINUED)**Areas of Controversy**

	Area of Controversy	Topics Raised by Public	SCAQMD Evaluation
10.	More Touch-Ups and Repair Work	Coating manufacturers and coating contractors have asserted that reformulated compliant water- and low-VOC solvent-borne formulations dry slowly, and are susceptible to damage such as sagging, wrinkling, alligatoring, or becoming scraped and scratched - problems claimed to require additional coatings for repair and touch-up.	Based on the durability characteristics information contained in the coating product data sheets, low-VOC coatings and conventional coatings have comparable durability characteristics. As a result, it is not anticipated that more touch up and repair work will need to be conducted when using low-VOC coatings. These conclusions are supported by the UMR, NTS and other coating studies. Consequently, claims of significant adverse air quality impacts resulting from touch-up and repair for low-VOC coatings are not supported by any evidence or data.
11.	More Frequent Recoating	Coating manufacturers and coating contractors have asserted that the durability of the reformulated compliant water- and low-VOC solvent-borne coatings is inferior to the durability of the traditional solvent-borne coatings. Durability problems include cracking, peeling, excessive chalking, and color fading, may result in more frequent recoating. As a result, more frequent recoating would be necessary resulting in greater total emissions than would be the case for conventional coatings.	The durability of a coating is dependent on many factors, including surface preparation, application technique, substrate coated, and exposure conditions. Again, as mentioned above, key durability characteristics, as discussed in coating product data sheets, include resistance to scrub or abrasion, corrosion-, chemicals-, impact-, stain-, and UV-resistance, are similar between conventional and low-VOC coatings. Coatings manufacturers' own data sheets indicate that the low-VOC coatings for both architectural and industrial maintenance applications are durable and long lasting. Any durability problems experienced by the low-VOC coatings are not different than those seen with conventional coatings. Recent coating technology has further improved the durability of low-VOC coatings. Because the durability qualities of the low-VOC coatings are comparable to the conventional coatings, more frequent recoatings would not be necessary.
12.	Substitution	Coating manufacturers and coatings contractors assert that since reformulated compliant water- and low-VOC solvent-borne coatings are inferior in durability and are more difficult to apply, consumers and contractors will substitute better performing high VOC coatings in other categories for use in categories with low compliance limits.	The SCAQMD does not expect that low-VOC coatings used for specific coating applications will be substituted for by higher-VOC coatings used for other specific types of coating applications. Currently, there are a substantial number of low-VOC coatings in a wide variety of coating categories that have performance characteristics comparable to conventional coatings. Furthermore, PAR 1113 prohibits the application of certain coatings in specific settings. Moreover, the type of performance desired in some settings would prohibit the use of certain coatings in those settings. Rule 1113 requires that when a coating can be used in more than one coating category the lower limit of the two categories is applicable. If in the rare event that substitution does occur, PAR 1113 would still achieve overall VOC emission reductions.

TABLE 1-1 (CONCLUDED)

Areas of Controversy

	Area of Controversy	Topics Raised by Public	SCAQMD Evaluation
13.	Synergetic Effect	The synergistic effect of the above issues (e.g., more thickness, illegal thinning, more priming, more topcoats, more touch-up and repair, more frequent recoating, more substitution, and more reactivity) will result in significant adverse air quality impact.	SCAQMD's research and analysis of resin manufacturers' and coating formulators' product information sheets concludes that on each separate issue that the low-VOC compliant coatings have comparable performance as current coatings or industry's specific assertions are unfounded. Individually each issue does not result in a significant adverse air quality impact and the synergistic effect of the above issues is not expected to result in significant adverse air quality impacts.

EXECUTIVE SUMMARY

The organization of this Draft EA is as follows: Chapter 1 –Executive Summary; Chapter 2 – Project Description; Chapter 3 – Existing Setting; Chapter 4 – Environmental Impacts and Mitigation Measures; and, Chapter 5 – Project Alternatives. The following subsections briefly summarize the contents of each chapter.

Summary of Chapter 1 – Legislative Authority and Executive Summary

This Chapter contains a discussion of the legislative authority of the SCAQMD to adopt rules and regulations to implement the current AQMP. Further, an executive summary of the proposed project and the contents required in a CEQA document are outlined.

Summary of Chapter 2 – Project Description

In addition to including a description of the project location, Chapter 2 also includes a brief description of PAR 1113. Briefly, the proposed amendments to Rule 1113 would:

- Amend the definition for floor coatings to include clear floor coatings, except for IM coatings and clear wood finishes. This clarification is necessary to keep the intent of the original definition which included both opaque and clear coatings.
- Add a new definition for nonflat high gloss by separating this category from the general nonflat category.
- Modify the definition of VOC to exclude TBAC when used in formulating IM coatings and zinc-rich industrial maintenance primers.

- Eliminate the fire retardant coating category and impose the same VOC content limit as similar coating types (e.g., primer, sealer, flat, nonflat).
- Establish a high gloss subcategory to nonflat coatings and extend the 50 g/l VOC limit effective date for nonflat high gloss coatings from July 1, 2006, to July 1, 2007.
- Require an interim VOC limit of 150 g/l for quick-dry enamels that would become effective upon adoption and delay the effective date of 50 g/l VOC limit one year from July 1, 2006, to July 1, 2007.
- In the Table of Standards in paragraph (c)(2), effective July 1, 2007, reduce the VOC content limits to 100 g/l for concrete-curing compounds (not used for roadways, bridges and bridge decks) and traffic coatings, and 150 g/l for dry-fog coatings.
- Require an interim VOC limit of 250 g/l for specialty primers that would become effective upon adoption and delay the effective date of 100 g/l VOC limit one year from July 1, 2006, to July 1, 2007.
- Remove the requirement to submit an annual report to the Executive Officer for the following specialty coating categories: clear brushing lacquers and rust preventative coatings.
- Add metallic pigmented coating category to the Averaging Compliance Option.
- Add a labeling requirement for concrete-curing compounds manufactured and used for roadways, bridges and bridge decks to include the statement “For Roadways, Bridges and Bridge Decks Only” that shall be prominently displayed effective July 1, 2007.
- Update administrative requirements such as outdated labeling requirements for brushing lacquers, technology assessments and acronyms.

For a complete description of the proposed amendments the reader is referred to Appendix A.

Summary of Chapter 3 - Existing Setting

Pursuant to the CEQA Guidelines §15125, Chapter 3 – Existing Setting, includes descriptions of those environmental areas that could be adversely affected by PAR 1113. The following subsection briefly highlights the existing setting for air quality,

which is the only environmental area that could be adversely affected by implementing PAR 1113.

Air Quality

Over the last decade and a half, there has been significant improvement in air quality within the area of the SCAQMD's jurisdiction. Nevertheless, several air quality standards are still exceeded frequently and by a wide margin. Of the National Ambient Air Quality Standards (NAAQS) established for six criteria pollutants (ozone, lead, sulfur dioxide, nitrogen dioxide, carbon monoxide (CO), and PM10), the area within the SCAQMD's jurisdiction is in attainment with the sulfur dioxide, nitrogen dioxide, and lead standards. Although the district has attained the federal CO standards, U.S. EPA has not formally designated the area as attainment. Chapter 3 provides a brief description of the existing air quality setting for each criteria pollutant, as well as the human health effects resulting from each criteria pollutant.

Summary of Chapter 4 – Environmental Impacts and Mitigation Measures

CEQA Guidelines §15126.2(a) requires a CEQA document to “identify and focus on the significant environmental effects of the proposed project... Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects.”

One environmental topic area, air quality, was identified as having a temporary significant adverse environmental impact due to the extension of compliance dates for several coating categories, which will delay originally anticipated reductions in VOC emissions. The following subsection briefly summarizes the analysis of potential adverse environmental impact from the adoption and implementation of PAR 1113.

Air Quality

PAR 1113 but will provide an extension to the compliance date for three coating categories from July 1, 2006 to July 1, 2007 creating a temporary delay in VOC emission reductions of 1,560 pounds per day for one year before the lower VOC content limits become effective. Because the delay of VOC emission reductions exceeds the SCAQMD's operational significance thresholds of 55 pounds of VOC per day, the air quality impacts associated with the proposed amendments to Rule 1113 were concluded to be significant.

The adoption and implementation of PAR 1113 is expected to produce substantial long-term VOC emission reductions. The proposed rule provides an additional VOC emission reduction of 1,360 pounds per day from the lowering of VOC content limits for three existing coating categories. The additional emission reductions, however,

will not be achieved until July 1, 2007. Table 1-2 outlines the proposed VOC content limits, compliance dates and the emission reductions delayed and achieved.

TABLE 1-2

PAR 1113 Proposed VOC Content Limits, Compliance Dates and Emission Reductions

COATING TYPE	Current VOC Limit*	Proposed Interim VOC Limit*	Final VOC Limit* w/Delayed Compliance	Delayed Emission Reductions (pounds/day)	Proposed New Final VOC Limit*	New Emission Reductions (pounds/day)
		As of 7/1/06	As of 7/1/07	7/1/06 - 7/1/07	As of 7/1/07	As of 7/1/07
Concrete-Curing Compounds	350	--	--	--	100	80
Dry-Fog Coatings	400	--	--	--	150	700
Nonflat Coatings, High Gloss	150	--	50	960	--	--
Quick-Dry Enamels	250	150	50	400	--	--
Specialty Primers	350	250	100	200	--	--
Traffic Coatings	150	--	--	--	100	580
Emission Reductions (pounds per day)				1,560		1,360

*grams of VOC per liter of coating, less water and less exempt compounds

Further, the proposed amendments delist TBAC as a VOC when formulated in IM coatings. Using TBA as a surrogate for TBAC, a toxics analysis has been prepared that examines both cancer and non-cancer (acute) health effects from IM coatings which could be reformulated with TBAC to meet the lower VOC content limit. A “worst-case” acute (short-term exposure) analysis was conducted because IM coatings typically last ten to 20 years so long-term exposure is not expected under typical usage scenarios. However, cancer effects were analyzed at a representative sample of facilities, such as refineries and sewage treatment plants, which may continuously apply IM coatings around the site throughout the year. The health risk analysis using “worst-case” TBAC emissions for usage limited to IM coatings was concluded to be less than significant for both carcinogenic and noncarcinogenic risk.

Mitigation

As shown in Table 1-3, no feasible mitigation measures were identified that could reduce significant adverse air quality impacts associated with implementing PAR 1113.

TABLE 1-3
Environmental Impacts from PAR 1113

Environmental Impact Area	Significance Determination	Mitigation Measures
Air Quality - Criteria Pollutants (VOCs)	Significant (temporary delay of VOC emission reductions; further VOC emission reductions achieved in future)	None Identified
Non-Criteria Pollutants (TACs)	Not Significant (increase use of TBAC)	None Required

Environmental Impacts Found Not To Be Significant

The Initial Study for PAR 1113 includes an environmental checklist of 17 environmental topic areas. Review of the proposed project at the NOP/IS stage identified one topic for further review in the Draft EA. For the remaining 16 environmental areas where the Initial Study concluded that the project would have no significant direct or indirect adverse effects, no comments were received on the NOP/IS or at the public meetings that changed this conclusion. SCAQMD staff has determined that there will be no significant impacts to the following environmental resources as a result of implementing PAR 1113:

- Aesthetics
- Agricultural Resources
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Solid/Hazardous Waste
- Transportation/Traffic

Other CEQA Topics

The CEQA Guidelines require a CEQA document to address the potential for irreversible environmental changes (§15126.2 (c)), growth-inducing impacts (§15126.2 (d)), and inconsistencies with regional plans (§15125 (d)). Consistent with the 2003 AQMP EIR, additional analysis of the proposed project confirms that it would not result in irreversible environmental changes or the irretrievable commitment of resources, foster economic or population growth or the construction of additional housing, or be inconsistent with regional plans.

Summary of Chapter 5 – Project Alternatives

Chapter 5 provides a discussion of alternatives to the proposed project. The alternatives analyzed include measures for attaining the objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. The alternatives are viable options to the proposed project and all, or parts, of the alternatives can be chosen by the decision-making body (e.g., SCAQMD Governing Board) to become the proposed project. For this reason, the public is encouraged to review the environmental analysis since the potential environmental impacts from implementing all, or parts, of the alternatives may be generated if chosen to become the proposed project. Table 1-4 briefly summarizes specific components of the proposed project and the alternatives to the proposed project. Table 1-4 does not list all the coating categories in Rule 1113, but does list new and existing coating categories affected by PAR 1113 and/or the project alternatives. Unless otherwise indicated, all other provisions not identified in Table 1-4 for the project alternatives are identical to the current rule requirements.

TABLE 1-4
PAR 1113 and Project Alternatives

Affected Coating Categories	Current VOC Limit (g/l)	PAR 1113		Alternative A – No Project Alternative (Current Rule)		Alternative B – NPCA Proposal (Eliminate 12 Lower VOC Limits) ²		Alternative C – No TBAC Delisting; Delay IM Limit	
		Future VOC Limit (g/l)	Effective Date	Future VOC Limit (g/l)	Effective Date	Proposed VOC Limit (g/l)	Effective Date	Future VOC Limit (g/l)	Effective Date
CWF-Small Containers ¹	Unlimited	--	--	275	07/01/06	Unlimited	Indefinite	--	--
Concrete Curing Compounds	350	100	07/01/07	--	--	--	--	100	07/01/07
Dry Fog Coatings	400	150	07/01/07	--	--	--	--	150	07/01/07
Flat, Interior (new)	100	--	--	50	07/01/08	50	07/01/07	--	--
Flat, Exterior (new)						100	Indefinite		
Floor, Exterior (new)	100	--	--	50	07/01/06	100	Indefinite	--	--
IM	250	--	--	100	07/01/06	100	07/01/07	100	07/01/07
Antigraffiti, General (new)	250	--	--	100	07/01/06	250	07/01/06	--	--
Antigraffiti, Permeable (new)						400	07/01/06		
Nonflat, Exterior (new)	150	--	--	50	07/01/06	150	Indefinite	--	--
Nonflat, High Gloss (new)		50	07/01/07			150	Indefinite	50	07/01/07
PSU, Exterior (new)	200	--	--	100	07/01/06	200	Indefinite	--	--
QDE, Interior (new)	250	150 / 50	07/01/06 / 07/01/07	50	07/01/06	150	Indefinite	150 / 50	07/01/06 / 07/01/07
QDE, Exterior (new)						250	Indefinite		
QDPSU, Exterior (new)	200	--	--	100	07/01/06	200	Indefinite	--	--
Rust Preventative	400	--	--	100	07/01/06	100	07/01/07	--	--
Specialty Primers	350	250 / 100	07/01/06 / 07/01/07	100	07/01/06	350	Indefinite	250 / 100	07/01/06 / 07/01/07
Stains, Exterior (new)	250	--	--	100	07/01/07	250	Indefinite	--	--
Traffic Coatings	150	100	07/01/07	--	--	--	--	100	07/01/07
WPCMS	400	--	--	100	07/01/06	400	Indefinite	--	--
WPS	250	--	--	100	07/01/06	250	Indefinite	--	--

1. Includes Lacquers, Sanding Sealers, and Varnish

2. Alternative B has not yet been determined to be a feasible alternative. Unless and until substantial evidence, based on the entire record, has been provided to demonstrate the current rule limits are technically infeasible, this alternative may not be considered.

Table 1-5 lists the alternatives considered by the SCAQMD and how the air quality impacts compares to PAR 1113. Quantification of the air quality impacts from each alternative can be found in Chapter 5.

TABLE 1-5

Comparison of Adverse Environmental Impact to PAR 1113 and Alternatives

Environmental Topic	Proposed Project	Alternative A (No Project)	Alternative B (NPCA Proposal – Eliminate 12 Lower VOC Limits)	Alternative C (Proposed Project with No TBAC Delisting; Delay IM Ctg Limit)
Air Quality – Criteria Pollutants (VOCs)	Significant (temporary delay of VOC emission reductions); additional VOC emission reductions in future from new lower VOC content limits	Not significant (VOC emission reductions achieved on schedule)	More significant than PAR 1113 (permanent forgone VOC emission reductions)	Slightly more significant than PAR 1113 (temporary delay of VOC emission reductions); additional VOC emission reductions
Non-Criteria Pollutants (TACs)	Not Significant (increase use of TBAC in IM ctgs)	Not Significant (no delisting of TBAC as VOC)	Not Significant (increase use of TBAC in IM ctgs and clear wood finishes)	Not Significant (no delisting of TBAC as VOC)

Table 1-6 presents a matrix that lists the significant adverse impacts as well as the cumulative impacts associated with the proposed project and the project alternatives for all environmental topics analyzed. The table also ranks each impact section as to whether the proposed project or a project alternative would result in greater or lesser impacts relative to one another.

TABLE 1-6

Ranking of Alternatives

Proposed Project and Alternatives	Air Quality Impacts		
	Criteria Pollutants	Non-Criteria Pollutants	Cumulative
PAR 1113	x (2)	✓(3)	✓
Alternative A	✓(1)	✓(1)	✓
Alternative B	x (4)	✓(4)	x
Alternative C	x (3)	✓(1)	✓

Notes: The ranking scale is such that 1 represents the least impacts and subsequent higher number represent increasingly worse or more substantial adverse impacts.

The same two numbers in brackets means that these proposals would have the same impacts if implemented.

An **x** denotes either a project-specific or cumulative significant adverse impact.

A **✓** denotes no project-specific or no cumulative significant adverse impact.

CHAPTER 2

PROJECT DESCRIPTION

Project Location
Background
Project Objective
Project Description

PROJECT LOCATION

PAR 1113 would apply to the SCAQMD's entire area of jurisdiction. The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 2-1).

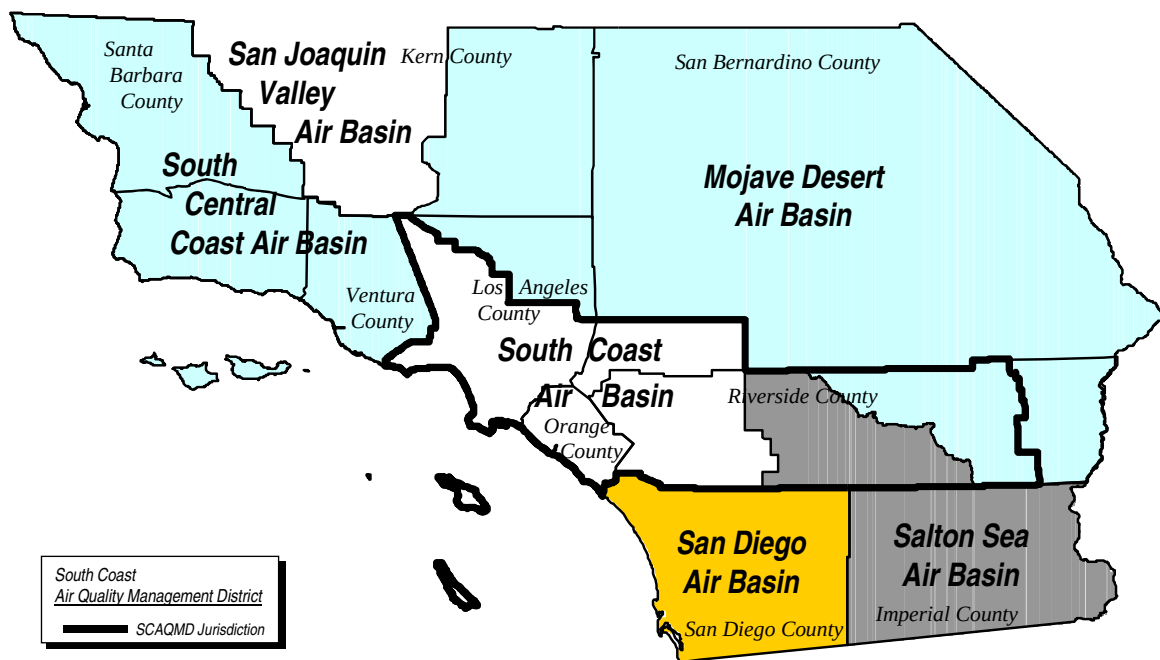


FIGURE 2-1

South Coast Air Quality Management District

BACKGROUND

Excluding mobile sources, architectural coatings, including IM coatings, are one of the largest sources of VOC emissions in the district. Rule 1113 is applicable to manufacturers, distributors, and end-users of architectural coatings. These coatings are used to enhance the appearance of and to protect homes, office buildings, factories and other structures, and their appurtenances on a variety of substrates. The coatings may be applied primarily by brush, roller, or spray gun; and those applying these coatings include homeowners, paint contractors, or maintenance personnel. Aerosol coatings are regulated by California Air Resource Board (CARB) and are therefore exempt from this rule.

The 2003 AQMP shows VOC emissions from the use of architectural coatings in 1997 at 50.9 tons per day (tpd) on an Annual Average Inventory and 60 tpd on the Summer Planning Inventory. The latest CARB architectural coating survey for year 2000 sales confirms the Annual Average Inventory by showing more than 50 tpd of VOCs are attributed to the application of architectural coatings in the district based on demographics. Using the 1997 inventories as the baselines and projecting controlled emissions into the future, emissions for the architectural coatings source category for 2006 and 2010 are projected to be 32.7 tpd and 24 tpd, respectively, on the Annual Average Inventory and 38.5 tpd and 28.3 tpd for 2006 and 2010, respectively, on the Summer Planning Inventory.

VOC emissions contribute to the formation of ozone, PM 2.5 (particulate matter with an aerodynamic diameter less than 2.5 microns) and PM10 (particulate matter with an aerodynamic diameter less than or equal to 10 microns), three pollutants that exceed the state and national ambient air quality standards. These criteria pollutants are the most serious regional air quality problems within the district and the most difficult to reduce to comply with state and national ambient air quality standards.

