SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment:

Proposed Amended Rule 1113 – Architectural Coatings

May 2011

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) 1113 – Architectural Coatings. The Draft EA was released for a 30-day public review and comment period from April 12, 2011 to May 22, 2011. Two comment letters were received on the Draft EA.

Subsequent to the circulation of the Draft EA for public review, the VOC content limit for mastic coatings in PAR 1113 was reduced from the existing limit of 300 grams per liter to 100 grams per liter on January 1, 2014. The proposed VOC content limit of 100 grams per liter for mastic coatings is consistent with the mastic coating VOC content limit in the 2007 CARB SCM for architectural coatings. Six air districts (Bay Area AQMD, San Joaquin Valley APCD, Ventura County APCD, Imperial County APCD, Eastern Kern APCD, and Placer County APCD have already adopted the 2007 CARB SCM; therefore, pursuant to Health and Safety Code Section 40440(b)(1), SCAQMD is required to adopt the 2007 CARB SCM VOC content limit for mastic coatings of 100 gram per liter. Reducing the VOC content limit for mastic coatings is consistent with the proposed project objective to further reduce the VOC content limit of existing categories. Reducing the VOC content limit for mastic coatings was analyzed in this Final EA, and was determined not to alter the conclusions presented in the Draft EA.

Currently, the VOC limits for the categories waterproofing concrete/masonry sealers; waterproofing sealers; and primers, sealers undercoaters are all at 100 grams per liter. After the circulation of the Draft EA for public review, SCAQMD staff proposed to change the definition of waterproofing concrete/masonry sealers by changing the conjunction 'and' to 'or' to better reflects current usage of this coating category. Waterproofing concrete/masonry sealers coatings that would not fit the current narrow definition would have been regulated as under the waterproofing sealer category or as a sealer under the primers, sealers undercoaters category, both of which have the same VOC content limits as waterproofing concrete/masonry sealers category. As a result, this proposed change would better describe the waterproofing concrete/masonry sealers coating category, but not affect the VOC content limit the expanded definition would be subject to. Since the VOC content limit would not change, no reformulation is expected, and therefore, environmental impacts are not expected. Thus, the change in conjunctions from 'and' to 'or' would not alter the conclusions presented in the Draft EA.

A sentence that stated that exempt compounds may be used to reformulate affected architectural coatings was removed, since no PAR 1113 compliant coatings with exempt compounds were identified in a review of MSDSs for existing PAR 1113 compliant coatings. The Draft EA assumed that PAR 1113 non-compliant coatings would be reformulated to be similar to existing PAR 1113 compliant coatings. Therefore, PAR 1113 is not expected to increase the use of exempt solvents. Corrections were made to the flammability column in Table 2-11. Since the flammability analysis in the Draft EA is based on the NFPA Flammability Rating not the Consumer Products Safety Commission (CPSC) ratings, the changes will not affect the conclusion of the flammability analysis in the Final EA.

To ease in identification, modifications to the document are included as <u>underlined text</u> and text removed from the document is indicated by ~~strikethrough~~. CEQA Guidelines §15088.5(b) states that recirculation is not required were new information added to the EA mainly clarifies or

amplifies or makes insignificant modifications in an adequate EIR. None of the modifications alter any conclusions reached in the Draft EA (i.e., would not result in a significant impact, not require mitigation to be implemented), nor provide new information of substantial importance relative to the draft document. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5. This document constitutes the Final EA PAR 1143 – Architectural Coatings.

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INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] 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 (collectively known as the "district"). By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating progress towards attainment of all federal and state ambient air quality standards for the district[2]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[3]. The 2007 AQMP concluded that major reductions in emissions of particulate matter (PM), oxides of nitrogen (NOx) and volatile organic compounds (VOC) are necessary to attain the state and national ambient air quality standards for ozone, particulate matter with an aerodynamic diameter of 10 microns or less (PM10) and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5). Ozone, a criteria pollutant, is formed when VOCs react in the presence of light with NOx in the atmosphere and has been shown to adversely affect human health. VOC emissions also contribute to the formation of PM10 and PM2.5. The federal one-hour and eight-hour ozone standards were exceeded in all four counties and in the Salton Sea Air Basin in 2009. The Central San Bernardino Mountain area recorded the greatest number of exceedences of the one-hour state standard (70 days), eight-hour state standard (107 days), and eight-hour federal standard (70 days). East San Gabriel Valley had the most health advisory days (three days at East San Gabriel Valley Station Number 2). Altogether, in 2009, the South Coast Air Basin exceeded the federal eight-hour ozone standard on 113 days, the state one-hour ozone standard on 102 days, and the state eight-hour ozone standard on 133 days.