VOCs react photochemically with NO_x to form ozone. Ozone is a strong oxidizer that irritates the human respiratory system and damages plant life and property. VOCs also react in the atmosphere to form PM_{2.5} and PM₁₀, pollutants that adversely affect human health and limits visibility. Because these small particulates penetrate into the deepest regions of the lung, they affect pulmonary function and have been linked to an increased morbidity and mortality.

Rule 1113 was first adopted in 1977, and has since undergone numerous amendments. When Rule 1113 was amended on November 8, 1996, it included an averaging compliance option (ACO) for complying with coating VOC content limits. Under the ACO, manufacturers are allowed to average their emissions over a compliance period not to exceed one year provided they demonstrate their actual cumulative emissions from the averaged coatings are less than or equal to the cumulative emissions that would

have been allowed under the VOC limits specified in the Rule 1113 Table of Standards. That version of Rule 1113 offered the averaging option for the flat coating category only. Subsequent amendments to Rule 1113 on December 6, 2002, and December 5, 2003, added numerous other coating categories to the ACO provision to provide manufacturers additional compliance flexibility with the future VOC limits specified in the Rule 1113 Table of Standards. The 2004 amendments addressed U.S. EPA concerns regarding the approvability of the ACO for the State Implementation Plan (SIP) and the administration of the ACO Program.

Following the May 14, 1999 amendments to Rule 1113, the Governing Board directed staff to provide technical oversight and contribute funding to the Essential Public Service Agency (EPSA) technology assessment. SCAQMD staff formed a committee in September 1999 comprised of representatives from Metropolitan Water District (MWD), Department of Water Resources, California Department of Transportation (Cal Trans) and the Los Angeles Department of Water and Power to conduct a technology assessment for the EPSA's. The EPSA's primary responsibilities are to identify and test low-VOC IM coating products.

The scope of the program is being completed in multiple phases and is designed to test and evaluate VOC compliant coatings necessary for maintenance and new construction projects for agencies that provide essential services to the public, such as fire fighting facilities, schools, hospitals, etc. Approximately 150 VOC compliant industrial maintenance coating systems were tested over a three to four year period. Numerous compliant immersion coating systems performed at the highest standards whereas atmospheric coating systems performed satisfactorily but did not perform to the highest standard of 15 to 20 year life. However, TBAC based IM systems did perform to the extraordinary life for some of those systems.

The provisions in the CARB architectural coating suggested control measure (SCM) were developed by a consortium of California air pollution control districts, CARB, U.S. EPA Region IX, and paint manufacturers. The main provisions of the SCM, however, including the interim limits and the averaging provisions, were largely based on the interim limits and the averaging provision of Rule 1113 as amended in May 1999.

During the course of Rule 1113 development, the SCAQMD Governing Board approved a workplan that requires staff to submit an annual status report summarizing issues and activities regarding the implementation of the rule. In addition, the rule requires technology assessments for specific coating categories. In preparing the annual status reports, staff has received input from the Technical Advisory Committee made up of individuals from manufacturing companies, NPCA, CARB, a consulting and engineering firm, a painting contractor and several members from academia. The 2006 annual status reports and technology assessments completed to date indicate that great progress has been made toward developing future compliant products in most categories.

In 2005 at Chairman Dr. William Burke's request, the Governing Board established an Ad Hoc Committee for the purpose of providing an open forum to discuss key regulatory issues relative to the coatings industry and improving communication between the SCAQMD and the architectural coating industry to resolve current and future regulatory issues in a non-litigious manner. During the discussions, NPCA members acknowledged the air quality challenges of the region and expressed their desire to submit an alternate proposal that would provide greater compliance flexibility, but be emissions neutral.

Technology Assessment

The 1999 amendments, and subsequently their readoption in 2002, to Rule 1113 require staff to conduct an annual technology assessment to assess the availability of coatings with future VOC limits. In addition, the amended rule required staff to consider any applicable future CARB architectural coating surveys when assessing the availability of compliant products. After the technology assessment is completed, a status report on the appropriateness of the future VOC limits is required to be presented to the SCAQMD Board. The latest Annual Status Report on Rule 1113 was presented to the SCAQMD Board on February 3, 2006. A copy of the report is available on the SCAQMD's web-site (<http://www.aqmd.gov/hb/2006/060126a.html>) or from the SCAQMD's Public Information Center.

Highlights of the Annual Status Report on Rule 1113

Industrial Maintenance Coatings and the Use of TBAC Formulations

The IM coating category has been part of many of the studies conducted by the SCAQMD and is considered to be the most challenging with regard to performance characteristics. Results of past studies indicate that coatings meeting the future IM category limit of 100 g/l are currently available for the industrial maintenance coating category. Staff continues to obtain additional information on IM coatings from technical data sheet and material safety data sheet study. Included in that study are over 280 IM coatings (more than triple the number reported in the 2003 Status Report to the Board) that are well below the July 1, 2006 100 g/l VOC limit.

Various public service agencies have also tested low-VOC IM products in recent years and have found compliant products with acceptable performance for some applications. For example, the Southern California Alliance of Publicly Owned Treatment Works (SCAP) conducted its own independent evaluation of IM coatings. SCAP is a non-profit corporation organized to help ensure that regulations affecting Publicly Owned Treatment Works are reasonable and in the public's best interest. SCAP's testing of IM coatings was conducted to identify low-VOC coating systems suitable for wastewater treatment and conveyance facilities. Participants in this study included the Los Angeles

County Sanitation District, the Orange County Sanitation District, the Eastern Municipal Water District, Las Virgenes Municipal Water District and the City of Los Angeles.

SCAP's evaluation of the performance of low-VOC atmospheric and immersion coating systems, completed in February 2003, indicated that compliant coating systems meeting the performance criteria for wastewater environments and the 2006 limits in Rule 1113, performed similarly to existing coating systems.

The MWD and EPSA continue to test new products that meet their very stringent internal standards for performance and that also meet the future VOC limit of 100 g/l. Testing has shown that typical IM coatings have seven-year longevity, whereas under the stringent performance standard established by MWD, an IM coating must last at least 10 to 15 years under extreme environmental conditions. The testing completed by MWD is critical in compiling the list of approved IM coatings that meet its stringent standards because the list is also utilized by the EPSA. The testing to date indicates that:

- 1) Low-VOC "immersion" (immersion in water) IM coatings meeting the 2006 VOC content limits and conforming to MWD's stringent performance standards are currently available.
- 2) MWD continues to search for "atmospheric" IM products that comply with the 2006 VOC content limits and also meet the stringent performance standards.

SCAQMD staff recognizes that there is a lack of sufficient atmospheric IM coatings available that meet MWD's and the EPSA's rigorous standards. MWD has completed testing of some atmospheric IM coatings formulated using TBAC, a solvent that the U.S. EPA has delisted as a VOC. At the time EPA delisted TBAC as a VOC because of its low photochemical reactivity; it raised the issue of the potential toxicity of TBAC because one of its metabolites tert butyl alcohol (TBA) has been demonstrated to induce cancer in laboratory animals. As part of the federal delisting of TBAC, U.S. EPA requested that the manufacturer of TBAC commit to working with U.S. EPA to conduct the additional toxicity testing as necessary to resolve the long-term toxicity uncertainty of TBAC.

California EPA (Cal/EPA) conducted an environmental impact assessment pursuant to CEQA to determine the environmental impacts associated with granting an exemption for TBAC as a VOC in the CARB Consumer Products Regulation (Environmental Impact Assessment of Tertiary-Butyl Acetate, June 2005). CARB concluded that there were no significant impacts statewide associated with the exemption of TBAC as a VOC in the definition in the CARB Consumer Products Regulation. The environmental impact assessment further recommended that local regulatory agencies conduct their own analyses prior to exempting TBAC as a VOC in any applicable rule.

In spite of the uncertainty regarding the toxicity of TBAC, some IM coating manufacturers are looking to the SCAQMD to delist TBAC for use in coatings that meet the stringent standards established for coatings used on public infrastructure. At the present time the availability of other non-VOC exempt solvents that could be used to manufacture compliant IM atmospheric coatings appears to be limited.

As recommended by CARB and pursuant to CEQA, the Draft EA for PAR 1113 will analyze the short-term (acute) non-carcinogenic effects from a “worst-case” scenario use of TBAC in IM coating applications based on the parameters of the health analysis provided by Cal/EPA. The application of architectural coatings, IM coatings in particular, does not typically occur continuously over a long period of time. Some specialized industrial operations do continuously apply IM coatings so carcinogenic risk of using IM coatings formulated with TBAC will be analyzed since they are both based on long-term exposure.

Recent survey and tests have demonstrated that there are sufficient compliant coatings available on the market in the other architectural coating categories that will meet the VOC limits of Rule 1113 without the use of TBAC. As a result, given the uncertainties regarding the toxicity of TBAC, staff is not recommending at this time exempting TBAC from the definition of VOC for any coating category other than the limited exemption for IM coatings.

In response to the concerns regarding the potential toxicity of TBAC expressed during the PAR 1151 process, the SCAQMD has committed to conducting a technical assessment on the use of TBAC by July 1, 2007. Upon completion of this technical assessment, staff will report back to the Governing Board on the appropriateness of exempting TBAC further as a non-VOC. Until that time, the SCAQMD will continue considering limited exemptions for TBAC on a case-by-case basis to protect public health, while providing some level of flexibility in developing compliant coatings.

As part of its technology assessment, the SCAQMD contracted with University of Missouri-Rolla (UMR) to conduct a laboratory study of architectural coatings in certain coating categories including IM coatings. The results of the testing and staff's conclusions and recommendations can be found in the 2005 Annual Status Report (<http://www.aqmd.gov/hb/2006/060126a.html>) or from the SCAQMD's Public Information Center.

New High Gloss Subcategory of Non Flat Coatings

Rule 1113 – Architectural Coatings, defines nonflat coatings as registering a gloss of five or greater on a 60-degree meter and a gloss of 15 or greater on an 85-degree meter. The current rule does not delineate various gloss ranges into distinct categories such as high, medium or low gloss.

Some coating manufacturers have requested that a high gloss category be developed in Rule 1113, similar to the 2000 CARB SCM for Architectural Coatings. In the SCM, high gloss coatings are those that register a gloss of 70 or above on a 60-degree meter and are allowed a higher VOC limit of 250 grams per liter. Based on results from the technology assessment, appendix A in the 2006 Annual Status Report lists several high gloss coatings that are currently available and are below the 50 g/l limit that will be required as of July 1, 2006.

Several coating manufacturers have commented on expected performance for certain key characteristics such as dirt pickup. This issue is due to the softer resin technology used for 50 g/l products in the high gloss nonflat and the companion quick-dry enamel category. Subsequent discussions with other manufacturers indicated that with the latest resin and additive technologies, coating manufacturers were able to overcome the dirt pickup issue. Discussions with raw material suppliers have indicated that new resins that were recently made commercially available to the market address these issues. Based on the state of technology, it appears that it is reasonable to expect that all manufacturers will be able to soon produce products with acceptable performance characteristics.

Despite concern with nonflat high gloss coatings expressed by manufacturers, overall, the list of currently available super-compliant nonflats continues to grow as indicated by staff reviews and updates of information based on technical data sheets and material safety data sheets. There are currently over 50 coatings below 10 g/l (“super-compliant”) and a total of over 80 coatings below 50 g/l listed in Appendix A of the Annual Status Report. This is more than double the number of coatings listed in the report to the Board in December of 2003, indicating an increasing number of available compliant products. Consumers in the do-it-yourself (DIY) market purchase these compliant products for their personal use in and around their homes on a daily basis.

In spite of the increase in the availability of coatings in this category below 50 g/l, the rule still incorporates alternative compliance options, such as the averaging provision and an allowable three-year sell through provision for coating manufacturers to take advantage of.

The request to establish a high gloss category is also based on need expressed by manufacturers for additional time to formulate nonflat high gloss coatings using resins recently introduced into the market. In response to this industry request, SCAQMD staff is proposing to divide the nonflat coatings category, creating a new category specifically for nonflat high gloss coatings effective July 1, 2006 with a VOC limit of 150 g/l and modifying the future effective date for meeting the VOC limit of 50 g/l to July 1, 2007.

Quick-Dry Enamels

Quick-dry enamels, which are a subcategory of nonflats, are defined as having gloss values greater than 70 on a 60 degree meter and should be capable of achieving set-to-touch in at least two hours, be tack-free in at least four hours and be dry-hard in at least eight hours. Due to a low number of products identified by staff that meet the definition of quick-dry enamels with a VOC content limit at or below 50 g/l, staff is proposing to establish an interim limit of 150 g/l effective July 1, 2006, and postpone the final VOC content limit of 50 g/l to July 1, 2007, consistent with the nonflat high gloss category. This delay in the final compliance date is expected to provide additional time to allow coating formulators to formulate new or improved products using recently introduced resins. The technology assessment has demonstrated that the coatings formulated with these new resins will meet the consumers' and industry demands for products with acceptable coating characteristics.

PROJECT OBJECTIVES

The objective of the currently proposed project is to reflect the findings of the recently completed Technology Assessment relative to the July 1, 2006 VOC content limits of Rule 1113:

- Reduce the VOC content limit of some coating categories;
- Acknowledge that additional time is needed to formulate compliant coatings in other categories; and
- Continue to make progress in reducing VOC emission from coatings with delayed compliance dates by establishing interim compliance limits.

The Technology Assessment was included in the 2005 Annual Status report presented to the SCAQMD Governing Board at its February 3, 2006 meeting. In addition, the objective of PAR 1113 is to minimize emissions of ozone-forming VOC emissions from architectural coatings in order to achieve state and federal ambient air quality standards.

DESCRIPTION OF AFFECTED ARCHITECTURAL COATING CATEGORIES

Coating that have been identified where the VOC content limit can be substantially reduced are described in the following subsections. Coating characteristics and compliant resin technologies are also described.

Concrete-Curing Compounds

Concrete-curing compounds are coatings applied to freshly poured concrete to retard the evaporation of water promoting the optimum cement hydration (chemical combination of water and some other substance in a definite molecular ratio) immediately after placement. As cement hydrates, strength increases and permeability decreases. When hydration stops, strength gain ceases. Many techniques have long been used successfully to help prevent evaporation and provide a good cure, including covering the newly placed concrete with water, wet burlap, polyvinyl sheeting and the use of concrete-curing compounds for high-production operations such as paving and large floor placements. Resins used in the manufacture of concrete-curing compounds include acrylic, acrylic copolymer, alkyd, phenolic, calcium nitrate, hydrocarbon, lignosulfonate, silicate, sodium silicate, wax, styrene acrylate, and polystyrene.

Staff discussed these types of coatings with the California Department of Transportation (Caltrans) which is one of the principal users and specifiers of concrete-curing compounds. The primary issue was concrete-curing compounds that meet Caltrans Standard Specification 90-7.01B which requires the compounds to conform to the requirements of ASTM C309 and water loss, in conformance with the requirements of California Test 534, which shall not be more than 0.15-kg/m² in 24 hours. The concrete-curing compounds that meet these requirements for roadways, bridges, and bridge decks are not manufactured at 100 g/l or below. The lower-VOC compounds based on silicate salts are chemically reactive in concrete rather than film forming and therefore, do not meet ASTM C309. These compounds form a hardened surface and under traffic conditions tend to spall from the bulk of the pavement and create hazards. The fluorosilicate products are similar. The proposed VOC limit of 100 g/l is suitable for all curing compounds that Caltrans uses that conform to the requirements of ASTM C309, Class A for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

Staff also met with manufacturers of concrete-curing compounds and other than the concerns regarding their use by Caltrans, the manufacturers said the proposed limit of 100 g/l would be okay for industrial use such as tilt-up construction, sidewalks, curbs, etc. In addition staff contacted the Tilt-up Concrete Association (TCA) which agreed that the 100 g/l limit should not pose any problems and that the lower-VOC compounds were better for recoating. TCA said they would contact me if any of their members had an issue regarding the proposed VOC limit and at this time staff has not received any negative comments.

Therefore, staff is proposing to modify the definition for concrete-curing compounds to separate those compounds used for roadways (does not include curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas), bridges, and bridge decks requiring them to meet specifications and requirements listed in the test method section of the rule. These concrete-curing compounds will continue to have a

VOC content of 350 g/l and all other concrete-curing compounds will be required to meet the proposed VOC limit of 100 g/l, effective July 1, 2007. Staff will continue the technology assessment to determine the availability of low-VOC compounds for roadways, bridges and bridge decks for the future.

Dry-Fog Coatings

Dry-fog coatings are applied by spray application so that the overspray droplets dry before falling on floors and other surfaces. Overspray generated during atomization of a protective coating or paint can collect on adjacent surfaces or fall, potentially damaging surfaces not intended to be coated, and resulting in extensive clean-up procedures. Dry-fog coatings were developed to reduce the amount of clean-up effort necessary, particularly when spraying overhead surfaces like ceilings inside plants or other facilities. With dry-fog coatings, the overspray releases all of its solvents (dries) as it falls through the air, such that it is dry when it contacts the surface(s) below. This minimizes the need for installation of protective coverings and allows the contractor to literally sweep-up or vacuum the overspray from these surfaces once the application is complete. Waterborne acrylic dry-fog coatings are an environmentally acceptable alternative to traditional solvent-based ceiling coatings. They emit a very low odor during application, and have a low flash point. Waterborne acrylic dry-fog coatings are especially well suited for spaces with pre-cast concrete or steel beam ceilings. They can save time and make application easier in an occupied space. Resins include acrylic, acrylic copolymer, alkyd amines epoxy, vinyl toluene, and vinyl acrylic copolymer. The VOC limit for this category is currently 400 g/l and is proposed to be reduced to 150 g/l effective July 1, 2007, since there is an adequate number of formulations currently available at or below this limit.

Fire-Retardant Coatings

Fire-retardant coatings retard ignition and flame spread. The coating has to be fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The coating must be tested in accordance with ASTM Test Method E-89 or listed by Underwriter's Laboratories, Inc., as a fire-retardant coating with a flame spread index of less than 25. Resins include acrylic, acrylic copolymer amines, poly vinyl acetate, urethane, polyurethane, and vinyl acrylic copolymer. The VOC limits for this category are currently divided into clear coatings at 650 g/l and pigmented coatings at 350 g/l. The fire retardant coating category is proposed to be eliminated on the date of adoption, so fire-retardant coatings would be subject to the VOC content limit of the coating category that best characterizes that particular coating, such as primer, sealer, flat and nonflat. No backsliding of emissions are expected since the current VOC content limits of fire retardant coatings are higher than the VOC content limits of primers, sealer, flats, nonflats, etc.

Specialty Primers

Specialty primers are coatings intended to seal fire, smoke or water damage, or to condition excessively chalky surfaces. Many of the coatings that fall within other categories, such as primer, sealers and undercoaters (PSUs), have characteristics similar to requirements for specialty primers, such as the need to condition excessively chalky surfaces. A review of the available specialty primer products are listed under PSUs and the associated characteristics in Appendix A of the current Annual Status Report indicates a vast amount of coatings available that meet those needs. Sales data supplied by manufacturers and available for review in the 2001 CARB Survey indicate that approximately 80 percent of the total market volume within this category is below the future limit of 100 g/l VOC, effective July 1, 2006 (including stain-blocking products). One of the major manufacturers of coatings in this category met with staff several times and explained that the waterbased technology to develop a usable specialty primer at 100 g/l limit which can seal fire and smoke damage, as well as severe water-soluble stains was not currently possible but the technology is moving in the right direction and would soon be achievable. The manufacturer is currently working with exempt solvents and major alkyd resin suppliers to reduce the VOC in their alkyd primers as well as partnering with a major university to develop new coating formulations which will meet or be below the 100 g/l limit in the rule. After reviewing the available technology and several manufacturer recommendations, staff is proposing to establish an interim VOC limit of 250 g/l effective July 1, 2006 and delay the 100 g/l limit by one year for this category.

Traffic Coatings

Traffic coatings are applied to public streets, highways, and other surfaces such as curbs, berms, driveways, and parking lots. Resins include acrylic, acrylic copolymer, alkyd, oleoresin, vinyl toluene, and vinyl acrylic copolymer. The VOC limit for this category is currently 150 g/l and is proposed to be reduced to 100 g/l effective July 1, 2007, because a sufficient number of compliant coatings are currently available.

PROJECT DESCRIPTION

The proposed amendments to Rule 1113 include the following components, listed in the order they appear in the rule:

(a) Purpose and Applicability

No changes are proposed to this subdivision at this time.

(b) Definitions

- Modify definition of “Clear Wood Finishes” to include floors [paragraph (b)(10)].
- Modify definition of “Floor Coatings” to include clear coatings, exclude those coatings that meet the wood finishes definition [paragraph (b)(19)].
- Modify “Nonflat Coatings” to include those coatings not defined elsewhere in the rule with a gloss of five or greater on a 60 degree meter according to the specified test method [paragraph (b)(34)].
- Add a new definition for “Nonflat – High Gloss Coatings” with a gloss of 70 or above on a 60 degree meter reading according to the specified test method [paragraph (b)(35)].
- Modify the definition of “Quick-Dry Enamels” to characterize the coating as high gloss and delete the portion that relates to a specific degree of gloss [paragraph (b)(40)].
- Modify the definition of “Volatile Organic Compounds” to delist TBAC as a VOC when used in IM coatings, including zinc-rich IM coatings [paragraph (b)(59)].

(c) Requirements

- Establish a new VOC content limit for concrete-curing compounds (not used for roadways, bridges and bridge decks) at 100 grams per liter or less by July 1, 2007 [paragraph I(2)] (Table of Standards).
- Establish a new VOC content limit for dry-fog coatings at 150 grams per liter or less by July 1, 2007 [paragraph I(2)] (Table of Standards).
- Eliminate the fire-retardant coating category effective on date of adoption [paragraph I(2)] (Table of Standards).
- Establish a new high gloss subcategory for nonflats coatings and extend the current compliance date one year to July 1, 2007 to comply with the VOC content limit to 50 grams per liter or less [paragraph I(2)] (Table of Standards).
- Require an interim VOC content limit at 150 grams per liter or less for quick-dry enamels and extend current compliance date one year to July 1,

2007 to comply with the VOC content limit to 50 grams per liter or less [paragraph I(2)] (Table of Standards).

- Require an interim VOC content limit at 250 grams per liter or less for specialty primers and extend current compliance date one year to July 1, 2007 to comply with the VOC content limit to 100 grams per liter or less [paragraph I(2)] (Table of Standards).
- Establish a new VOC content limit for traffic coatings at 100 grams per liter or less by July 1, 2007 [paragraph I(2)] (Table of Standards).
- Allow metallic pigmented coating category eligible for the Averaging Compliance Option [subparagraph I(6)(A)]

(d) Administrative Requirements

- Add a labeling requirement for concrete-curing compounds manufactured and used for roadways, bridges and bridge decks to include the statement “For Roadways, Bridges and Bridge Decks Only” that shall be prominently displayed effective July 1, 2007 [paragraph (d)(7)].
- Eliminate the current labeling requirements for clear brushing lacquers [paragraph (d)(7)].
- Eliminate for manufacturers of clear brushing lacquer and rust preventative the requirement of submitting an annual report [paragraph (d)(8)].

(e) Test Methods

No changes are proposed to this subdivision at this time.

(f) Technology Assessment

- Modify the technology assessment requirements to consider any applicable future CARB surveys on architectural coatings and the appropriateness of maintaining the future VOC limit and eliminate outdated specific coating assessments [paragraph (f)(1)].

(g) Exemptions

No changes are proposed to this subdivision at this time.

For a complete description of PAR 1113, the reader is referred to Appendix A of this Draft EA.

PROJECTED EMISSIONS REDUCTIONS

Table 2-1 identifies: new lower VOC content limits and emission reductions for three existing coating categories; an extension of the final VOC content limit for a new coating subcategory; and two new interim VOC content limits for two existing coatings along with an extension of their final VOC content limit. The extension of the compliance date for three coating categories from July 1, 2006 to July 1, 2007 creates a temporary delay in VOC emission reductions of 1,560 pounds per day for one year before the lower VOC content limits are reached and these anticipated emission reductions are achieved. The adoption and implementation of the proposed amended rule provides a substantial long-term VOC emission reduction of 1,360 pounds per day from the new lower VOC content limits for three existing coating categories. The additional emission reductions, however, will not begin to be achieved until July 1, 2007.

TABLE 2-1

PAR 1113 Proposed VOC Content Limits, Compliance Dates and Emission Reductions

COATING TYPE	Current VOC Limit*	Proposed Interim VOC Limit*	Final VOC Limit* w/Delayed Compliance	Delayed Emission Reductions (pounds/day)	Proposed New Final VOC Limit*	Further Emission Reductions (pounds/day)
		As of 7/1/06	As of 7/1/07	7/1/06 – 7/1/07	As of 7/1/07	As of 7/1/07
Concrete-Curing Compounds	350	--	--	--	100	80
Dry-Fog Coatings	400	--	--	--	150	700
Nonflat Coatings, High Gloss	150	--	50	960	--	--
Quick-Dry Enamels	250	150	50	400	--	--
Specialty Primers	350	250	100	200	--	--
Traffic Coatings	150	--	--	--	100	580
Emission Reductions (pounds per day)				1,560		1,360

*grams of VOC per liter of coating, less water and less exempt compounds

CHAPTER 3

EXISTING SETTING

Existing Setting

Architectural Coating Industry

Air Quality

EXISTING SETTING

In order to determine the significance of the impacts associated with a proposed project, it is necessary to evaluate the project's impacts against the backdrop of the environment as it exists at the time the notice of preparation is published. The CEQA Guidelines defines "environment" as "the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance" (CEQA Guidelines §15360; see also Public Resources Code §21060.5). Furthermore, a CEQA document must include a description of the physical environment in the vicinity of the project, as it exists at the time the notice of preparation is published, from both a local and regional perspective (CEQA Guidelines §15125). Therefore, the "environment" or "existing setting" against which a project's impacts are compared consists of the immediate, contemporaneous physical conditions at and around the project site (Remy, et al; 1996).

A brief discussion for the existing environmental topic setting, i.e., air quality, that could be adversely affected by PAR 1113 is presented in the following sections. For a more detailed discussion of current and projected future environmental settings in the district for air quality, with and without additional control measures, please refer to the Final 2003 AQMP, including its Appendices, and the 2003 AQMP Final Environmental Impact Report (EIR). These existing setting topics are still considered to be relevant with regard to implementing AQMP control measures. Copies of the above-referenced documents are available from the SCAQMD's Public Information Center by calling (909) 396-2039.

ARCHITECTURAL COATING INDUSTRY

Excluding mobile sources, architectural coatings including IM coatings are one of the largest sources of VOC emissions in the district. Rule 1113 is applicable to manufacturers, distributors, and end-users of architectural coatings. These coatings are used to enhance the appearance of and to protect homes, office buildings, factories and other structures, and their appurtenances on a variety of substrates. The coatings may be applied primarily by brush, roller, or spray gun; and those applying these coatings include homeowners, paint contractors, or maintenance personnel. Aerosol coatings are regulated by CARB and are therefore exempt from this rule.

The 2003 AQMP shows VOC emissions from the use of architectural coatings in 1997 at 50.9 tons per day (tpd) on an Annual Average Inventory and 60 tpd on the Summer Planning Inventory. The latest CARB architectural coating survey for year 2000 sales confirms the Annual Average Inventory by showing more than 50 tpd of VOCs are attributed to the application of architectural coatings in the district based on demographics. Using the 1997 inventories as the baselines and projecting controlled

emissions into the future, emissions for the architectural coatings source category for 2006 and 2010 are projected to be 32.7 tpd and 24 tpd, respectively, on the Annual Average Inventory and 38.5 tpd and 28.3 tpd for 2006 and 2010, respectively, on the Summer Planning Inventory.

VOC emissions contribute to the formation of ozone, PM 2.5 (particulate matter with an aerodynamic diameter less than 2.5 microns) and PM10 (particulate matter with an aerodynamic diameter less than or equal to 10 microns), three pollutants that exceed the state and national ambient air quality standards. These criteria pollutants are the most serious regional air quality problems within the district and the most difficult to reduce to comply with state and national ambient air quality standards.

VOCs react photochemically with NO_x to form ozone. Ozone is a strong oxidizer that irritates the human respiratory system and damages plant life and property. VOCs also react in the atmosphere to form PM_{2.5} and PM₁₀, pollutants that adversely affect human health and limits visibility. Because these small particulates penetrate into the deepest regions of the lung, they affect pulmonary function and have been linked to an increased morbidity and mortality.

Rule 1113 was first adopted in 1977, and has since undergone numerous amendments. When Rule 1113 was amended on November 8, 1996, it included an averaging compliance option (ACO) for complying with coating VOC content limits. Under the ACO, manufacturers are allowed to average their emissions over a compliance period not to exceed one year provided they demonstrate their actual cumulative emissions from the averaged coatings are less than or equal to the cumulative emissions that would have been allowed under the VOC limits specified in the Rule 1113 Table of Standards. That version of Rule 1113 offered the averaging option for the flat coating category only. Subsequent amendments to Rule 1113 on December 6, 2002, and December 5, 2003, added numerous other coating categories to the ACO provision to provide manufacturers additional compliance flexibility with the future VOC limits specified in the Rule 1113 Table of Standards. The 2004 amendments addressed U.S. EPA concerns regarding the approvability of the ACO for the State Implementation Plan (SIP) and the administration of the ACO Program.

Other alternative means of compliance are offered by the rule including the three-year sell-through provision and the small container exemption. Judging by the fact that many manufacturers utilize these provisions, staff has concluded that these flexibilities have allowed manufacturers additional time for product reformulation.

CARB developed a revised SCM for architectural coatings in June 2000, that was largely based on the interim limits and the averaging provision of Rule 1113, as amended in May 1999. The provisions in the SCM were developed by a consortium of California air pollution control districts, CARB, USEPA Region IX, and paint manufacturers.

VOC Emission Inventory for Affected Coating Categories

In general, CARB gathers air quality data for the state of California, ensures the quality of this data, designs and implements air models, and sets ambient air quality standards. CARB compiles the state emissions inventory and performs air quality and emissions inventory special studies. CARB uses the emissions inventory and air quality models to evaluate air quality which is then used by the local air agencies to reduce emissions in each of the 35 local air basins.

To establish an emission inventory for the architectural coatings source category, SCAQMD staff relies on air quality data provided by CARB. Table 3-1 summarizes the 2000 emissions inventory for both California and the district and with the assumption that 45 percent of the state sales are within the SCAQMD jurisdiction.

TABLE 3-1
2000 California and SCAQMD Adjusted Emission Inventory

Coating Category – Proposed VOC Content Limit (grams/liter)	California		District	
	Sales	Emission Inventory	VOC Emission Inventory	
	Gallons	Tons per year	Tons per year	Tons per day
Concrete-Curing Compounds – 100	359,428	112.56	50.65	0.14
Dry-Fog Coatings – 150	305,557	385.19	173.33	0.47
Fire-Retardant Coatings – < 250 (eliminate category)	PD*	5.33	2.40	0.01
Nonflat, High Gloss – 150	1,961,924	549.22	247.15	0.68
Quick-Dry Enamel – 150	932,806	439.06	197.58	0.54
Quick-Dry Enamel – 50	828,113	234.60	105.58	0.29
Specialty Primers – 250	97,132	125	56	0.15
Specialty Primers - 100	99,595	94	42	0.12
Traffic coatings – 100	2,249,225	838.65	838.65	1.03
Totals	6,833,780	1,560.72	701.78	1.92

* PD is protected data, fewer than 3 companies reported sales

AIR QUALITY

It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter less than 10 microns (PM₁₀), sulfur

dioxide (SO₂) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM₁₀ and SO₂, far more stringent. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride. The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-2. The SCAQMD monitors levels of various criteria pollutants at 34 monitoring stations. The 2004 air quality data from SCAQMD's monitoring stations are presented in Table 3-3.

TABLE 3-2
State and Federal Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
	CONCENTRATION, AVERAGING TIME		
Carbon Monoxide (CO)	20 ppm, 1-hour average > 9.0 ppm, 8-hour average >	35 ppm, 1-hour average > 9.5 ppm, 8-hour average >=	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and, (d) Possible increased risk to fetuses.
Ozone (O ₃)	0.09 ppm, 1-hour average >	0.12 ppm, 1-hour average > 0.08 ppm, 8-hour average >	(a) Short-term exposures: 1) Pulmonary function decrements and localized lung edema in humans and animals; and, 2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; and, (d) Property damage.
Nitrogen Dioxide (NO ₂)	0.25 ppm, 1-hour average >	0.0534 ppm, AAM >	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and, (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO ₂)	0.25 ppm, 1-hour average > 0.04 ppm, 24-hour average >	0.03 ppm, AAM > 0.14 ppm, 24-hour average > 0.50 ppm, 3-hour average >	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.

KEY:

ppm = parts per million parts of air, by volume

AAM = Annual Arithmetic Mean

μg/m³ = micrograms per cubic meter

AGM = Annual Geometric Mean

TABLE 3-2 (CONCLUDED)
State and Federal Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
	CONCENTRATION, AVERAGING TIME		
Suspended Particulate Matter (PM10)	20 µg/m ³ , AAM > 50 µg/m ³ , 24-hour average >	50 µg/m ³ , AAM > 150 µg/m ³ , 24-hour average >	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; and, (b) Excess seasonal declines in pulmonary function, especially in children.
Suspended Particulate Matter (PM2.5)	12 µg/m ³ , AAM >	15 µg/m ³ , AAM > 65 µg/m ³ , 24-hour average >	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and, (c) Decreased lung functions and premature death.
Lead	1.5 µg/m ³ , 30-day average >=	1.5 µg/m ³ , calendar quarterly average >	(a) Increased body burden; and, (b) Impairment of blood formation and nerve conduction.
Sulfates (SOx)	25 µg/m ³ , 24-hour average >=		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and, (f) Property damage.
Visibility- Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70 percent, 8-hour average (10am – 6pm PST)		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent.
Hydrogen Sulfide	0.03 ppm, 1-hour average >=		Odor annoyance.
Vinyl Chloride	0.010 ppm, 24-hour average >=		Known carcinogen.

KEY:

ppm = parts per million parts of air, by volume	AAM = Annual Arithmetic Mean
$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter	AGM = Annual Geometric Mean

TABLE 3-3**2004 Air Quality Data – South Coast Air Quality Management District**

CARBON MONOXIDE (CO)					No. Days Standard Exceeded ^a	
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hour)	Max. Conc. (ppm, 8-hour)	Federal > 9.5 ppm, 8-hour	State > 9.0 ppm, 8-hour
LOS ANGELES COUNTY (Co)						
1	Central Los Angeles	361	4	3.2	0	0
2	Northwest Coast Los Angeles Co	360	4	2.3	0	0
3	Southwest Coast Los Angeles Co1	90*	6*	4.4*	0*	0*
3	Southwest Coast Los Angeles Co2	260*	4*	3.0	0*	0*
4	South Coast Los Angeles Co1	366	4	3.4	0	0
4	South Coast Los Angeles Co2	--	--	--	--	--
6	West San Fernando Valley	366	5	3.5	0	0
7	East San Fernando Valley	366	5	3.7	0	0
8	West San Fernando Valley	361	7	3.4	0	0
9	East San Gabriel Valley 1	366	3	2.0	0	0
9	East San Gabriel Valley 2	361	2	2.0	0	0
10	Pomona/Walnut Valley	366	4	3.1	0	0
11	South San Gabriel Valley	366	5	3.6	0	0
12	South Central Los Angeles Co	366	10	6.7	0	0
13	Santa Clarita Valley	363	5	3.7	0	0
ORANGE COUNTY						
16	North Orange County	364	7	4.0	0	0
17	Central Orange County	366	5	4.1	0	0
18	North Coastal Orange County	366	5	4.1	0	0
19	Saddleback Valley	366	2	1.6	0	0
RIVERSIDE COUNTY						
22	Norco/Corona	--	--	--	--	--
23	Metropolitan Riverside County 1	364	4	3.0	0	0
23	Metropolitan Riverside County 2	366	4	2.1	0	0
24	Perris Valley	--	--	--	--	--
25	Lake Elsinore	353	2	0.9	0	0
29	Banning Airport	--	--	--	--	--
30	Coachella Valley 1**	366	2	1.0	0	0
30	Coachella Valley 2**	--	--	--	--	--
SAN BERNARDINO COUNTY						
32	NW San Bernardino Valley	366	3	2.1	0	0
33	SW San Bernardino Valley	--	--	--	--	--
34	Central San Bernardino Valley 1	313*	3*	2.1*	0*	0*
34	Central San Bernardino Valley 2	366	4	3.3	0	0
35	East San Bernardino Valley	--	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			10	6.7	0	0
SOUTH COAST AIR BASIN			10	6.7	0	0
KEY:						
ppm = parts per million parts of air, by volume			* Less than 12 full months of data. May not be representative.			
-- = Pollutant not monitored			** Salton Sea Air Basin			

a) The federal 1-hour standard (1-hour average CO > 35 ppm) and state 1-hour standard (1-hour average CO > 20 ppm) were not exceeded.

TABLE 3-3 (CONTINUED)
2004 Air Quality Data – South Coast Air Quality Management District

OZONE (O ₃)							No. Days Standard Exceeded			
							Federal		State ^{b)}	
Source Rec. Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hr)	Max. Conc. (ppm, 8-hr)	Fourth Highest Conc. (ppm, 8-hr)	Health Advisory ≥ 0.15 ppm, 1-hr	> 0.12 ppm, 1-hr	> 0.08 ppm, 8-hr	> 0.09 ppm, 1-hr	> 0.07 ppm, 1-hr
LOS ANGELES (LA) COUNTY (Co)										
1	Central LA	366	0.110	0.092	0.079	0	0	1	7	7
2	NW Coast LA Co	366	0.107	0.089	0.078	0	0	1	5	6
3	SW Coast LA Co1	90*	0.069*	0.060*	0.056*	0*	0*	0*	0*	0*
3	SW Coast LA Co2	262*	0.120*	0.100	0.086*	0*	0*	4*	4*	13*
4	South Coast LA Co1	366	0.090	0.075	0.071	0	0	0	0	0
4	South Coast LA Co2	--	--	--	--	--	--	--	--	--
6	W San Fernando Valley	366	0.131	0.116	0.102	0	2	29	54	65
7	E San Fernando Valley	366	0.137	0.109	0.089	0	2	7	27	37
8	W San Fernando Valley	365	0.130	0.103	0.093	0	1	9	27	31
9	E San Gabriel Valley 1	366	0.134	0.104	0.094	0	2	10	28	26
9	E San Gabriel Valley 2	366	0.134	0.108	0.095	0	4	16	42	35
10	Pomona/Walnut Valley	366	0.131	0.102	0.097	0	4	13	31	25
11	S San Gabriel Valley	366	0.104	0.084	0.080	0	0	0	7	7
12	South Central LA Co	366	0.084	0.072	0.065	0	0	0	0	0
13	Santa Clarita Valley	360	0.158	0.133	0.108	1	13	52	69	81
ORANGE (OR) COUNTY (Co)										
16	North OR Co	364	0.099	0.080	0.078	0	0	0	6	6
17	Central OR Co	366	0.120	0.097	0.088	0	0	6	35	35
18	North Coastal OR Co	366	0.104	0.087	0.076	0	0	1	5	5
19	Saddleback Valley	366	0.116	0.089	0.086	0	0	2	20	20
RIVERSIDE (RV) COUNTY (Co)										
22	Norco/Corona	--	--	--	--	--	--	--	--	--
23	Metropolitan RV Co 1	366	0.141	0.117	0.112	0	8	35	75	75
23	Metropolitan RV Co 2	--	--	--	--	--	--	--	--	--
24	Perris Valley	365	0.128	0.103	0.097	0	2	19	47	47
25	Lake Elsinore	353	0.130	0.116	0.103	0	2	21	51	51
29	Banning Airport	349	0.156	0.116	0.112	1	7	40	69	69
30	Coachella Valley 1**	366	0.125	0.108	0.099	0	1	31	55	55
30	Coachella Valley 2**	366	0.111	0.102	0.098	0	0	18	51	51
SAN BERNARDINO (SB) COUNTY										
32	Northwest SB Valley	366	0.138	0.105	0.103	0	2	18	31	31
33	Southwest SB Valley	--	--	--	--	--	--	--	--	--
34	Central SB Valley 1	366	0.149	0.123	0.112	0	7	28	54	54
34	Central SB Valley 2	366	0.157	0.130	0.113	1	9	38	58	58
35	East SB Valley	366	0.160	0.137	0.122	1	12	53	76	76
37	Central SB Mountains	364	0.163	0.145	0.124	1	9	66	96	96
38	East SB Mountains	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM			0.163	0.145	0.124	1	13	66	96	96
SOUTH COAST AIR BASIN			0.163	0.148	0.124	4	28	90	148	148

KEY: ppm = parts per million parts of air, by volume

* Less than 12 full months of data. May not be representative.

-- = Pollutant not monitored

** Salton Sea Air Basin

b) On April 28, 2005, ARB has approved revising the California ozone standard to establish a new 8-hr standard of 0.07 ppm. The new 8-hr standard is expected to take effect by December 2005.

TABLE 3-3 (CONTINUED)
2004 Air Quality Data – South Coast Air Quality Management District

NITROGEN DIOXIDE (NO₂)				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hour ^c)	Annual Average ^c AAM Conc. (ppm)
LOS ANGELES COUNTY				
1	Central Los Angeles	359	0.16	0.0328
2	Northwest Coast Los Angeles County	355	0.09	0.0198
3	Southwest Coast Los Angeles County1	89*	0.08*	0.0310*
3	Southwest Coast Los Angeles County2	230*	0.09*	0.0136*
4	South Coast Los Angeles County1	356	0.12	0.0280
4	South Coast Los Angeles County2	--	--	--
6	West San Fernando Valley	365	0.08	0.0214
7	East San Fernando Valley	356	0.12	0.0332
8	West San Fernando Valley	355	0.12	0.0270
9	East San Gabriel Valley 1	351	0.10	0.0204
9	East San Gabriel Valley 2	353	0.12	0.0240
10	Pomona/Walnut Valley	364	0.11	0.0314
11	South San Gabriel Valley	353	0.12	0.0305
12	South Central Los Angeles County	362	0.10	0.0301
13	Santa Clarita Valley	358	0.09	0.0204
ORANGE COUNTY				
16	North Orange County	341	0.12	0.0252
17	Central Orange County	361	0.12	0.0199
18	North Coastal Orange County	357	0.10	0.0151
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	363	0.09	0.0172
23	Metropolitan Riverside County 2	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	339	0.06	0.0151
29	Banning Airport	334	0.08	0.0165
30	Coachella Valley 1**	353	0.07	0.0130
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	365	0.11	0.0305
33	Southwest San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	346	0.06	0.0273
34	Central San Bernardino Valley 2	363	0.12	0.0261
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			0.16	0.0332
SOUTH COAST AIR BASIN			0.16	0.0332
KEY: ppm = parts per million parts of air, by volume		* Less than 12 full months of data. May not be representative.		
AAM = Annual Arithmetic Mean		** Salton Sea Air Basin		
-- = Pollutant not monitored				

c) The state standard is 1-hour average NO₂ > 0.25ppm. The federal standard is annual arithmetic mean NO₂ > 0.0534 ppm. No location exceeded the standards.