The 2007 AQMP, specifically Control Measure CM#2007 MCS-07 – Application of All Feasible Measures, explicitly lists coating and solvent rules to achieve additional VOC reductions. The California Clean Air Act (CCAA) requires districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures Health and Safety (H&S) Code (H&S §§40913, 40914, and 40920.5). The term "feasible" is defined in the 14 California Code of Regulations, section 15364, as a measure "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." PAR1113 will partially implement CM#2007 MCS-07. The VOC emission reduction of 4.4 ~~4.2~~ tons per day expected from PAR 1113 would assist in achieving the 116 tons per day of VOC emission reductions needed for attainment of the National Ambient Air Quality Standard for ozone by 2023.

Rule 1113 - Architectural Coatings, was originally adopted by the SCAQMD on September 2, 1977, to regulate the VOC emissions from the application of architectural coatings and has since undergone numerous amendments. Rule 314 – Fees for Architectural Coatings, was adopted on June 6, 2008, requiring manufacturers to pay fees as well as report sales and emissions of architectural coatings in the district. Based on the 2008 and 2009 sales data collected from Rule 314, documents from CARB, numerous site visits by SCAQMD staff, technical research, and

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).
[2] Health & Safety Code, §40460 (a).
[3] Health & Safety Code, §40440 (a).

working group meetings, staff is proposing to amend Rule 1113 to accomplish, at a minimum, the following:

- Remove outdated language;
- Clarify existing definitions and requirements;
- New coating categories and associated VOC content limits;
- Reduce the VOC content limits of some architectural coating categories;
- Limit the VOC content of previously unregulated colorants used to tint regulated coatings at the point of sale;
- Limit categories eligible for the Averaging Compliance Option (ACO) and phase the ACO out by the year 2015; and
- Clarify that the Small Container Exemption (SCE) is limited to VOC content limits and add an anti-bundling provision.

Staff has held four working group meetings with stakeholders over the past six months, as well as met with individual architectural coating manufacturers and the American Coatings Association (ACA), previously the National Paints and Coatings Association. In addition a public workshop and a public consultation meeting were held for PAR 1113. Based on the ACA's request, staff conducted extensive surveys on the use of colorant. The current proposal (see Appendix A of the Final Staff Report[4]) incorporates and addresses numerous comments and concerns expressed by the stakeholders.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Proposed amended Rule (PAR) 1113 is a discretionary action by a public agency, which has potential for resulting in direct or indirect changes to the environment and, therefore, is considered a "project" as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this ~~draft~~ final environmental assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program and SCAQMD Rule 110. 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 or negative declaration once the Secretary of the Resources Agency has certified the regulatory program. 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 and Rule 110 require that 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. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this ~~draft~~ final EA to address the potential adverse environmental impacts associated with the proposed project. The ~~draft~~ final EA is a public disclosure document 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.

[4] SCAQMD, Final Staff Proposed Amended Rule 113 – Architectural Coatings, May 2011

SCAQMD's review of the proposed project shows that the proposed project would not have a significant adverse effect on the environment. Therefore, pursuant to CEQA Guidelines §15252, no alternatives or mitigation measures are required to be included in this ~~draft~~ final EA. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

~~Comments received on the Draft EA during the public comment period and responses to comments will be prepared and included in the Final EA for the proposed project.~~ Two comment letters were received on the Draft EA. The comment letters and response to comments are included as Appendix C in this Final EA.

PROJECT LOCATION

PAR 1113 would affect architectural coating manufacturing, retail, and use throughout the SCAQMD's jurisdiction. The SCAQMD has jurisdiction over an area of 10,473 square miles, 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) referred to hereafter as the district. The Basin, which is a subarea of the district, 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 non-desert 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 non-attainment 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 1-1).