TABLE 3-3 (CONTINUED)**2004 Air Quality Data – South Coast Air Quality Management District**

SULFUR DIOXIDE (SO ₂)				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Concentration ^{d)}	
			(ppm, 1-hour)	(ppm, 24-hour)
LOS ANGELES COUNTY				
1	Central Los Angeles	364	0.08	0.0015
2	Northwest Coast Los Angeles County	--	--	--
3	Southwest Coast Los Angeles County1	89*	0.03*	0.004*
3	Southwest Coast Los Angeles County2	261*	0.02*	0.007*
4	South Coast Los Angeles County1	361	0.04	0.012
4	South Coast Los Angeles County2	--	--	--
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	348	0.02	0.010
8	West San Fernando Valley	--	--	--
9	East San Gabriel Valley 1	--	--	--
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	--	--	--
12	South Central Los Angeles County	--	--	--
13	Santa Clarita Valley	--	--	--
ORANGE COUNTY				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
18	North Coastal Orange County	364	0.03	0.008
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	331	0.02	0.015
23	Metropolitan Riverside County 2	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	--	--	--
29	Banning Airport	--	--	--
30	Coachella Valley 1**	--	--	--
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	--	--	--
33	Southwest San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	360	0.01	--
34	Central San Bernardino Valley 2	--	--	0.006
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			0.08	0.015
SOUTH COAST AIR BASIN			0.08	0.015

KEY:

ppm = parts per million parts of air, by volume	* Less than 12 full months of data. May not be representative.
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin
-- = Pollutant not monitored	

d) The state standards are 1-hour average SO₂ > 0.25 ppm and 24-hour average SO₂ > 0.04 ppm. The federal standards are annual arithmetic mean SO₂ > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. No location exceeded SO₂ standards.

TABLE 3-3 (CONTINUED)
2004 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM10 ^{e)}				No. (%) Samples Exceeding Standard		Annual Average ^{b)} AAM Conc. (µg/m ³)
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (µg/m ³ , 24-hour)	Federal > 150 µg/m ³ , 24-hour	State > 50 µg/m ³ , 24-hour	
LOS ANGELES COUNTY (Co)						
1	Central Los Angeles	61	72	0	5(8.2)	32.7
2	NW Coast Los Angeles County	--	--	--	--	--
3	SW Coast Los Angeles County1	15*	52*	0*	2(13.3)*	30.9*
3	SW Coast Los Angeles County2	37*	47*	0*	0*	25.1
4	South Coast Los Angeles County1	60	72	0	4(6.7)	33.1
4	South Coast Los Angeles County2	59	83	0	12)20.3)	38.1
6	West San Fernando Valley	--	--	--	--	--
7	East San Fernando Valley	60	74	0	7(11.7)	37.5
8	West San Fernando Valley	--	--	--	--	--
9	East San Gabriel Valley 1	55	83	0	8(14.5)	35.4
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	--	--	--	--	--
12	South Central Los Angeles County	--	--	--	--	--
13	Santa Clarita Valley	60	54	0	2.(3.3)	28.1
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	61	74	0	7(11.5)	34.1
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	57	47	0	0	23.7
RIVERSIDE COUNTY						
22	Norco/Corona	57	76	0	11(19.3)	38.0
23	Metropolitan Riverside County 1	119	137	0	72(60.5)	55.5
23	Metropolitan Riverside County 2	--	--	--	--	--
24	Perris Valley	59	83	0	15(25.4)	41.4
25	Lake Elsinore	--	--	--	--	--
29	Banning Airport	61	82	0	7(11.5)	29.3
30	Coachella Valley 1**	59	79	0	2(3.4)	26.4
30	Coachella Valley 2**	118+	83+	0+	23(19.5)+	39.3+
SAN BERNARDINO COUNTY-						
32	NW San Bernardino Valley	--	--	--	--	--
33	SW San Bernardino Valley	58	93	0	17(29.3)	42.8
34	Central San Bernardino Valley 1	61	106	0	29(47.5)	47.7
34	Central San Bernardino Valley 2	58	118	0	28(48.3)	48.6
35	East San Bernardino Valley	60	88	0	20(33.3)	38.6
37	Central San Bernardino Mountains	57	52	0	1(1.8)	26.4
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			137	0	72	55.5
SOUTH COAST AIR BASIN			137	0	81	55.5
KEY: µg/m ³ = micrograms per cubic meter		-- = Pollutant not monitored				
AAM = Annual Arithmetic Mean		** Salton Sea Air Basin				

e) PM10 samples were collected every six days at all sites except for Station Numbers 4144 and 4157 where samples were collected every three days.

h) Federal PM10 standard is annual average (AAM) > 50 µg/m³. State standard is annual average (AAM) > 20 µg/m³ (changed from AGM > 20 µg/m³, effective July 5, 2003)

+ The data for the samples collected on high-wind day (161 µg/m³ on 10/09/04 was excluded in accordance with EPA's Natural Event Policy.

TABLE 3-3 (CONTINUED)
2004 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM2.5 ^f				No. (%) Samples Exceeding Standard	Annual Averagesⁱ
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (µg/m³, 24-hour)	Federal > 65 µg/m³, 24-hour	AAM Conc. (µg/m³)
LOS ANGELES COUNTY					
1	Central Los Angeles	318	75.0	2(0.6)	19.6
2	Northwest Coast Los Angeles County	--	--	--	--
3	Southwest Coast Los Angeles Co1	--	--	--	--
3	Southwest Coast Los Angeles Co2	--	--	--	--
4	South Coast Los Angeles County1	323	66.6	1(0.3)	17.6
4	South Coast Los Angeles County2	327	59.7	0	16.6
6	West San Fernando Valley	106	56.2	0	15.6
7	East San Fernando Valley	109	60.1	0	19.2
8	West San Fernando Valley	113	59.4	0	16.6
9	East San Gabriel Valley 1	279	75.6	1(0.4)	18.4
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	108	60.7	0	19.9
12	South Central Los Angeles County	115	55.8	0	18.5
13	Santa Clarita Valley	--	--	--	--
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	319	58.9	0	16.8
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	111	49.4	0	12.1
RIVERSIDE COUNTY					
22	Norco/Corona	--	--	--	--
23	Metropolitan Riverside County 1	342	91.7	5(1.5)	22.1
23	Metropolitan Riverside County 2	110	93.8	2(1.8)	20.8
24	Perris Valley	--	--	--	--
25	Lake Elsinore	--	--	--	--
29	Banning Airport	--	--	--	--
30	Coachella Valley 1**	112	27.1	0	9.0
30	Coachella Valley 2**	110	28.5	0	10.7
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	--	--	--	--
33	Southwest San Bernardino Valley	112	86.1	2(1.8)	20.9
34	Central San Bernardino Valley1	104	71.4	1(1.0)	20.0
34	Central San Bernardino Valley2	106	93.4	4(3.8)	22.0
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	52	28.6	0	9.5
DISTRICT MAXIMUM			93.8	5	22.1
SOUTH COAST AIR BASIN			93.8	7	22.1
KEY: µg/m ³ = micrograms per cubic meter		-- = Pollutant not monitored			
AAM = Annual Arithmetic Mean		** Salton Sea Air Basin			

e) PM2.5 samples were collected every three days at all sites except for Station Numbers 060, 072, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every six days.

i) Federal PM2.5 Standard is annual average (AAM) 50 µg/m³. State standard is annual average (AAM) > 12 µg/m³ (state standard was established on July 5, 2003).

TABLE 3-3 (CONTINUED)**2004 Air Quality Data – South Coast Air Quality Management District**

TOTAL SUSPENDED PARTICULATES TSP ^g				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. ($\mu\text{g}/\text{m}^3$, 24-hour)	Annual Average AAM Conc. ($\mu\text{g}/\text{m}^3$)
LOS ANGELES COUNTY (Co)				
1	Central Los Angeles	62	115	66.4
2	Northwest Coast Los Angeles Co	59	79	46.8
3	Southwest Coast Los Angeles Co1	15*	71*	50.5*
3	Southwest Coast Los Angeles Co2	45*	77*	43.8*
4	South Coast Los Angeles Co1	62	103	59.1
4	South Coast Los Angeles Co2	59	112	64.2
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	--	--	--
8	West San Fernando Valley	58	95	49.5
9	East San Gabriel Valley 1	59	126	75.2
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	55	140	73.0
12	South Central Los Angeles Co	58	128	78.6
13	Santa Clarita Valley	--	--	--
ORANGE COUNTY				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
18	North Coastal Orange County	--	--	--
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	60	199	100.5
23	Metropolitan Riverside County 2	59	244	81.9
24	Perris Valley	--	--	--
25	Lake Elsinore	--	--	--
29	Banning Airport	--	--	--
30	Coachella Valley 1**	--	--	--
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	NW San Bernardino Valley	55	127	63.5
33	SW San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	59	235	113.4
34	Central San Bernardino Valley 2	58	179	92.7
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			244	113.4
SOUTH COAST AIR BASIN			244	113.4

KEY:

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter	-- = Pollutant not monitored
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin

- g) Total suspended particulates, lead, and sulfates were determined from samples collected every six days by the high volume sampler method on glass fiber filter media.

TABLE 3-3 (CONTINUED)
2004 Air Quality Data – South Coast Air Quality Management District

		LEAD ^{g)}		SULFATES (SOx) ^{g)}	
Source Receptor Area No.	Location of Air Monitoring Station	Max. Monthly Average Conc. ^{j)} (µg/m ³)	Max. Quarterly Average Conc. ^{j)} (µg/m ³)	Max. Conc. (µg/m ³ , 24-hour)	No. (%) Samples Exceeding <u>State</u> Standard ≥ 25 µg/m ³ , 24-hour
LOS ANGELES COUNTY (Co)					
1	Central Los Angeles	0.03	0.03	12.7	0
2	Northwest Coast Los Angeles Co	--	--	11.4	0
3	Southwest Coast Los Angeles Co1	0.01	0.01	13.1	0
3	Southwest Coast Los Angeles Co2	0.01	0.01	14.3	0
4	South Coast Los Angeles Co1	0.02	0.01	15.9	0
4	South Coast Los Angeles Co2	0.02	0.01	16.4	0
6	West San Fernando Valley	--	--	--	--
7	East San Fernando Valley	--	--	--	--
8	West San Fernando Valley	--	--	11.2	0
9	East San Gabriel Valley 1	--	--	10.6	0
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	0.03	0.02	12.4	0
12	South Central Los Angeles Co	0.03	0.03	14.7	0
13	Santa Clarita Valley	--	--	--	--
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	--	--	--	--
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	--	--	--	--
RIVERSIDE COUNTY					
22	Norco/Corona	--	--	--	--
23	Metropolitan Riverside County 1	0.02	0.01	9.8	0
23	Metropolitan Riverside County 2	0.01	0.01	9.1	0
24	Perris Valley	--	--	--	--
25	Lake Elsinore	--	--	--	--
29	Banning Airport	--	--	--	--
30	Coachella Valley 1**	--	--	--	--
30	Coachella Valley 2**	--	--	--	--
SAN BERNARDINO COUNTY					
32	NW San Bernardino Valley	0.02	0.01	9.8	0
33	SW San Bernardino Valley	--	--	9.1	--
34	Central San Bernardino Valley 1	--	--	--	0
34	Central San Bernardino Valley 2	0.02	0.01	--	0
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM		0.03	0.03	16.4	0
SOUTH COAST AIR BASIN		0.03	0.03	16.4	0

KEY: ** Salton Sea Air Basin µg/m³ = micrograms per cubic meter -- = Pollutant not monitored

g) Total suspended particulates, lead, & sulfate were determined from samples collected every six days by the high volume sampler method on glass fiber filter media.

j) The federal standard (quarterly average lead > 1.5 µg/m³) & state standard (monthly average lead ≥ 1.5 µg/m³). No locations exceed lead standards. The max monthly & qtrly lead concentrations at special monitoring sites immediately downwind of stationary lead sources were 0.59 µg/m³ & 0.30 µg/m³, both recorded at SE LA Co.

Criteria Pollutants

Carbon Monoxide

CO is a colorless, odorless gas formed by the incomplete combustion of fuels. CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs in the body. The ambient air quality standard for carbon monoxide is intended to protect persons whose medical condition already compromises their circulatory systems' ability to deliver oxygen. These medical conditions include certain heart ailments, chronic lung diseases, and anemia. Persons with these conditions have reduced exercise capacity even when exposed to relatively low levels of CO. Fetuses are at risk because their blood has an even greater affinity to bind with CO. Smokers are also at risk from ambient CO levels because smoking increases the background level of CO in their blood.

CO was monitored at 25 locations in the district in 2004 and no locations exceeded the federal and state eight-hour CO standards. The highest eight-hour average CO concentration of the year (6.7 ppm) was 71 percent of the federal standard and it was measured at Source/Receptor Area No. 12, South Central Los Angeles County (Station No. 084).

Ozone

Unlike primary criteria pollutants that are emitted directly from an emissions source, ozone is a secondary pollutant. It is formed in the atmosphere through a photochemical reaction of VOC, NO_x, oxygen, and other hydrocarbon materials with sunlight. As a precursor to ozone, VOC contributes to regional air quality impacts.

Ozone is a deep lung irritant, causing the passages to become inflamed and swollen. Exposure to ozone produces alterations in respiration, the most characteristic of which is shallow, rapid breathing and a decrease in pulmonary performance. Ozone reduces the respiratory system's ability to fight infection and to remove foreign particles. People who suffer from respiratory diseases such as asthma, emphysema, and chronic bronchitis are more sensitive to ozone's effects. In severe cases, ozone is capable of causing death from pulmonary edema. Early studies suggested that long-term exposure to ozone results in adverse effects on morphology and function of the lung and acceleration of lung-tumor formation and aging. Ozone exposure also increases the sensitivity of the lung to bronchoconstrictive agents such as histamine, acetylcholine, and allergens.

Recent studies have shown that asthmatic children in Southern California are particularly susceptible to the adverse effects of air pollution. In an ongoing long-term study of nearly 3,700 children in 12 communities across Southern California, asthmatics had more frequent bouts of bronchitis and chronic phlegm than non-asthmatics. Other

studies have linked air pollution with an increase in asthmatics' acute symptoms and emergency room visits and a decrease in their lung function. Asthma is a serious public health concern across the country since reported cases have risen dramatically during the last decade. Asthma is the number one cause of school absences, the leading cause of children's visits to emergency rooms and the cause of more than 5,000 deaths a year. Low-income and uninsured residents are particularly at risk because they do not have access to preventive and ongoing medical care that can control asthma and instead receive treatment only during acute asthma attacks in emergency rooms.

The national ozone ambient air quality standard is exceeded far more frequently in the SCAQMD's jurisdiction than almost every other area in the United States⁶. In the past few years, ozone air quality has been the cleanest on record in terms of maximum concentration and number of days exceeding the standards and episode levels. Ozone levels were monitored at 29 locations in 2004. Maximum one-hour average and eight-hour average ozone concentrations in 2004 (0.163 ppm and 0.145 ppm) were 136 percent and 181 percent of the federal one-hour and eight-hour standards, respectively. Ozone concentrations exceeded the one-hour state standard at all but three of the monitored locations in 2004.

In 1997, the USEPA promulgated a new 8-hour national ambient air quality standard for ozone. Soon thereafter, a court decision ordered that the USEPA could not enforce the new standard until adequate justification for the new standard was provided. The USEPA appealed the decision to the Supreme Court. On February 27, 2001, the Supreme Court upheld USEPA's authority and methods to establish clean air standards. The Supreme Court, however, ordered USEPA to revise its implementation plan for the new ozone standard. The EPA has since adopted the new 8-hour standard. Meanwhile, the California Air Resources Board (CARB) and local air districts continue to collect technical information in order to prepare for an eventual State Implementation Plan (SIP) to reduce unhealthful levels of ozone in areas violating the new federal standard. California has previously developed a SIP for the one-hour ozone standard, which has been approved by USEPA for the South Coast Air Basin.

Nitrogen Dioxide

NO₂ is a brownish gas that is formed in the atmosphere through a rapid reaction of the colorless gas nitric oxide (NO) with atmospheric oxygen. NO and NO₂ are collectively referred to as NO_x. NO₂ can cause health effects in sensitive population groups such as children and people with chronic lung diseases. It can cause respiratory irritation and constriction of the airways, making breathing more difficult. Asthmatics are especially sensitive to these effects. People with asthma and chronic bronchitis may also

⁶ It should be noted that in 1999 and 2000 Houston, Texas exceeded the federal ozone standards on more occasions than the district and reported the highest ozone concentrations in the nation.

experience headaches, wheezing and chest tightness at high ambient levels of NO₂. NO₂ is suspected to reduce resistance to infection, especially in young children.

By 1991, exceedances of the federal standard were limited to one location in Los Angeles County. The Basin was the only area in the United States classified as nonattainment for the federal NO₂ standard under the 1990 Clean Air Act Amendments. No location in the area of SCAQMD's jurisdiction has exceeded the federal standard since 1992 and the South Coast Air Basin was designated attainment for the national standard in 1998. In 2004, 25 stations monitored NO₂ levels in the district and the maximum annual arithmetic mean (AAM) was measured at 0.0332 ppm which represents 62 percent of the federal standard (the federal standard is an AAM of NO₂ greater than 0.0534 ppm). The more stringent one-hour state standard (0.25 ppm) was not exceeded in year 2004. Despite declining NO_x emissions over the last decade, further NO_x emissions reductions are necessary to ensure no further exceedances of the NO₂ standard and because NO_x emissions are PM₁₀ and ozone precursors.

Sulfur Dioxide

SO₂ is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children. In 2004, eight locations monitored SO₂ levels and neither the state nor the federal standards were exceeded. Though SO₂ concentrations have been reduced to levels well below state and federal standards, further reductions in emissions of SO₂ are needed because it is a precursor for sulfates, PM₁₀, and PM_{2.5}.

Particulate Matter (PM₁₀)

PM₁₀ is defined as suspended particulate matter measuring 10 microns or less in diameter and includes a complex mixture of man-made and natural substances including sulfates, nitrates, metals, elemental carbon, sea salt, soil, organics and other materials. PM₁₀ may have adverse health impacts because these microscopic particles are able to penetrate deeply into the respiratory system. In some cases, the particulates themselves may cause actual damage to the alveoli of the lungs or they may contain adsorbed substances that are injurious. Children can experience a decline in lung function and an increase in respiratory symptoms from PM₁₀ exposure. People with influenza, chronic respiratory disease and cardiovascular disease can be at risk of aggravated illness from exposure to fine particles. Increases in death rates have been statistically linked to corresponding increases in PM₁₀ levels.

In 2004, PM₁₀ was monitored at 21 locations in the district. There were no exceedances of the federal 24-hour standard (150 µg/m³), while the state 24-hour standard (50 µg/m³) was exceeded at 19 monitored locations. The federal standard (AAM greater than 50 µg/m³) was exceeded in one location.

Particulate Matter (PM2.5)

In 1997, the USEPA promulgated a new national ambient air quality standard for PM2.5, particulate matter 2.5 microns or less in diameter. The PM2.5 standard is a subset of PM10 such that it complements existing national and state ambient air quality standards that target the full range of inhalable PM10. In addition to the health effects for PM10, additional effects from exposure to PM2.5 may result in increased hospital admissions and emergency room visits for heart and lung disease, increased respiratory symptoms and disease, decreased lung functions, and premature death.

The SCAQMD began regular monitoring of PM2.5 in 1999. In 2004, concentrations of PM2.5 were monitored at 19 locations throughout the district. The federal 24-hour standard ($65 \mu\text{g}/\text{m}^3$) was exceeded at eight locations. The federal standard (AAM greater than $15 \mu\text{g}/\text{m}^3$) was exceeded in 15 locations, and the state standard (AAM greater than $12 \mu\text{g}/\text{m}^3$) was exceeded in 16 locations.

Lead

Lead concentrations once exceeded the state and national ambient air quality standards by a wide margin, but have not exceeded state or federal standards at any regular monitoring station since 1982. Though special monitoring sites immediately downwind of lead sources recorded very localized violations of the state standard in 1994, no violations were recorded at these stations since that time.

Sulfates

Sulfates or SO_x are a group of chemical compounds containing the sulfate group, which is a sulfur atom with four oxygen atoms attached. Though not exceeded in 1993, 1996, 1997, and 1998, the 24-hour state sulfate standard ($25 \mu\text{g}/\text{m}^3$) was exceeded at three locations in 1994 and one location in 1995, 1999, 2000 and 2001. There are no federal air quality standards for sulfate.

Visibility Reducing Particles

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles.

Volatile Organic Compounds

It should be noted that there are no state or national ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because limiting VOC emissions reduces the rate of photochemical reactions that contribute to the formation of ozone. They are also transformed into organic aerosols in the atmosphere, contributing to higher PM₁₀ and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

Non-Criteria Pollutant Emissions

Although the SCAQMD's primary mandate is attaining the State and National Ambient Air Quality Standards for criteria pollutants within the district, SCAQMD also has a general responsibility pursuant to the Health and Safety Code §41700 to control emissions of air contaminants and prevent endangerment to public health. As a result, over the last few years the SCAQMD has regulated pollutants other than criteria pollutants such as TACs, greenhouse gases and stratospheric ozone depleting compounds. The SCAQMD has developed a number of rules to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the SCAQMD rulemaking process.

In addition to promulgating non-criteria pollutant rules, the SCAQMD has been evaluating AQMP control measures as well as existing rules to determine whether or not they would affect, either positively or negatively, emissions of non-criteria pollutants. For example, rules in which VOC components of coating materials are replaced by a non-photochemically reactive chlorinated substance would reduce the impacts resulting from ozone formation, but could increase emissions of toxic compounds or other substances that may have adverse impacts on human health.

The following sections summarize the existing setting for the two major categories of non-criteria pollutants: compounds that contribute to ozone depletion and global warming, and TACs.

Ozone Depletion and Global Warming

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP.

In March of 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- phase out the use and corresponding emissions of chlorofluorocarbons (CFCs), methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons (HCFCs) by the year 2000;
- develop recycling regulations for HCFCs;
- develop an emissions inventory and control strategy for methyl bromide; and
- support the adoption of a California greenhouse gas emission reduction goal.

In support of these policies, the SCAQMD Governing Board has adopted several rules to reduce ozone depleting compounds. Several other rules concurrently reduce global warming gases and criteria pollutants.

Toxic Air Contaminants

On March 17, 2000, the SCAQMD Governing Board approved "An Air Toxics Control Plan for the Next Ten Years." The Air Toxics Control Plan identifies potential strategies to reduce toxic levels in the Basin over the ten years following adoption. To the extent the strategies are implemented by the relevant agencies, the plan will improve public health by reducing health risks associated with both mobile and stationary sources. Exposure to toxic air contaminants (TACs) can increase the risk of contracting cancer or result in other deleterious health effects which target such systems as cardiovascular, reproductive, hematological, or nervous. The health effects may be through short-term, high-level or "acute" exposure or long-term, low-level or "chronic" exposure.

Historically, the SCAQMD has regulated criteria air pollutants using either a technology-based or an emissions limit approach. The technology-based approach defines specific control technologies that may be installed to reduce pollutant emissions. The emission limit approach establishes an emission limit, and allows industry to use any emission control equipment, as long as the emission requirements are met. The regulation of toxic air contaminants (TACs) requires a similar regulatory approach as explained in the following subsections.

Control of TACs Under the TAC Identification and Control Program

California's TAC identification and control program, adopted in 1983 as Assembly Bill (AB) 1807, is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. CARB has adopted a regulation designating all 188 federal hazardous air pollutants (HAPs) as TACs.

ATCMs are developed by CARB and implemented by the SCAQMD and other air districts through the adoption of regulations of equal or greater stringency. Generally, the ATCMs reduce emissions to achieve exposure levels below a determined health threshold. If no such threshold levels are determined, emissions are reduced to the lowest level achievable through the best available control technology unless it is determined that an alternative level of emission reduction is adequate to protect public health.

Under California state law, a federal National Emission Standard for Hazardous Air Pollutants (NESHAP) automatically becomes a state ATCM, unless CARB has already adopted an ATCM for the source category. Once a NESHAP becomes an ATCM, CARB and the air pollution control or air quality management district have certain responsibilities related to adoption or implementation and enforcement of the NESHAP/ATCM.

Control of TACs Under the Air Toxics "Hot Spots" Act

The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB2588) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with the emissions. Facilities are phased into the AB2588 program based on their emissions of criteria pollutants or their occurrence on lists of toxic emitters compiled by the SCAQMD. Phase I consists of facilities that emit over 25 tons per year (tpy) of any criteria pollutant and facilities present on the SCAQMD's toxics list. Phase I facilities entered the program by reporting their air TAC emissions for calendar year 1989. Phase II consists of facilities that emit between 10 and 25 tons per year of any criteria pollutant, and submitted air toxic inventory reports for calendar year 1990 emissions. Phase III consists of certain designated types of facilities which emit less than 10 tons per year of any criteria pollutant, and submitted inventory reports for calendar year 1991 emissions. Inventory reports are required to be updated every four years under the state law.

In October 1992, the SCAQMD Governing Board adopted public notification procedures for Phase I and II facilities. These procedures specify that AB2588 facilities must provide public notice when exceeding the following risk levels:

- Maximum Individual Cancer Risk: greater than 10 in 1 million (10×10^{-6})
- Total Hazard Index: greater than 1.0 for TACs except lead, or > 0.5 for lead

Public notice is to be provided by letters mailed to all addresses and all parents of children attending school in the impacted area. In addition, facilities must hold a public meeting and provide copies of the facility risk assessment in all school libraries and a public library in the impacted area.

The SCAQMD continues to complete its review of the health risk assessments submitted to date and may require revision and resubmission as appropriate before final approval. Notification will be required from facilities with a significant risk under the AB2588 program based on their initial approved health risk assessments and will continue on an ongoing basis as additional and subsequent health risk assessments are reviewed and approved.

Control of TACs With Risk Reduction Audits and Plans

Senate Bill (SB) 1731, enacted in 1992 and codified at Health and Safety Code §44390 et seq., amended AB2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. SCAQMD Rule 1402 - Control of Toxic Air Contaminants From Existing Sources, was adopted on April 8, 1994, to implement the requirements of SB1731.

In addition to the TAC rules adopted by SCAQMD under authority of AB1807 and SB1731, the SCAQMD has adopted source-specific TAC rules, based on the specific level of TAC emitted and the needs of the area. These rules are similar to the state's ATCMs because they are source-specific and only address emissions and risk from specific compounds and operations.

Cancer Risks from Toxic Air Contaminants

New and modified sources of toxic air contaminants in the SCAQMD are subject to Rule 1401 - New Source Review of Toxic Air Contaminants and Rule 212 - Standards for Approving Permits. Rule 212 requires notification of the SCAQMD's intent to grant a permit to construct a significant project, defined as a new or modified permit unit located within 1000 feet of a school (a state law requirement under AB3205), a new or modified permit unit posing an maximum individual cancer risk of one in one million (1×10^{-6}) or greater, or a new or modified facility with criteria pollutant emissions exceeding specified daily maximums. Distribution of notice is required to all addresses within a 1/4-mile radius, or other area deemed appropriate by the SCAQMD. Rule 1401 currently controls emissions of carcinogenic and non-carcinogenic (health effects other

than cancer) air contaminants from new, modified and relocated sources by specifying limits on cancer risk and hazard index (explained further below), respectively.

Health Effects

One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of causing cancer. It is currently estimated that about one in four deaths in the United States is attributable to cancer. About two percent of cancer deaths in the United States may be attributable to environmental pollution (Doll and Peto 1981). The proportion of cancer deaths attributable to air pollution has not been estimated using epidemiological methods.

Non-Cancer Health Risks from Toxic Air Contaminants

Unlike carcinogens, for most noncarcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. The California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment develops Reference Exposure Levels (RELs) for TACs which are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The noncancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

CHAPTER 4

ENVIRONMENTAL IMPACTS AND MITIGATION

Introduction

Air Quality

Environmental Impacts Found Not To Be Significant

Other CEQA Topics

Consistency

INTRODUCTION

CEQA requires environmental documents to identify significant environmental effects that may result from a proposed project [CEQA Guidelines §15126.2 (a)]. Direct and indirect significant effects of a project on the environment should be identified and described, with consideration given to both short- and long-term impacts. The discussion of environmental impacts may include, but is not limited, to, the resources involved; physical changes; alterations of ecological systems; health and safety problems caused by physical changes; and other aspects of the resource base, including water, scenic quality, and public services. If significant adverse environmental impacts are identified, the CEQA Guidelines require a discussion of measures that could either avoid or substantially reduce any adverse environmental impacts to the greatest extent feasible (CEQA Guidelines §15126.4(c)).

The CEQA Guidelines state that the degree of specificity required in a CEQA document depends on the type of project being proposed (CEQA Guidelines §15146). The detail of the environmental analysis for certain types of projects cannot be as great as for others. For example, the environmental document for projects, such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan, should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the analysis need not be as detailed as the analysis of the specific construction projects that might follow. As a result, this Draft EA analyzes impacts on a regional level and impacts on the level of individual industries or individual facilities where feasible.

The categories of environmental impacts recommended for evaluation in a CEQA document are established by the CEQA statutes (Public Resources Code, §21000 et seq.) and the CEQA Guidelines as promulgated by the State of California Secretary of Resources. Under the CEQA Guidelines, there are 17 environmental categories in which potential adverse impacts from a project are evaluated. Projects are evaluated against the environmental categories in an environmental checklist and those environmental categories that may be adversely affected by the project are further analyzed in the appropriate CEQA document. One environmental topic area, air quality, was identified as having a temporary significant adverse environmental impact due to the extension of final compliance for three coating categories which will delay originally anticipated reductions in VOC emissions.

Pursuant to CEQA, a Notice of Preparation and an Initial Study (NOP/IS), including an environmental checklist, were prepared for the proposed amendments to Rule 1113 (see Appendix B) and circulated for a 30-day public review and comment period from January 24, 2006 to February 22, 2006. Comment letters on the NOP/Is and responses to comments are included in Appendix C. Of the 17 potential environmental topic

areas, it was determined that a Draft EA should be prepared to address potential significant adverse impacts on air quality. The following section includes the analyses of the potential adverse air quality impacts from implementing the proposed amendments.

AIR QUALITY

The proposed amendments will implement recommendations from the 2005 Annual Status report on Rule 1113 and discussions resulting from the Ad Hoc Committee meetings described in Chapter 2. The proposed amendments to Rule 1113 will allow the coating manufacturers to use TBAC as an exempt solvent in IM Coatings, including zinc-rich industrial maintenance primers. Further, PAR 1113 would establish a new high-gloss nonflat coating category and postpone the 50 g/l final VOC content limit by one year to July 1, 2007 for the high gloss nonflat and quick dry enamel coating categories. An interim limit at 250 g/l or less will be established for specialty primers while delaying the final compliance limit of 50 g/l for one year. In addition, the proposed amendments will require lowering the VOC content limit for the following three existing coating categories: concrete-curing compounds, dry-fog coatings, and traffic coatings by July 1, 2007. The fire-retardant coatings category will be eliminated and those coatings will be subject to the VOC content limit of the coating category that particular type of coating is classified (i.e., primer, sealer, flat, nonflat).

Significance Criteria

The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 4-1 are equaled or exceeded.

TABLE 4-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

TABLE 4-1 (CONCLUDED)
SCAQMD Air Quality Significance Thresholds

Toxic Air Contaminants (TACs) and Odor Thresholds	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Ambient Air Quality for Criteria Pollutants ^(a)	
NO ₂ 1-hour average annual average	In attainment; significant if project causes or contributes to an exceedance of any standard: 0.25 ppm (state) 0.053 ppm (federal)
PM ₁₀ 24-hour annual geometric mean	10.4 $\mu\text{g}/\text{m}^3$ (recommended for construction) ^(b) 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$
CO 1-hour average 8-hour average	In attainment; significant if project causes or contributes to an exceedance of any standard: 20 ppm (state) 9.0 ppm (state/federal)

^(a) Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^(b) Ambient air quality threshold based on SCAQMD Rule 403.

ppm = parts per million; $\mu\text{g}/\text{m}^3$ = microgram per cubic meter; lbs/day = pounds per day; $\geq$ greater than or equal to

Construction Air Quality Impacts

The proposed project would only affect the future formulation of architectural coatings which is not expected to require physical changes or modifications involving construction activities. Thus, no construction air quality impacts will result from the proposed project.

Operational Air Quality Impacts – Criteria Pollutants

The overall objective of the proposed project is to reduce VOC emissions from architectural coatings by lowering the VOC content limit from affected coating categories. The adoption and implementation of PAR 1113 is expected to produce substantial long-term VOC emission reductions, but because it provides an extension of the compliance date for three coating categories from July 1, 2006 to July 1, 2007, it creates a temporary delay in VOC emission reductions of 1,560 pounds per day for one

year before the lower VOC content limits are reached and originally anticipated VOC emission reductions are achieved. Because the delay of VOC emission reductions exceeds the SCAQMD's operational significance thresholds of 55 pounds of VOC per day, the air quality impacts associated with the proposed amendments to Rule 1113 will be significant.

The proposed rule also provides an additional VOC emission reduction of 1,360 pounds per day from the lowering of VOC content limits for three existing coating categories. The additional emission reductions, however, will not be achieved until July 1, 2007. Table 4-2 outlines the proposed VOC content limits, compliance dates and the emission reductions delayed and achieved.

Although PAR 1113 ultimately achieves VOC emission reductions of 1,360 pounds per day, VOC emission reduction foregone between July 1, 2006, and July 1, 2007, of 1,560 pounds per day exceed the SCAQMD's operational significance thresholds of 55 pounds per day of VOC per day. Therefore, air quality impacts are concluded to be significant.

TABLE 4-2**PAR 1113 Proposed VOC Content Limits, Compliance Dates and Emission Reductions**

COATING TYPE	Current VOC Limit*	Proposed Interim VOC Limit*	Final VOC Limit* w/Delayed Compliance	Delayed Emission Reductions (pounds/day)	Proposed New Final VOC Limit*	New Emission Reductions (pounds/day)
		As of 7/1/06	As of 7/1/07	7/1/06 - 7/1/07	As of 7/1/07	As of 7/1/07
Concrete-Curing Compounds	350	--	--	--	100	80
Dry-Fog Coatings	400	--	--	--	150	700
Nonflat Coatings, High Gloss	150	--	50	960	--	--
Quick-Dry Enamels	250	150	50	400	--	--
Specialty Primers	350	250	100	200	--	--
Traffic Coatings	150	--	--	--	100	580
Emission Reductions (pounds per day)				1,560		1,360

*grams of VOC per liter of coating, less water and less exempt compounds

Operational Air Quality Impacts – Non-Criteria Pollutants

The proposed amendments include delisting TBAC as a VOC only when formulated in IM coatings. It should be noted that TBAC could currently be used in coating formulations, but would be considered a VOC. As a result, it is likely that coatings formulated with TBAC would not comply with future low VOC compliance limits. However, by exempting TBAC as a VOC, it is expected that its usage could increase in future coating formulations. Because of the uncertainty regarding the toxicity of TBAC,

the increased use could have potentially significant adverse public health impacts. When EPA delisted TBAC as a VOC, the Federal Register⁷ stated, “However, given the potential for increased use of TBAC, EPA does believe that further toxicity testing is warranted to resolve the uncertainty associated with the limited evidence that is currently available.” The reason for the uncertainty regarding the potential toxicity of TBAC is that, although TBAC has not undergone specific noncancer chronic toxicity testing, it has been demonstrated to metabolize into tert-butyl alcohol (TBA), a substance that has been shown to produce tumors in rats. As a result, the Federal Register notice delisting TBAC as a VOC stated, “In response to these concerns Lyondell has agreed to work with EPA to perform the toxicity testing needed to resolve the current [toxicity] uncertainty.”

To analyze in more detail potential toxic effects associated with the use of TBAC in compliant low-VOC IM coatings, the SCAQMD conducted a health risk assessment (HRA) for the use of TBAC in IM coatings consistent with the HRA procedures listed in the SCAQMD’s Risk Assessment Procedures for Rules 1401 and 212 document. An HRA is used to estimate the likelihood of an individual contracting cancer or experience other adverse non-cancer health effects as a result of exposure to toxic air contaminants (TACs). Risk assessment is a methodology for estimating the probability or likelihood of an adverse health effect occurrence.

The HRA examines both cancer and non-cancer (acute) health effects from IM coatings which could be reformulated with TBAC to meet the lower VOC content limit. A “worst case” acute (short-term exposure) analysis was conducted because, once applied, IM coatings typically last ten to 20 years so continuous long-term exposure is not expected in most cases. Chronic (long-term non-cancer exposure) HI was not calculated because neither TBAC nor TBA have chronic RELs established for them. However, cancer risk effects were analyzed only at those types of facilities, such as refineries and sewage treatment plants, which may continuously apply IM coatings around the site throughout the year and expose surrounding sensitive receptors to long-term exposure to TBAC.

Acute (Non-Cancer) Health Effects

The actual effects of exposure to coatings depend on such factors as the exposure duration, potency of the solvents of concern, exposure frequency, and other factors. To evaluate noncancer health effects from a TAC, exposure levels are estimated, so that they can be compared to a corresponding reference exposure level (REL). An REL is a concentration level or dose at which no adverse health effects are anticipated. For acute exposures, the maximum hourly airborne concentration of a TAC is estimated.

The health risk from exposure to a noncarcinogenic TAC is evaluated by comparing the estimated level of a sensitive receptor’s exposure to the TAC to the TAC’s REL. The

⁷ Revision to Definition of Volatile Organic Compounds – Exclusion of t-Butyl Acetate, 40 CFR Part 51, Federal Register 69298, November 29, 2004.

ratio is expressed as a hazard index (HI), which is the ratio of the estimated exposure level to the REL:

$$\text{Hazard Index (HI)} = \frac{\text{Estimated Exposure Level}}{\text{Reference Exposure Level}}$$

A HI of one or less indicates that the estimated exposure level does not exceed the REL, and that no adverse health effects are expected. For CEQA purposes, the SCAQMD's significance threshold for noncarcinogenic impacts is a hazard index greater than or equal to one.

The ratio of the estimated acute level of sensitive receptor's exposure to a TAC to the acute REL is called an acute HI. The SCAQMD estimated the short-term acute risk associated with the use of TBAC where toxicity data were available. ~~As noted above, no toxicity studies have been conducted for TBAC so no REL data are available.~~ However, TBAC is known to metabolize into TBA whose potency factors have been established. Therefore, TBAe is used as a surrogate for TBAC to evaluate non-cancer health effects from exposure to IM coatings formulated with TBAC. The cancer potency factor (CPF) of TBA was used to calculate a CPF for TBAC assuming metabolism of TBAC to TBA and a certain molar conversion factor. The acute inhalation unit risk value for TBAC was then derived from the CPF value for TBAC by assuming a certain human breathing rate (Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004). To examine a "worst-case" short-term exposure to an IM coating formulated with TBAC, a large one-million gallon tank was used as a typical piece of equipment to be painted using IM coatings that contain TBAC. All assumptions and the methodology for calculating the acute HI from TBAC exposure can be found in Appendix D of this Draft EA. The calculation concludes that a realistic "worst-case" scenario of coating four gallons per hour of IM coating formulated with TBAC will produce an acute HI of 0.4 which is less than the SCAQMD's HI significance threshold of one. Chronic HI was not calculated because neither TBAC nor TBA have chronic RELs established for them.

Carcinogenic Effects

As noted above, once applied, IM coatings typically last ten to 20 years, so long-term exposure is not expected in most cases. However, testimony provided at the public workshop for PAR 1113 indicated that there are facilities, such as sewage treatment plants and refineries, that employ a full-time painting department to apply IM coatings to various equipment on-site throughout the year increasing the length of exposure to the surrounding community. In response to the public testimony, a Tier 2 HRA analysis was conducted for a sewage treatment plant in Carson, a refinery in El Segundo and a water/power facility in La Verne using actual information regarding IM coating practices at these facilities.

Risks from carcinogens are expressed as an added lifetime risk of contracting cancer as a result of a given exposure. For example, if the emissions from a facility are estimated to produce a risk of one in one million (1×10^{-6}) to the most exposed individual, this means that the individual's chance of contracting cancer has been increased by one chance in one million over and above his or her chance of contracting cancer from all other factors (for example, diet, smoking, heredity and other factors). This added risk to a maximally exposed individual is referred to as a "maximum individual cancer risk" or MICR. For CEQA purposes, the SCAQMD's significance threshold for carcinogenic impacts is a MICR greater than or equal to 10 in one million (10×10^{-6}).

Annual IM coatings usage was provided by each facility, and real downwind distance to sensitive receptors and meteorological data were used in the HRA analysis. All the assumptions and the methodology in calculating the MICR from TBAC exposure at each of the specific type of facility using large amounts of IM coatings can be found in Appendix D of this Draft EA. Table 4-3 provides a summary of all the health effects and cancer risk of the scenarios mentioned above. Using a realistic "worst-case" TBAC emissions for usage limited to IM coatings, the HRA analysis concluded that both carcinogenic and noncarcinogenic acute risk to be less than significant.

TABLE 4-3

Non-Carcinogenic and Carcinogenic Risk from TBAC Usage in IM Coatings

	Non-Cancer Acute Effect	Carcinogenic Risk at Sewage Treatment Facility		Carcinogenic Risk at Refinery		Carcinogenic Risk at Water/Power Facility	
		Residential/ Sensitive Receptor	Off-Site Worker	Residential/ Sensitive Receptor	Off-Site Worker	Residential/ Sensitive Receptor	Off-Site Worker
Risk Value	0.4	2 in a million	1.5 in a million	1 in a million	0.8 in a million	0.04 in a million	0.03 in a million
SCAQMD Significance Threshold	1.0	10 in a million		10 in a million		10 in a million	
Significant?	No	No	No	No	No	No	No

There is no substantive evidence that shows the use of those solvents identified as possible replacements would result in significant adverse toxic air contaminant impacts. The replacement solvents are for the most part common chemicals used in a wide variety of industrial and consumer applications. Their widespread use is assumed to be indicative of the ability to use these compounds in a safe manner. Current coating formulations contain materials that are as toxic, or more toxic, than formulations expected to be used to comply with the proposed amendments. Thus, the possible

increased use of toxics in reformulated coatings will generally be balanced by a concurrent decrease in the use of toxic materials in currently used coatings, and toxic air contaminant impacts would not be expected to change significantly from existing conditions.

Replacement coating solvents are generally less toxic than conventional coatings. As a result, human health impacts from reformulating coating solvents with replacement solvent would not be significant. Aside from reducing the VOC content limits of three coating categories, PAR 1113 would delay the final compliance date for specified coatings, which would not generate a significant adverse toxic risk impact from formulating coating solvents with replacements solvents that was not previously analyzed.

Odor Analysis

Objectionable odors are not expected to change with the use of reformulated coatings because the operation and application of architectural coatings is not expected to change. In fact, the conditions will improve over time as facilities switch to low-VOC materials, such as water-based solvents. In addition, local governments typically have ordinances that are intended to protect the public from adverse odors. Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. PAR 1113 will require the reduction of the VOC content limit from various coating categories which will require coating manufacturers to formulate with solvents that emit less VOC. The proposed amendments will also classify TBAC as an exempt solvent for IM coatings and zinc-rich maintenance primers. To comply with the lower VOC content limits, some architectural coatings will be water-based. Water-based coatings have less solvent than existing solvent-based coatings. Based on site visit comparison between a solvent-based coating manufacturing facility and a water-based coating manufacturing facility, conversion by facilities to water-based coatings is assumed to produce a beneficial effect by reducing nuisance odor. However, due to the re-classification of TBAC, PAR 1113 could increase the amount of exempt solvents used for two coating categories that might not be reformulated using water-based formulations.

In a TBAC odor analysis conducted for SCAQMD Rule 1151, the one-hour air dispersion model concentrations were converted to one-minute concentrations. These concentrations were then compared to odor thresholds. The odor threshold TBAC is below the odor threshold, if it were substituted at 50 percent for xylene, toluene and MEK, and 100 percent for acetone. Odor thresholds were compared to one-minute concentrations estimated by air dispersion model. The concentration of TBAC from replacing conventional solvents with TBAC was less than the TBAC odor threshold of four ppm. The concentrations for the existing conventional VOCs xylene and toluene were estimated to be above their odor thresholds; therefore, since TBAC concentrations were below the odor threshold, TBAC would be less likely to be detected (see Appendix

B of the Final DEA for PAR 1151). Therefore, no significant additional odor impacts are expected to result from implementing the proposed amendments.

A summary of the odor analysis is presented in Table 4-4. Detailed calculations can be found in Appendix B of the Final DEA for PAR 1151, which can be accessed at http://www.aqmd.gov/ceqa/documents/2005/aqmd/finalEA/FEA_1151.doc.

TABLE 4-4
VOC Concentrations and Odor Thresholds

Component	VOC Conc. (ug/m ³)	Odor Threshold ^a (ppm)	Odor Threshold (ug/m ³)	Exceeds Odor Threshold
Solvents in Existing Coatings				
Xylene	1,194	0.08	346	Yes
Toluene	1,094	0.16	602	Yes
MEK	398	2	5,886	No
Acetone	1,591	3.6	26,531	No
Potential Replacement Solvent in Existing Coatings				
TBAC	766	4	18,965	No

a) Haz-Map National Institutes of Health, <http://hazmap.nlm.nih.gov> unless otherwise noted.

b) MANA, MSDS for OXSOL100 (PCBTF), June 16, 2005

Affected facilities are not expected to create objectionable odors affecting a substantial number of people for the following reasons: 1) the coating of an architectural structure is temporary and typically not in great quantities; 2) the use of any new compliant materials are generally expected to replace existing architectural coating materials such that there will no additional odors generated; 3) the use of future compliant materials must comply with all applicable SCAQMD rules and regulations; and, 4) some of the future compliant coatings with lower VOC contents may actually result in lower odor impacts compared to the current coatings in use

PROJECT SPECIFIC MITIGATION MEASURES: None identified.

REMAINING IMPACTS: Since PAR 1113 will result in an overall long-term air quality benefit (e.g., VOC reductions), no adverse impacts remain. However, significant, but temporary, adverse air quality impacts from VOC emission reductions foregone between July 1, 2006, and July 1, 2007, remain.

CUMULATIVE IMPACTS: The air quality analysis concluded significant adverse project-specific impacts would occur from the delay to comply with lower VOC content

limits for specific coating categories resulting in a delay of VOC emissions reductions of 1,560 pounds per day that exceeds the SCAQMD operational VOC daily significance thresholds of 55 pounds per day. This delay, however, will last one year before the coating categories are required to comply with the lower VOC content limit. Thus, while the delay of VOC emission reductions is significant, the delay is temporary and not permanent. In addition, PAR 1113 will require new lower VOC content limits for three other existing coating categories providing new VOC emission reductions of 1,360 pounds per day from the rule. These new emission reductions will not be realized until after July 1, 2007, when the new lower VOC content limits are promulgated.

Although there is a delay in 0.78 tons per day of VOC emission reductions, there is still an overall net VOC emission reduction benefit from Rule 1113 when considering the 4.05 tons per day of VOC emission reductions achieved from the previous rule amendments in November 2003.

Cumulative air quality impacts from the proposed amendments, previous amendments and all other AQMP control measures considered together are not expected to be significant because implementation of all AQMP control measures is expected to result in net emission reductions and overall air quality improvement. This determination is consistent with the conclusion in the 2003 AQMP EIR that cumulative air quality impacts from all AQMP control measures are not expected to be significant (SCAQMD, 2003). Indeed, air quality modeling performed for the 2003 AQMP indicated that the Basin would achieve all federal ambient air quality standards by the year 2010 (SCAQMD, 1997). Future VOC control measures will assist in achieving the goal of ozone attainment by 2010.

Based on regional modeling analyses performed for the 2003 AQMP, implementing control measures contained in the 2003 AQMP, in addition to the air quality benefits of the existing rules, is anticipated to bring the district into attainment with all national and most state ambient air quality standards by the year 2010. Therefore, there will be no cumulative adverse air quality impacts from implementing PAR 1113.

CUMULATIVE IMPACT MITIGATION: No cumulative impact mitigation measures are required.

ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

An Initial Study (see Appendix B) was prepared for these amendments to Rule 1113, describing anticipated environmental impacts resulting from implementing PAR 1113. It was concluded in the Initial Study that the 16 environmental areas identified in the following subsections would not be significantly adversely affected by PAR 1113. No comment letters were received that disputed the conclusion that the 16 environmental topic areas discussed in the following subsections would not be significantly adversely

affected by implementing the proposed project. These 16 environmental areas, therefore, are not further analyzed in this Draft EA. Since there are no significant adverse impacts to these environmental topics, no mitigation measures are required. A discussion of why PAR 1113 will not significantly adversely affect each of these environmental areas is provided in the following sections.

Aesthetics

The proposed amendments do not require any changes in the physical environment that would obstruct any scenic vistas or views of interest to the public. In addition, no major changes to existing architectural coatings operations or stockpiling of additional materials or products outside of existing facilities are expected. The reason for this determination is that the proposed project is not expected to produce any physical changes because PAR 1113 is expected only to alter the formulation of specific architectural coatings. Coatings subject to PAR 1113 for use on an architectural structure is anticipated to improve the aesthetic view of that structure. Therefore, no significant impacts adversely affecting existing visual resources such as scenic views or vistas, etc. are anticipated to occur.

No new construction of buildings or other structures will result from the lowering of the VOC content in coatings so scenic resources will not be obstructed and the existing visual character of any site in the vicinity of affected operations will not be degraded. The purpose of AIM coatings is to improve the visual character and protect the surface of the substrate upon which the coating is applied. Defects in the appearance of the low-VOC coating after application, which could be argued as less aesthetically pleasing, is not anticipated because the rule contains a compliance schedule sufficient for coating formulators to produce acceptable quality low-VOC products that exhibit the desired performance characteristics. In addition, compliant low-VOC coatings are currently available for most affected coating categories and are currently being sold and used and have been demonstrated to be as durable as coatings formulated with conventional solvents.

There are no components in PAR 1113 that would alter existing work practices, or require coating activities at night. Therefore, PAR 1113 is not expected to create a new source of substantial light or glare that would adversely affect day or nighttime views in an area. Based on the above considerations, significant adverse impacts to aesthetics are not expected from PAR 1113.

Agricultural Resources

No major construction is associated with the lowering of the VOC content of affected coating categories and the coating activities would occur at existing industrial or commercial areas. Therefore, the proposed project would not result in any construction of new buildings or other structures that would convert farmland to non-agricultural use

or conflict with zoning for agricultural use or a Williamson Act contract. Since the proposed project would not substantially change the equipment or process in which the coatings are applied, there are no provisions in the proposed amended rule that would convert farmland to non-agricultural uses, thus, affecting land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project. Based on the above considerations, significant adverse impacts to agriculture resources are not expected from PAR 1113.

Biological Resources

Implementation of the proposed amendments will not cause impacts to sensitive habitats of plants or animals because they do not require acquisition of or construction on open space areas. The overall intent of the proposed amendments is to reduce VOC emissions from affected coating categories. Therefore, the proposed amendments to Rule 1113 will have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely in the SCAQMD's jurisdiction. The overall net effect of implementing the proposed amended rule will be improved air quality resulting from reduced VOC emissions, which is expected to be beneficial for both plant and animal life. Modifications at existing affected coating manufacturers to switch to low-VOC coatings, such as water-based, would not require acquisition of additional land or further conversions of riparian habitats or sensitive natural communities where endangered or sensitive species may be found.

Acquisition of protected wetlands is not expected to be necessary to switch to compliant coatings, such as water-based coatings. Affected coating contractors would continue to practice existing operating procedures so the proposed amended rule will not directly remove, fill or interrupt any hydrological system or have an adverse effect on federally protected wetlands. Since coating contractors typically operate in urbanized areas, it is not likely that disposal or accidental releases of coating materials would occur in areas that harbor federally protected wetlands as defined by §404 of the Clean Water Act.

There are no provisions in the proposed amended rule that would adversely affect land use plans, local policies or ordinances, or regulations because the ultimate effect of PAR 1113 is to reduce VOC emissions from architectural coatings. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project. Proposed amended Rule 1113 would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities. Based on the above consideration, significant adverse impacts to biological resources are not expected from PAR 1113.

Cultural Resources

There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. PAR 1113 is not expected to affect archeological or cultural sites because reformulation of architectural coatings won't require major construction activities such as grading, trenching, etc. The application of architectural coatings typically occurs after site preparation and construction of structures has been completed. As a result, it is expected that archaeological resources would have already been assessed or if the new structure is at an existing residential, commercial or industrial site, then they have already been disturbed or protected. The proposed revisions to Rule 1113 are, therefore, not anticipated to result in any activities, or promote any programs that could have a significant adverse impact on cultural resources in the district. As a result, the proposed project has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside a formal cemeteries. Based on the above consideration, significant adverse impacts to cultural resources are not expected from PAR 1113.

Energy

Lowering VOC content limits of affected architectural coatings will not conflict with adopted energy conservation plans or cause affected facilities to be out of compliance with existing energy standards because coating contractors are expected to continue current coating operations using the same or similar coating equipment, but using new formulations of coatings affected by PAR 1113. Because add-on control equipment is not expected to be used to comply with the provisions of PAR 1113, no additional energy use is expected to be required. Additionally, PAR 1113 will not substantially increase the number of businesses or amount of equipment in the district and, therefore, would not be expected to interfere with existing energy standards or future energy conservation plans because these are typically targeted to residential consumers, etc.

The architectural coating operations are not expected to change as a result of lowering the VOC content limit of affected coatings. Since there will be no additional demand for electricity, there will be no need for new or substantially altered power or natural gas utility systems as a result of the proposed project. The proposed project will have a non-significant effect on the electricity capacity or demand and, therefore, no significant impact on peak or base demands for electricity. Based on the above consideration, significant adverse impacts to energy are not expected from PAR 1113.

Geology and Soils

Architectural coatings are applied to new and existing buildings, stationary structures, roads, etc. The proposed amendments affect coating formulators, sellers, and users and have no effects on geophysical formations in the district because the proposed project does not require or induce the construction of any structures. Coating activities and

operations are not expected to change from current practice so the proposed amendments to Rule 1113 will not expose people to potential substantial adverse geological effects greater than what they are exposed to already. Lowering the VOC content limit of affected coating categories will not result in exposing people or structures to risks of loss, injury, or death involving: rupture of an earthquake fault, seismic ground shaking, ground failure or landslides.

The proposed project will not require major construction activities (e.g., grading, trenching, refilling and repaving), so there are no potential impacts to existing geophysical conditions. No soil is expected to be disrupted because no new development will be required as a result of the proposed project. Therefore, no substantial soil erosion or loss of topsoil is expected from lowering the VOC content limit of affected coating categories.

The proposed project does not involve construction of new structures and, therefore, will not involve locating any structures on soil that is unstable or expansive. For this reason, no destabilization of unstable soils would be expected that could cause on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse. Based on the above considerations, significant adverse impacts to geology and soils are not expected from PAR 1113.

Hazards and Hazardous Materials

Architectural coating operations are not expected to change from current practice and, thus, the amount of solvents used or transported is not expected to change. As the production and use of architectural coatings is not expected to change as a result of implementing PAR 1113, no additional transport of the solvents is expected and, thus, no new hazards to the public will be created through transport, use or disposal of hazardous materials. Consequently, the proposed amendments to Rule 1113 will not create a significant new hazard to the public or create a reasonably foreseeable upset involving the release of hazardous materials.

Hazard impact concerns are related to the risk of fire, explosions, or the release of hazardous substances in the event of an accident or upset conditions. It is expected that the lower VOC content limits required by PAR 1113 may be achieved, in part, through the use of replacement solvents and predominantly water-borne technologies. Overall, exempt solvents are considered to be viable alternatives to other, more toxic solvents currently found in various coatings. The typical solvents found in the affected coatings at the current VOC content limits are the same or similar to the solvents found in the same coatings reformulated to the lower-VOC content limit. In order to comply with the lower VOC content limits, the affected coatings are expected to be formulated with less of these similar solvents and more water, which are typically less hazardous than currently used. The coatings reformulated to lower VOC content limits typically are subject to a change in the resin technology making the resin “softer” and, thus, less

solvent is needed to break the resin down. As mentioned previously, the solvent list was compiled from MSDS sheets from a variety of coating manufacturers and the MSDS may not list all the solvents used in the formulation but rather highlight the solvents with potentially hazardous affects. Since the type of solvents are not substantially changing with the reformulation of the affected coatings, the potential adverse hazard impact from exposure to these solvents will either reduce or not change from current conditions.

With regards to the handling and application of any coating, the following safety practices and application techniques are recommended by the National Association of Corrosion Engineers (NACE) and the Society for Protective Coatings. Coating contractors are not expected to require additional training regarding the proper handling or application of compliant coatings containing hazardous materials which will further reduce the applicator's exposure because these safety measures tend to already be in place.

Worker Isolation – Areas where coatings with hazardous materials are applied should be restricted to essential workers. If feasible, these workers should avoid direct contact with hazardous materials by using automated equipment or area with plenty of ventilation.

Protective Clothing and Equipment – When there is potential for hazardous material exposure, workers should be provided with and required to use appropriate personal protective clothing and equipment such as coveralls, footwear, chemical-resistant gloves and goggles, full faceshields, and suitable respiratory equipment.

Respiratory Protection – Only the most protective respirators should be used for situations involving exposures to hazardous materials because they have poor warning properties, are potent sensitizers, or may be carcinogenic. These respirators include:

Any respiratory protection program must, at a minimum, meet the requirements of the OSHA respiratory protection standard [29 CFR 1910.134]. Respirators must be certified by NIOSH and MSHA according to 30 CFR or by NIOSH (effective July 19, 1995) according to 42 CFR 84. A complete respiratory protection program should include: (1) regular training and medical evaluation of personnel, (2) fit testing, (3) periodic environmental monitoring, (4) periodic maintenance, inspection, and cleaning of equipment, (5) proper storage of equipment, and (6) written standard operating procedures governing the selection and use of respirators. The program should be evaluated regularly. The following publications contain additional information about selection, fit testing, use, storage, and cleaning of respiratory equipment: NIOSH Guide to Industrial Respiratory Protection [NIOSH 1987a] and NIOSH Respiratory Design Logic [NIOSH 1987b]. Examples of complying with these regulations include the following:

- Any self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode, and
- Any supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.

Worker and Employer Education – Worker education is vital to a good occupational safety and health program. OSHA requires that workers be informed about:

- Materials that may contain or be contaminated with hazardous materials;
- The nature of the potential hazard [29 CFR 1910.1200]. Employers must transmit this information through container labeling, material safety data sheets (MSDS), and worker training;
- The serious health effects that may result from hazardous material exposures; and
- Any materials that may contain or be contaminated with hazardous materials.

Additionally, workers should take the following steps to protect themselves from hazardous material exposure:

- Be aware that the highest hazardous material concentrations may occur inside containment structures.
- Wash hands and face before eating, drinking, or smoking outside the work area.
- Participate in medical monitoring and examination programs, air monitoring programs, or training programs, offered by your employer.

Reducing the VOC content of affected coatings is not expected to affect or interfere with a user's ability to comply with all adopted emergency response plans and emergency evacuation plans because the proposed project does not involve construction of any structures or features that could impede the execution of emergency response or emergency evacuation plans.

In addition, Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;

3. Procedures to mitigate a release, or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
 - a. The safe handling of hazardous materials used by the business;
 - b. Methods of working with the local public emergency response agencies;
 - c. The use of emergency response resources under control of the handler; and
 - d. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area. Based on the preceding information, it is not anticipated that PAR 1113 would impair implementation of or physically interfere with an adopted or modified emergency response plan or emergency evacuation plan.

PAR 1113 is expected to reduce the VOC content limits for specified coating categories primarily through reformulation of the solvent or conversion to alternative resin technologies. It is anticipated that the reformulation will primarily entail the use of water-based components or low-VOC materials less hazardous or flammable than currently being used.

The proposed amendments will also specifically consider TBAC as a non-VOC on a limited basis. TBAC has low photochemical reactivity, but physical and chemical properties are generally similar to the conventional solvents currently used in IM coatings as noted in Table 4-5. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may

include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Consequently, local fire departments ensure that adequate permit conditions are in place to protect against potential risk of upset from the use of hazardous materials. However, any use of hazardous materials at affected facilities is not expected to change and may even decrease as a result of implementing the proposed project.

TABLE 4-5
Chemical Characteristics for Typical IM Coating Solvents

<i>Traditional/Conventional Solvents</i>						
Chemical Compounds	M.W.	Boiling Point (°F)	Flashpoint (°F)	Vapor Pressure (mmHg @ 68 °F)	Lower Explosive Limit (% by Vol.)	Flammability Classification (NFPA)*
Toluene	92	231	40	22	1.3	3
Xylene	106	292	90	7	1.1	3
MEK	72	175	21	70	2.0	3
Isopropanol	60	180	53	33	2.0	3
Butyl Acetate	116	260	72	10	1.7	3
Isobutyl Alcohol	74	226	82	9	1.2	3
Stoddard Solvent	144	302 - 324	140	2	0.8	2
Petroleum Distillates (Naptha)	100	314 - 387	105	40	1.0	4
EGBE	118	340	141	0.6	1.1	2
EGME	76	256	107	6	2.5	2
EGEE	90	275	120	4	1.8	2
<i>Replacement Solvents</i>						
Chemical Compounds	M.W.	Boiling Point (°F)	Flashpoint (°F)	Vapor Pressure (mmHg @ 68 °F)	Lower Explosive Limit (% by Vol.)	Flammability Classification (NFPA)*
Acetone	58	133	1.4	180	2.6	3
Di-Propylene Glycol	134	451	279	30	1	1
Propylene Glycol	76	370	210	0.1	2.6	1
Ethylene Glycol	227	388	232	0.06	3.2	1
texanol	216	471	248	0.1	0.62	1
Oxsol 100	181	282	109	5	0.90	1
t-Butyl Acetate	113	208	59	34	1.5	3

*National Fire Protection Association

0 = minimal; 1 = slight; 2 = moderate; 3 = serious; 4 = severe

Thus, the use of TBAC as a replacement solvent for IM coatings and zinc-rich maintenance primers will not result in adverse hazard impacts as the conditions which lead to a potentially hazardous situation is not expected to substantially change from current conditions. Based on the above considerations, significant adverse impacts to hazards and hazardous materials are not expected from PAR 1113.

Hydrology and Water Quality

Lowering the VOC content limit of coatings at affected facilities will have no direct or indirect impact on hydrology and water quality because the reformulation of the coatings is not expected to change the current architectural coating operation practices or alter the coating formulations to be more detrimental to water quality. It is likely that resin manufacturers and coating formulators will replace conventional coating formulations and may contain similar solvents. Also, due to the change in resin technology to formulate coatings with lower VOC content, the need for stronger solvents to break down the newer “softer” resin is reduced.

In the past the SCAQMD has received comments that with the increased use of water-borne technologies to meet the lower VOC content limits, there will be a greater trend of coating applicators to improperly dispose of the waste generated from these coatings into the ground, storm drains, or sewer systems. However, there are no data to support this contention. In any event, there are several reasons why there should be no significant increase over current practices for improper disposal due to greater use of water-borne coatings.

Results from a survey of contractors determined that a majority either dispose of the waste material properly as required by the coating manufacturer’s MSDS or recycle the waste material regardless of type of coating. Based upon these results, there is no reason to expect that paint contractors will change their disposal practices, especially those that dispose of wastes properly, with the implementation of PAR 1113. There is also no reason to expect that illegal disposal practices will increase as a result of implementing PAR 1113.

State and federal regulations promote the development and use of coatings formulated with non-hazardous solvents. Based on discussions with resin manufacturers and coating formulators, the trend in coating technologies is to replace toxic/hazardous solvents with equal or less toxic/hazardous solvents. Therefore, wastewater which may be generated from reformulated coatings is expected to contain less hazardous materials than the wastewater generated for solvent-based coating operations, thereby reducing toxic influent to the POTWs.

Consumer and user outreach and education programs such as NPCA’s “Protocol for Management of Post Consumer Paint,” and the SCAQMD’s “Painter’s Guide to Clean Air” provide the public and painting contractors with information on environmentally

sound coating disposal practices. These public outreach programs are expected to reduce the amount of coating waste material entering the sewer systems, storm drainage systems, and being dumped on the ground, therefore, further reducing any water quality impacts associated with the improper disposal of compliant coatings.

The EPA in its Report to Congress entitled “Study of Volatile Organic Compound Emissions from Consumer and Commercial Products” evaluated consumer products to determine which categories were likely to be disposed of to POTWs. The study found that the likelihood of paints, primers, and varnishes being disposed of to POTWs was low. Therefore, this category was not even evaluated for its VOC emission impacts on POTWs. This suggests that the presence of solvents from this category of consumer products in wastewater streams is very low compared to the total volume of solvents being disposed of from other consumer product categories.

To evaluate potential water quality impacts from PAR 1113, it is assumed that future compliant AIM coatings will be formulated primarily with water-borne technologies. As a result, more water will be used for clean-up and the resultant wastewater material could be disposed of into the public sewer system. It is anticipated that current coating equipment (i.e., spray guns, rollers, and brushes) clean-up practices of using water will continue into the future. Table 4-6 illustrates the “worst-case” potential increase of waste material likely to be received by POTWs in the district as a result of implementing PAR 1113. POTW’s average daily flow is based on historical wastewater flow in the district. Further, the estimated usage is based on the assumption that 45 percent of the state sales (from Table 3-1) are within the SCAQMD jurisdiction.

TABLE 4-6
Projected POTW Impact From Implementing PAR 1113

Year	POTW Average Daily Flow^a (mgd)	POTW Capacity^b (mgd)	Estimated Usage (gallons/year)	Coatings Disposal Daily Flow^c (mgd)	Total Impacts (% Increase)
2006	1394.00	1687.30	3,016,962	0.0083	0.00048

^a 2002 data of total average daily wastewater flows handled by all POTWs greater than 10 mgd in the district (2003 AQMP).

^b Based on design daily flows by all POTWs greater than 10 mgd in the district (2003 AQMP).

^c Assumes that one gallon of water will be used to clean-up equipment for every gallon of coating applied. The figures for Coatings Disposal Flow are based on the annual emissions inventory of the affected coating categories in 2006; originally expressed in mgy, they are converted to mgd by dividing by 365.

mgd = millions of gallons per day

The potential increase estimated as a result of implementing PAR 1113 is considered to be well within the projected capacity of POTWs in the district based on historical wastewater data. Hence, wastewater impacts associated with the disposal of water-borne clean-up waste material generated from PAR 1113 affected coating categories are not considered significant. With the increasing trend toward less toxic water-borne coatings,

it is likely that there will be less severe impacts to water quality because of improvements in affluent water quality. Therefore, PAR 1113 will not significantly adversely affect water resources, water quality standards, groundwater supplies, existing water supplies or wastewater treatment facilities.

Historically, potential water demand to reformulate conventional coatings into waterbased coatings and to clean up waterbased coatings has not resulted in a significant adverse impact on water demand or depleted groundwater supplies. Using “worst-case” assumptions, increased water demand from implementing PAR 1113 can be calculated for both manufacturer of water-based coatings and water used to clean coating equipment. As shown in Table 4-7, water demand associated with the manufacture and clean-up of water-borne formulations is estimated to be 16,548 gallons per day (6.04 million gallons per year). This increased water demand does not exceed the SCAQMD’s significant threshold of 5,000,000 gallons per day and, therefore, is not considered to be a significant water demand impact.

While it is not possible to predict water shortages in the future, existing entitlements and resources in the district provide sufficient water supplies that currently exceed demand. Further, according to the Metropolitan Water District (MWD), the largest supplier of water to California, “For its part, Metropolitan expects to be able to meet 100 percent of its member agencies’ water needs for the next ten years, even during times of critical drought. Metropolitan and its member agencies have identified and are implementing programs and projects to assure continued reliable water supplies for at least the next 20 years.”⁸ MWD is expected to continue providing a reliable water supply through developing a portfolio of diversified water sources that includes: cooperative conservation; water recycling; and groundwater storage, recovery, and replenishment programs. Other additional water supplies will be supplied in the future as a result of water transfer from other water agencies, desalination projects and state and federal water initiatives, such as CALFED and California’s Colorado River Water Use Plan.

TABLE 4-7

Projected Water Demand from Implementing PAR 1113

Year	Projected Population^a (millions of people)	Projected Water Demand^b (bgg)	Projected Coating Sales^c (mgg)	Projected Mfg Demand^d (mgg)	Projected Cleanup Demand^e (mgg)	PAR 1113 Total Demand^f (mgg)	Total Impacts^g (% Increase)
2006	17.04	1,414.84	3.02	3.02	3.02	6.04	0.0004

^a Population projections obtained from SCAG’s 1998 RTP.

^b Water demand and supply projections obtained from Hydrology Existing Setting in 2003 AQMP. AF (acre- feet) equals approximately 326,000 gallons

^c Obtained from Table 2-2 in this Initial Study.

⁸ From Metropolitan Water District, *Annual Progress Report to the California’s State Legislature*, February 2002.

^d Assumes that one gallon of water will be used to manufacture one gallon of coating applied. Also assumes as a “worst-case” scenario, that all affected coatings used in the SCAQMD’s jurisdiction were manufactured here.

^e Assumes that one gallon of water will be used to clean-up equipment for every gallon of coating applied. Also assumes as a “worst-case” scenario, that full conversion of affected coating categories to water-borne formulations occurs in 2006.

^f Total amount of manufacturer and clean-up water demand.

^g The percentage increase in water demand as a result of the incremental increase due to water clean-up of water-borne coating material.

Acronyms: bgy = billion gallons per year; mgy = millions of gallons per year

As shown in Table 4-7, it is within the capacity of the local water suppliers to supply the small incremental increase in water demand associated with the implementation of PAR 1113. Sufficient water supplies are available to serve the project from existing entitlements and no new or expanded entitlements are needed to implement the proposed project. Therefore, no significant water demand impacts are expected as the result of implementing PAR 1113.

Land Use and Planning

Architectural coating operations would still be expected to comply, and not interfere, with any applicable land use plans, zoning ordinances, habitat conservation or natural community conservation plans. There are no provisions of the proposed project that would directly affect these plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no present or planned land uses in the region or planning requirements will be altered by the proposed project. No new development or alterations to existing land use designations will occur as a result of the implementation of the proposed amendments. It is not anticipated that architectural coating operations located in the district would require additional land to continue current operations or require rezoning as a result of implementing PAR 1113. Therefore, no significant adverse impacts affecting existing or future land uses are expected.

Mineral Uses

There are no provisions of the proposed amended rule that would directly result in the loss of availability of a known mineral resource, such as aggregate, coal, shale, etc., of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The proposed project would lower the VOC content of certain coatings, which typically do not require mineral resources to reformulate compliant products. Thus, significant adverse impacts to mineral resources are not expected from PAR 1113.

Noise

Excessive generation of noise, excessive groundborne vibration, or substantial increase in ambient noise levels is generally not associated with architectural coating operations. The proposed project is not expected to increase noise levels relative to existing noise levels that are currently generated from the application and use of architectural coatings. Even though architectural coating operations are not noise intensive, it is expected that painting contractors would comply with existing relevant local community noise standards and ordinances. It is likely that noise generated by coating contractors' operations would be indistinguishable from noise sources generated from adjacent sources which may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses. In general, the primary noise source at existing facilities that manufacture architectural coatings is generated by vehicular traffic, such as trucks transporting raw materials to the facility, trucks hauling wastes away from the facility, trucks to recycle waste or other materials, and miscellaneous noise such as spray equipment (i.e. compressors, spray nozzles) and heavy equipment use (forklifts, trucks, etc.). Noise would typically be generated during operating hours, which generally range from 6 a.m. to 5 p.m. Monday through Friday. PAR 1113 is not expected to alter noise from existing noise generating sources. It is likely that coating contractors or affected facilities manufacturing architectural coatings are operating in compliance with any local noise regulations that may exist in their respective communities. Additionally, the implementation of PAR 1113 is not expected to result in significant noise impacts in residential areas because changing the VOC content will not affect noise levels from coating applications, since it is expected that coating contractors would use the same or similar equipment. Contractors or do-it-yourselfers applying compliant PAR 1113 coatings in residential areas are expected to comply with local community noise standards. Thus, lowering of VOC content limit requirement of affected coating categories would have no additional noise impacts.

Population and Housing

Human population in the SCAQMD's jurisdiction is anticipated to grow regardless of implementing the proposed project. The proposed amendments will primarily affect the formulation of architectural coatings and are not anticipated to generate any significant effects, either direct or indirect on the district's population as no additional workers are anticipated to be required to comply with the proposed amendments. Further, PAR 1113 is not expected to cause a relocation of population within the district. As a result, housing in the district is expected to be unaffected by the proposed amendments. The population will not grow directly as a result of the proposed amended rule and the coating activity will not indirectly induce growth in the area of the coating facilities. The construction of single- or multiple-family housing units would not be required as a result of implementing the proposed project. Therefore, existing housing or populations in the district are not anticipated to be displaced necessitating the construction of replacement housing elsewhere. Thus, significant adverse impacts to population and housing are not expected from PAR 1113.

Public Services

The proposed amendments will not substantially increase the amount of businesses or equipment in the district. Reformulation of coatings is not expected to require new or additional fire fighting resources or police protection. In fact, PAR 1113 may actually result in fewer impacts to public service agencies because compliant coatings are generally expected to be formulated with less hazardous materials compared to current conventional coatings. Any increase in accidental releases of compliant coating materials would be expected to result in a concurrent reduction in the number of accidental releases of existing conventional coating materials. As a result, the net number of accidental releases would be expected to remain constant, allowing for population growth in the district. Additionally, future compliant coating materials are not expected to cause significant adverse human health impacts, so accidental release scenarios would be expected to pose a lower risk to the public and less need for emergency responders such as fire and police departments. Furthermore, if manufacturers continue to use solvents such as texanol, propylene glycol, ethylene glycol, etc., in their compliant water-borne coatings, fire departments would not be expected to experience adverse impacts because in general these solvents are equal or less flammable solvents than currently used solvents and, therefore, create fewer emergency incidents. Additional demands on fire or police department services are not expected to increase, so impacts to these services are, therefore, not considered to be significant. Any potential increase in the use of flammable substances, such as TBAC or acetone, would be offset by a reduction in the use of flammable solvents such as toluene or xylene. As a result, fire or police department performance objectives, service ratios, response times, etc., are not expected to be significantly adversely affected. No new impacts to schools, parks or other recreational facilities are foreseen as a result of implementing the proposed amendments to Rule 1113 because coating operations are not expected to change and coating contractor operations are not expected to require new employees.

Lowering the VOC content of a few selected architectural coatings is not anticipated to result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times or other performance objectives because use of reformulated coatings would simply displace use of conventional coatings. Based on the above considerations, significant adverse impacts to public services are not expected from PAR 1113.

Recreation

The proposed amendments will not generate additional demand for, or otherwise affect land used for recreational purposes. The proposed amendments are not expected to have adverse effects on land uses in general. There are no provisions in the proposed project that would affect land use plans, policies or ordinances, or regulations because land use and other planning considerations are determined by local governments; no land use or

planning requirements will be altered by the proposal. The proposed project is not expected to increase population growth in the district because use of low VOC coatings does not require additional employees. As a result, no additional demand for parks is anticipated. Further, the proposed amendments would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Solid/Hazardous Waste

Coating operations are not expected to change as a result of the proposed amendments. Similarly, the volume of coatings and coating wastes is not expected to increase as a result of implementing PAR 1113. Therefore, no new solid or hazardous waste will be generated as a result of lowering the VOC content limit of certain coatings in Rule 1113. Affected facilities would continue to complying with federal, state, and local statutes and regulations related to solid and hazardous waste handling and disposal. Therefore, potential solid waste impacts are considered not significant.

Transportation/Traffic

PAR 1113 is not expected to alter affected coating contractor operations so no additional transportation/circulation impacts are expected to occur directly or indirectly as a result of lowering the VOC content limit of certain coatings in Rule 1113. No new employees are expected to be needed for architectural coating operations and therefore no new worker trips that could increase traffic or affect in any way the level of service designation for any roadways will result from the proposed amendments. Similarly, additional parking would not be required from implementing PAR 1113. Because affected coating operations are not expected to change, no new or additional raw materials will be needed and, therefore, no additional transport trips that could affect the level of service for roadways will be generated from the continued operation of the coating activity.

Air traffic patterns are not expected to be directly or indirectly affected by the proposed amended rule because the coating activity will not require any air transportation of any materials. The proposed amendments to Rule 1113 are not expected to generate significant direct or indirect roadway hazard impacts because the proposed project does not require or induce the construction of roadway design features. Affected facilities would still be expected to comply with, and not interfere with adopted policies, plans, or programs supporting alternative transportation. The lowering of the VOC content limit of certain coatings in Rule 1113 will not hinder compliance with any applicable alternative transportation plans or policies. Based on the above considerations, significant adverse impacts to transportation/circulation are not expected from PAR 1113.

OTHER CEQA TOPICS

The following sections address various topics and issues required by CEQA such as growth inducement, short-term versus long-term effects, and irreversible changes.

Irreversible Environmental Changes

CEQA Guidelines §15126.2(c) requires an environmental analysis to consider “any significant irreversible environmental changes which would be involved if the proposed action should be implemented.” The Initial Study the current amendments to Rule 1113 identified air quality as potential impact areas.

The air quality analysis concluded significant adverse project-specific impacts would occur from the delay to comply with lower VOC content limits for specific coating categories resulting in a delay of VOC emissions reductions of 1,560 pounds per day that exceeds the SCAQMD operational VOC daily significance thresholds of 55 pounds per day. This delay, however, will last one year before the coating categories are required to comply with the lower VOC content limit. Thus, while the delay of VOC emission reductions is significant, the delay is temporary and not permanent. In addition, PAR 1113 will require new lower VOC content limits for three other existing coating categories providing new VOC emission reductions of 1,360 pounds per day from the rule. These new emission reductions will not be realized until after July 1, 2007, when the new lower VOC content limits are promulgated.

So, environmental change will occur as a result of the proposed project, but because it is temporary and further emission reductions will be achieved, the proposed project would not result in irreversible environmental changes or the irretrievable commitment of resources.

Potential Growth-Inducing Impacts

CEQA Guidelines §15126.2(d) requires an environmental analysis to consider the “growth-inducing impact of the proposed action.” Implementing PAR 1113 will not, by itself, have any direct or indirect growth-inducing impacts on businesses in the SCAQMD’s jurisdiction because it is not expected to foster economic or population growth or the construction of additional housing and primarily affects existing coating formulation companies.

CONSISTENCY

The Southern California Association of Governments (SCAG) and the SCAQMD have developed, with input from representatives of local government, the industry community, public health agencies, the USEPA - Region IX and the California ARB, guidance on how to assess consistency within the existing general development planning

process in the Basin. Pursuant to the development and adoption of its Regional Comprehensive Plan Guide (RCPG), SCAG has developed an Intergovernmental Review Procedures Handbook (June 1, 1995). The SCAQMD also adopted criteria for assessing consistency with regional plans and the AQMP in its CEQA Air Quality Handbook. The following sections address consistency between PAR 1113 and relevant regional plans pursuant to the SCAG Handbook and SCAQMD Handbook.

Consistency with the Air Quality Management Plan

PAR 1113 is consistent with the AQMP since it is specifically identified as a control measure that is necessary to attain and maintain the state and national ambient air quality standards. Although the proposed project will temporarily delay VOC emission reductions, the overall

Consistency with Regional Comprehensive Plan and Guide (RCPG) Policies

The RCPG provides the primary reference for SCAG's project review activity. The RCPG serves as a regional framework for decision making for the growth and change that is anticipated during the next 20 years and beyond. The Growth Management Chapter (GMC) of the RCPG contains population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review. The subsections summarize the main policies and goals contained in the GMC and whether or not PAR 1113 is consistent with these policies and goals

Improve the Regional Standard of Living

The Growth Management goals are to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, which would strengthen the regional strategic goal to stimulate the regional economy. PAR 1113 in relation to the GMC would not interfere with the achievement of these goals, nor would it interfere with any powers exercised by local land use agencies to achieve these goals. PAR 1113 will not interfere with efforts to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.

Provide Social, Political and Cultural Equity

The Growth Management goals are to develop urban forms that avoid economic and social polarization; promote the regional strategic goals of minimizing social and geographic disparities; and reach equity among all segments of society. Consistent with the Growth Management goals, local jurisdictions, employers and service agencies should provide adequate training and retraining of workers, and prepare the labor force to meet the challenges of the regional economy. Growth Management goals also

includes encouraging employment development in job-poor localities through support of labor force retraining programs and other economic development measures. Local jurisdictions and other service providers are responsible to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection. Implementing PAR 1113 is not expected to interfere with the goals of providing social, political and cultural equity.

Improve the Regional Quality of Life

The Growth Management goals also include attaining mobility and clean air goals and developing urban forms that enhance quality of life, accommodate a diversity of life styles, preserve open space and natural resources, are aesthetically pleasing, preserve the character of communities, and enhance the regional strategic goal of maintaining the regional quality of life. The RCPG encourages planned development in locations least likely to cause environmental impacts, as well as supports the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals. While encouraging the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites, the plan discourages development in areas with steep slopes, high fire, flood and seismic hazards, unless complying with special design requirements. Finally, the plan encourages mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and develop emergency response and recovery plans. PAR 1113 in relation to the GMC is not expected to interfere with attaining these goals and, in fact, promotes improving air quality in the region.

Consistency with Regional Mobility Plan (RMP) and Congestion Management Plan (CMP)

PAR 1113 is consistent with the RMP and CMP since no significant adverse impact to transportation/circulation will result from the regulation of architectural coatings within the district. Further, no traffic and congestion is generated from the operational activities because the proposed project will not require an increase number of employees. Furthermore, because affected operations will not increase their handling capacities, so there will not be an increase in material transport trips associated with the implementation of PAR 1113. Therefore, material transport trips are not expected to significantly adversely affect circulation patterns.

CHAPTER 5

PROJECT ALTERNATIVES

Introduction

Alternatives Rejected as Infeasible

Description of Alternatives

Comparison of the Alternatives

INTRODUCTION

This Draft EA provides a discussion of alternatives to the proposed project. Alternatives include measures for attaining the objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. A “No Project” alternative must also be evaluated. The range of alternatives must be sufficient to permit a reasoned choice, but need not include every conceivable project alternative. CEQA Guidelines §15126.6(a) specifically notes that the range of alternatives required in a CEQA document is governed by a ‘rule of reason’ and only necessitates that the CEQA document set forth those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision-making and meaningful public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. SCAQMD Rule 110 does not impose any greater requirements for a discussion of project alternatives in an environmental assessment than is required for an EIR under CEQA.

The alternatives are viable options to the proposed project and all, or parts, of the alternatives can be chosen by the decision-making body (e.g., SCAQMD Governing Board) to become the proposed project. For this reason, the public is encouraged to review the environmental analysis since the potential environmental impacts from implementing all, or parts, of the alternatives may be generated if chosen to become the proposed project.

ALTERNATIVES REJECTED AS INFEASIBLE

A CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and explain the reasons underlying the lead agency’s determination (CEQA Guidelines §15126(d)(2)). Some alternative concepts were identified in the past have been determined to be infeasible as the basis for a specific project alternative. These concepts and the rationale for rejecting them as infeasible are discussed in the following subsections.

Low Vapor Pressure (Low Volatility) Exemption

Under this alternative, VOC emission limits would be based on the volatility of affected coatings’ VOC compounds rather than the VOC content of the coating. Thus, under this alternative, VOC compounds with low vapor pressures may be exempted as a VOC from the overall VOC content of the coating. This alternative has been rejected as infeasible as described in the following paragraphs.

Currently several solvents are used in consumer products and architectural coatings that are considered low volatility compounds, meaning that they have a vapor pressure of less than 0.1 mm of Hg at 20 degrees Celsius. Although CARB has included a low vapor pressure (LVP) exemption in its Consumer Products regulation, CARB staff indicates that the LVP exemption was placed into the proposed regulation because of specific additives found in consumer products, such as surfactants, paraffin's, and other heavier compounds that are typically washed away before they evaporate into the air. Furthermore, CARB has indicated that the LVP exemption was not intended to apply to solvents used in AIM coatings, since these solvents are intended to evaporate into the air. CARB has not provided an LVP exemption in its aerosol coating rule.

U.S. EPA also did not include an LVP exemption in the National AIM Rule and U.S. EPA staff has communicated to the SCAQMD that U.S. EPA does not support an LVP exemption for the architectural coatings rule. U.S. EPA staff concludes that any VOCs (non-exempt solvent species) that are included in the approved test method are considered to be part of the overall VOC content of the coating, and should not be exempted. Using the currently approved test method, testing of coatings containing some of the LVP solvents includes identifying some LVP solvents as VOCs. As a result, because a LVP exemption is not appropriate for paints, a low vapor pressure alternative is considered to be infeasible and, therefore, has not been included as a project alternative in this Draft EA.

Performance-Based Standards

Rather than establish lower VOC content requirements for specified categories of coatings, this alternative would establish emission standards based on performance standards such as emissions per area covered or coating durability.

This alternative was rejected as infeasible because of the uncertainty on how to create a standard to cover the multitude of coating formulations with varying performance characteristics. For example, alkyd-based coating formulations for some applications currently have a life cycle of five to seven years, while urethane-based coating formulations for similar applications may have a life cycle of approximately 20 years. In this situation, the performance standard could be seven years, 20 years, or some time frame in-between these numbers. There was also uncertain regarding the appropriate standard for each type of coating technology. As a result, this alternative has been dropped from further consideration.

Reactivity-Based Alternative

This alternative would regulate coatings based upon the reactivity of the solvent used rather than establish VOC content requirements. As noted in "Areas of Controversy" in Chapter 1, a number of studies have been conducted in the field of atmospheric chemistry that conclude that many different types of VOCs are emitted into the atmosphere, each reacting at different rates. It has been suggested that VOC control

strategies taking reactivity into account can potentially achieve ozone reductions in a more cost-effective manner than strategies that reduce VOC mass emissions.

CARB has implemented a limited reactivity-based rule and the U.S. EPA has also issued a guidance to have states evaluate reactivity-based approaches. CARB is finalizing their new survey which will include revised speciation data and will evaluate the feasibility of reactivity-based approach as part of their next SCM. However, based on the 2001 survey, mass-based VOC control approach was deemed effective for most categories and shows a lower SWA-MIR value for low-VOC coatings. The SCAQMD will continue to work with CARB and U.S. EPA staff on a potential reactivity-based approach and until a consensus is reached, a reactivity-based alternative is not a feasible alternative at this time.

Seasonal Regulation

The low-VOC content limits proposed for various coatings in PAR 1113 would only be in effect during the “high ozone season” (i.e., typically the summer months). During the “low ozone season” (i.e., typically the winter months), coatings subject to the currently proposed amendments with higher VOC content limits could be used. This alternative might not be feasible for coatings used “on large-scale, long-term new construction and maintenance projects – where the work of many trades is coordinated through a critical path schedule and coatings used for low-volume touch-up and repair work.

Based on discussions with industry, staff has determined that this alternative is infeasible because it may be difficult for coatings distributors to manage architectural coating stocks to ensure that only compliant coatings are sold during the high ozone season. As a result, this alternative is rejected as infeasible due to this lack of enforceability.

DESCRIPTION OF ALTERNATIVES

The rationale for selecting and modifying specific components of the proposed amendments to generate feasible alternatives for analysis is based on CEQA’s requirement to present “realistic” alternatives; that is, alternatives that can actually be implemented. The following alternatives were developed by identifying and modifying major components of PAR 1113. Specifically, the primary components of the proposed alternatives that have been modified are the compliance dates and VOC content limits particularly in light of a proposal by the National Paint and Coating Association (NPCA) and the SCAQMD policy (SCAQMD’s policy document Environmental Justice Program Enhancements for FY 2002-03, Enhancement II-1) to require a Least Toxic Alternative. Further, the final VOC content limit requirements are driven by the VOC emission reductions identified in the 2003 AQMP, which are

necessary if the district is to attain and maintain the state and national ambient air quality standards for ozone.

Table 5-1 identifies the major components of PAR 1113 and each of the project alternatives. All other components of PAR 1113 not identified in the following subsections or in Table 5-1 would also be included in the proposed project alternatives.

Alternative A - No Project

This alternative assumes that the proposed amendments to Rule 1113 will not be adopted. Existing Rule 1113 compliance dates and VOC content limits would remain in effect with no modifications. As a result, VOC emissions from architectural coatings would be further reduced as last amended but no additional VOC emission reductions would occur.

Alternative B – NPCA Proposal

Alternative B would modify compliance dates and VOC content limits as proposed by the NPCA. Alternative B would not phase out the small container exemption but would eliminate compliance with the final lower VOC content limits for 12 coating categories currently required to comply with lower VOC content limits in the future. Further, compliance with a lower VOC content limit for the IM and rust preventative coating categories would be extended for one year. Also, flats would be divided in two subcategories of interior and exterior, and the lower VOC content limit for interior flats would be required to comply sooner. Finally, TBAC would not be considered a VOC if formulated in clear wood finishes as well as IM coatings.

Settlement Agreement

In December 1999, the SCAQMD entered into a Settlement Agreement with several environmental organizations based on a complaint filed in the U.S. District Court in which it was alleged that the SCAQMD and CARB had failed to adopt and implement 34 control measures from the 1994 State Implementation Plan (SIP). Of the 34 control measures identified by the environmental organizations, the SCAQMD is responsible for implementing 31. The Settlement Agreement identifies the SCAQMD's control measures, including those that have been fully or partially adopted (Exhibits 2 and 3). Control measure CTS-07 – Further Emission Reductions from Architectural Coatings, is one of the control measures listed in Exhibits 2 and 3.

In particular, the Settlement agreement states that with respect to control measures listed in Exhibit 2, which includes CTS-07, with an implementation date later than 2006, “the Governing Board is required at the time of adoption of such rule to make a written finding that it is infeasible to implement the measure in 2006 in order to adopt an ending implementation date in 2007...” The Settlement Agreement states

TABLE 5-1
PAR 1113 and Project Alternatives

Affected Coating Categories	Current VOC Limit (g/l)	PAR 1113		Alternative A – No Project Alternative (Current Rule)		Alternative B – NPCA Proposal (Eliminate 12 Lower VOC Limits) ²		Alternative C – No TBAC Delisting; Delay IM Limit	
		Future VOC Limit (g/l)	Effective Date	Future VOC Limit (g/l)	Effective Date	Proposed VOC Limit (g/l)	Effective Date	Future VOC Limit (g/l)	Effective Date
CWF-Small Containers ¹	Unlimited	--	--	275	07/01/06	Unlimited	Indefinite	--	--
Concrete Curing Compounds	350	100	07/01/07	--	--	--	--	100	07/01/07
Dry Fog Coatings	400	150	07/01/07	--	--	--	--	150	07/01/07
Flat, Interior (new)	100	--	--	50	07/01/08	50	07/01/07	--	--
Flat, Exterior (new)						100	Indefinite		
Floor, Exterior (new)	100	--	--	50	07/01/06	100	Indefinite	--	--
IM	250	--	--	100	07/01/06	100	07/01/07	100	07/01/07
Antigraffiti, General (new)	250	--	--	100	07/01/06	250	07/01/06	--	--
Antigraffiti, Permeable (new)						400	07/01/06		
Nonflat, Exterior (new)	150	--	--	50	07/01/06	150	Indefinite	--	--
Nonflat, High Gloss (new)		50	07/01/07			150	Indefinite	50	07/01/07
PSU, Exterior (new)	200	--	--	100	07/01/06	200	Indefinite	--	--
QDE, Interior (new)	250	150 / 50	07/01/06 / 07/01/07	50	07/01/06	150	Indefinite	150 / 50	07/01/06 / 07/01/07
QDE, Exterior (new)						250	Indefinite		
QDPSU, Exterior (new)	200	--	--	100	07/01/06	200	Indefinite	--	--
Rust Preventative	400	--	--	100	07/01/06	100	07/01/07	--	--
Specialty Primers	350	250 / 100	07/01/06 / 07/01/07	100	07/01/06	350	Indefinite	250 / 100	07/01/06 / 07/01/07
Stains, Exterior (new)	250	--	--	100	07/01/07	250		--	--
Traffic Coatings	150	100	07/01/07	--	--	--	--	100	07/01/07
WPCMS	400	--	--	100	07/01/06	400	Indefinite	--	--
WPS	250	--	--	100	07/01/06	250	Indefinite	--	--

1. Includes Lacquers, Sanding Sealers, and Varnish

2. Alternative B has not yet been determined to be a feasible alternative. Unless and until substantial evidence, based on the entire record, has been provided to demonstrate the current rule limits are technically infeasible, this alternative may not be considered.

further that the SCAQMD will not relax or delay implementation of emission limitations in the Rules set forth in Exhibit 3, which includes Rule 1113, as long as: (i) The Board makes a finding that it is infeasible to implement the measure by the date on Exhibit 3; (ii) the cumulative total of emissions reductions from rules on Exhibit 3 relaxed or delayed does not exceed three tons per day at any time, and (iii) the implementation date for an individual rule is not delayed by more than two years and no later than 2010.

The Settlement Agreement defines infeasible as follows, “Achievement of some or all of the required emissions reductions shall not be deemed infeasible unless the implementing technology is not reasonably likely to be available by the implementation date, or achievement of the emission reductions by that date is not cost-effective.” Further, “the Board’s finding of infeasibility... shall be supported by substantial evidence on the whole record...”

Based upon the above considerations, it is possible that Alternative B may not be a feasible alternative. The reason for this determination is that according to the 2005 Annual Status Report for Rule 1113, presented to the Governing Board in 2006, the only coating categories where it was concluded that the final compliance date could not be achieved by 2006 include: nonflat coatings, high gloss quick dry enamel coatings, and specialty primers. Until such time as the regulated industry provides evidence that the final compliance limits for the coatings identified in Alternative B cannot be achieved, they are considered feasible. Because such evidence may be submitted as part of the public record for the currently proposed amendments to Rule 1113, findings of infeasibility may yet occur. As a result, the SCAQMD will continue its standard practice of evaluating project alternatives recommended by the regulated industry.

Alternative C – No TBAC Delisting; Delay IM Limit

Alternative C would be similar to the proposed project except TBAC would not be delisted as a VOC and IM coatings would be given a one year extension to comply with a lower VOC content limit currently required to be lower to 100 g/l by July 1, 2006.

Least Toxic Alternative

In accordance with SCAQMD’s policy document Environmental Justice Program Enhancements for FY 2002-03, Enhancement II-1 recommends that all SCAQMD CEQA assessments include a feasible project alternative with the lowest air toxics emissions. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible, shall be considered from a “least harmful” perspective with regard to hazardous air emissions. With respect to the proposed project, a lowest air toxics alternative would be to use less TACs during solvent formulation to comply with the rule. The proposed project and Alternatives B would delist TBAC as

a VOC for IM coatings and, thus, potentially increase the use of a compound which is known to metabolize into TBA that has been demonstrated to promote both acute and cancer risk effects in laboratory animals. It should be noted that TBAC could currently be used in coating formulations but would be considered a VOC. However, by exempting TBAC as a VOC, the increased use could have potentially significant adverse public health impacts. The exemption is limited to usage in only IM coatings and the health risk assessment did conclude, using realistic “worst-case” scenarios, that the acute and cancer risk impacts are not significant. However, Alternative A (No Project) and Alternative C would not allow the delisting of TBAC as a VOC for IM coatings and, thus, would eliminate any potential acute and cancer risk effect resulting from increase usage of TBAC. Therefore, Alternative A (No Project) and Alternative C are equally considered the Lowest Toxic Alternative.

COMPARISON OF THE ALTERNATIVES

The Initial Study (see Appendix B) identified one environmental topic area, air quality, where the PAR 1113 could cause adverse environmental impacts. Further evaluation of the other 16 environmental topic areas identified in Chapter 4 of this Draft EA reveals that there are no significant impacts resulting from the implementation of PAR 1113.

Air Quality

The following subsections briefly describe potential adverse air quality impacts that may be generated by each project alternative. The environmental topic summary contains a brief description of the environmental impacts for each project alternative compared to impacts resulting from implementing the proposed amendments. Potential impacts for the air quality are quantified in Table 5-2 using the latest known emissions data as described in the footnotes. A comparison of the air quality impacts is summarized in Table 5-3 and the alternatives are ranked according to severity of potential adverse air quality impacts in Table 5-4.

Alternative A - No Project

This alternative assumes that the proposed amendments to Rule 1113 will not be adopted. Existing Rule 1113 would remain in effect with no modifications. As a result, the approximately 32,860 pounds per day (16.43 tons per day) of VOC emissions originally anticipated from previous amendments to Rule 1113 would be realized by the current compliance date of July 1, 2006. This alternative, however, would not achieve the additional 1,360 pounds per day of VOC emission reductions that would occur July 1, 2007 from PAR 1113.

Alternative B – NPCA Proposal

Alternative B would permanently forgo 9,360 pounds per day of VOC emission

reductions from eliminating the requirement for 12 coating categories to achieve a lower VOC content limit in the future as currently required in Rule 1113, Alternative A, and the proposed project. In addition, 7,440 pounds per day of VOC emission reductions will be delayed from allowing a one-year extension for IM and rust preventative coatings to comply with a currently required lower VOC content limit. Alternative B does, however, require interior flats to comply one year earlier than currently required, which will provide a benefit of 3,380 pounds per day. Thus, Alternative B would result in an overall delay of 4,060 pounds per day of VOC emission reductions for one year until July 1, 2007 when IM and rust preventative coatings are expected to comply with the lower VOC content limit as currently required by Rule 1113, Alternative A and the proposed project. Unlike the proposed project and Alternative C, concrete-curing compounds, dry fog and traffic coatings will not be required to comply with new lower VOC content limits so no new emission reduction benefits will be achieved in the future. Alternative B would go beyond the proposed project and extend the delisting of TBAC as a VOC in both IM coatings and clear wood finishes. While the potential acute and cancer risk from use of TBAC in clear wood finishes would not expect to be significant due to the anticipated low usage of the finishes, additional potential risk would be introduced that would not be experienced under Alternative A and C.

Alternative C – No TBAC Delisting; Delay IM Limit

Alternative C would achieve the same air quality benefit as the proposed project of 1,360 pounds per day from requiring new lower VOC content limits from concrete-curing compounds, dry fog and traffic coatings. Also similar to the proposed project, Alternative C would allow a one-year extension to comply with the currently required lower VOC content limit for high gloss nonflats, quick dry enamels and specialty primers resulting in delayed VOC emission reductions of 1,560 pounds per day. However, unlike the proposed project, Alternative C would not delist TBAC as a VOC, but would provide a one-year extension for IM coatings to comply with the lower VOC content limit of 100 g/l as allowed in Alternative B. The result is an additional delay in VOC emission reductions of 4,880 pounds per day generating an overall delay in VOC emission reductions of 6,440 pounds per day. Removing the exemption of TBAC as a VOC may provide a potential public health benefit due to the uncertain nature of toxicity of TBAC and the potential usage in the future.

TABLE 5-2
Comparison VOC Emission Reductions From PAR 1113 and Project Alternatives (pounds per day)

Affected Coating Categories	Current VOC Limit (g/l)	PAR 1113		Alternative A (No Project) ²	Alternative B – NPCA Proposal (Eliminate 12 Lower VOC Limits) ³			Alternative C – No TBAC Delisting; Delay IM Limit	
		Future VOC Limit (g/l)	Delay in (Additional) Emission Reductions ⁴ (lbs/day)	Future VOC Limit (g/l)	Proposed VOC Limit (g/l)	Permanently Forgone Emission Reductions ⁴ (lbs/day)	Delay in (Additional) Emission Reductions ⁴ (lbs/day)	Future VOC Limit (g/l)	Delay in (Additional) Emission Reductions ⁴ (lbs/day)
CWF-Small Containers ¹	Unlimited	--	--	275	Unlimited	1820	--	--	--
Concrete Curing Compounds	350	100	(80)	--	--	--	--	100	(80)
Dry Fog Coatings	400	150	(700)	--	--	--	--	150	(700)
Flat, Interior (new)	100	--	--	50	50	--	(3380)	--	--
Flat, Exterior (new)		--	--		100	1860	--		
Floor, Exterior (new)	100	--	--	50	100	40	--	--	--
IM	250	--	--	100	100	--	4880	100	4880
Antigraffiti, General (new)	250	--	--	100	250	<i>not quantified</i>	--	--	--
Antigraffiti, Permeable (new)		--	--		400	<i>not quantified</i>	--		
Nonflat, Exterior (new)	150	--	--	50	150	1280	--	--	--
Nonflat, High Gloss (new)		50	960		150	920	--		
PSU, Exterior (new)	200	--	--	100	200	560	--	--	--
QDE, Interior (new)	250	150 / 50	400	50	150	380	--	150 / 50	400
QDE, Exterior (new)					250	60	--		
QDPSU, Exterior (new)	200	--	--	100	200	20	--	--	--
Rust Preventative	400	--	--	100	100	--	2560	--	--
Specialty Primers	350	250 / 100	200	100	350	280	--	250 / 100	200
Stains, Exterior (new)	250	--	--	100	250	1140	--	--	--
Traffic Coatings	150	100	(580)	--	--	--	--	100	(580)
WPCMS	400	--	--	100	400	500	--	--	--
WPS	250	--	--	100	250	520	--	--	--
		1,560 (1,360)					9,380	4,060	6,400 (1,360)

1- Includes Lacquers, Sanding Sealers, and Varnish

2- No additional emission reductions achieved and no emission reductions foregone or delayed.

3- Alt B has not yet been determined to be a feasible alternative. Unless and until substantial evidence, based on the entire record, has been provided to demonstrate the current rule limits are technically infeasible, this alternative may not be considered.

4- Emission data for NPCA proposals based on CARB 2001 Architectural Coating Survey (Rust Preventative and Special Primers based on 2003 annual reports) and AQMD making up 45% of CA population.

TABLE 5-3

Comparison of Adverse Environmental Impact to PAR 1113 and Alternatives

Environmental Topic	Proposed Project	Alternative A (No Project)	Alternative B (NPCA Proposal – Eliminate 12 Lower VOC Limits)	Alternative C (Proposed Project with No TBAC Delisting; Delay IM Ctg Limit)
Air Quality – Criteria Pollutants (VOCs)	Significant (temporary delay of VOC emission reductions); additional VOC emission reductions in future from new lower VOC content limits	Not significant (VOC emission reductions achieved on schedule)	More significant than PAR 1113 (permanent forgone VOC emission reductions)	Slightly more significant than PAR 1113 (temporary delay of VOC emission reductions); additional VOC emission reductions
Non-Criteria Pollutants (TACs)	Not Significant (increase use of TBAC in IM ctgs)	Not Significant (no delisting of TBAC as VOC)	Not Significant (increase use of TBAC in IM ctgs and clear wood finishes)	Not Significant (no delisting of TBAC as VOC)

TABLE 5-4

Ranking of Alternatives

Proposed Project and Alternatives	Air Quality Impacts		
	Criteria Pollutants	Non-Criteria Pollutants	Cumulative
PAR 1113	x (2)	✓(3)	✓
Alternative A	✓(1)	✓(1)	✓
Alternative B	x (4)	✓(4)	x
Alternative C	x (3)	✓(1)	✓

Notes: The ranking scale is such that 1 represents the least impacts and subsequent higher number represent increasingly worse or more substantial adverse impacts. The same two numbers in brackets means that these proposals would have the same impacts if implemented.

An **x** denotes either a project-specific or cumulative significant adverse impact.

A **✓** denotes no project-specific or no cumulative significant adverse impact.

Comparison of Alternatives to PAR 1113

Pursuant to CEQA Guidelines §15126.6 (d), a matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. Table 5-1 describes the alternatives considered by the SCAQMD and how they compare to PAR 1113. Tables 5-2 and 5-3 list the

alternatives considered by the SCAQMD and how they compare to PAR 1113 relative to generating adverse air quality impacts. Table 5-4 presents a matrix that lists the significant adverse air quality impacts as well as the cumulative impacts associated with the proposed project and the project alternatives for all environmental topics analyzed. The table also ranks each impact section as to whether the proposed project or a project alternative would result in greater or lesser impacts relative to one another.

Environmentally Superior Alternative

Pursuant to CEQA Guidelines §15126.6 (e)(2), if the environmentally superior alternative is the “no project” alternative, the CEQA document shall also identify an environmentally superior alternative among the other alternatives. Although the No Project Alternative does not achieve additional VOC emission reductions, it will not result in any VOC emissions foregone. For this reason, it is considered to be the environmentally superior alternative.

Alternative B is not the environmentally superior alternative as it would allow a considerable amount of permanent foregone emission reductions, which could hinder progress in achieving the state and national ambient air quality standards for ozone, PM10 and PM2.5. Consequently, VOC emissions would have to be reduced from other sources to achieve the goals of the 2003 AQMP. Alternative C and the proposed project are similar but Alternative C allows more delayed emission reductions than the proposed project but does eliminate the potential adverse public health impact from the exemption of TBAC as a VOC.

While the No Project Alternative (Alternative A) would not result in any VOC emission reductions foregone, Alternative A does not achieve the goals of PAR 1113 to allow manufacturers more time to formulate and test successful coatings as well as obtain more emission reductions from lowering the VOC content limits for three coating categories. Under Alternative A, affected facilities could potentially continue to operate using non-compliant cleaning solvents by filing for variances and, if granted, would not reduce the VOC emissions as set forth in the 2003 AQMP. Therefore, since PAR 1113 only delays anticipated VOC reductions for one year and provides further emission reductions than is currently required in Rule 1113, the proposed project is the environmentally superior alternative.

APPENDIX A

PROPOSED AMENDED RULE 1113

In order to save space and avoid repetition, please refer to the latest version of the proposed amended Rule 1113 located elsewhere in the final rule package. The “PAR 1113 May 6, 2006” version of the proposed amended rule was circulated with the Draft EA that was released on April 5, 2006 for a 45-day public review and comment period ending May 19, 2006.

Original hard copies of the Draft EA, which include the “PAR 1113 May 6, 2006” version of the proposed amended rule, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

NOTICE OF PREPARATION AND INITIAL STUDY FOR PROPOSED AMENDED RULE 1113