PROJECT OBJECTIVE

The objectives of PAR 1113 are to:

- Establish new coating categories;
- Further reduce the VOC content of existing categories;
- Regulate the VOC content of currently unregulated colorants used to tint coatings at the point of sale;
- Limit the use of the averaging compliance option and phase out the averaging compliance option;
- Clarify the small container exemption;
- Remove outdated rule language, including exemptions that have expired or requirements that have surpassed their effective date.

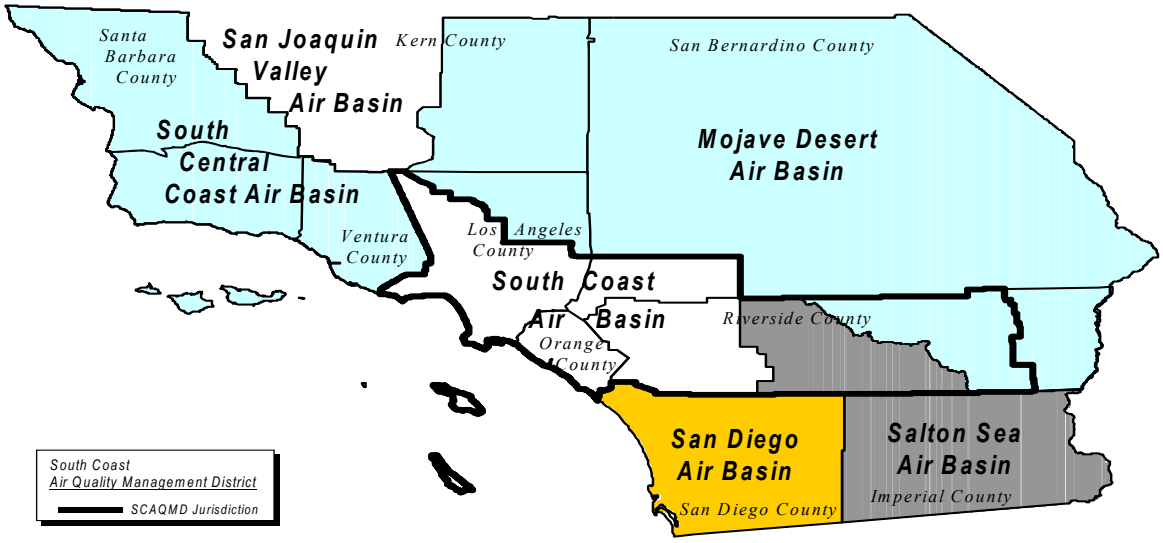

Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT BACKGROUND

Architectural coatings comprise one of the largest non-mobile sources of VOC emissions in the district. Rule 1113 was first adopted in 1977, and has undergone numerous amendments, most recently on July 15, 2007, to address the metallic pigmented coatings category. Rule 1113 is applicable to manufacturers, distributors, and end-users of architectural coatings. These coatings are used to enhance the appearance of and protect stationary structure and their appurtenances, including homes, office buildings, factories, pavements, curbs, roadways, racetracks, bridges, other structures and their appurtenances on a variety of substrates. Architectural coatings are typically applied using brushes, rollers by homeowners, painting contractors, and maintenance personnel.

The 2007 AQMP estimated that the 2010 Annual Average Emissions for architectural coatings would be 23 tons per day, with a Summer Planning Inventory of 27 tons per day. That estimate is based on California Air Resources Board (CARB) 2001 survey of coatings sold in California in calendar year 2000, which assumes that 45 percent of those coatings were sold in the district. The survey was updated in 2005 with 2004 sales data, which do not reflect the recent economic downturn.

According to more recent Rule 314 fee data for products shipped in 2008 and 2009, the emissions in the district that can be attributed to architectural coatings were 15 tons per day and 12 tons per day, respectively. This data does not include VOC emissions from colorants added at the point of sale. Rule 314 data relies upon coatings sales volumes, which may be heavily

affected by the recent decline in economic activity, especially the local real estate market, which is the biggest driver for coating usage. Table 1-1 summarizes sales and emissions collected for Rule 314 for 2008 and 2009, as well as the 2005 CARB survey of coatings sold in the 2004 calendar year.

Table 1-1 demonstrates that while the recession has impacted the volume of coatings sold, there has been a sharper decrease in emissions relative to sales volumes. In addition to VOC emission reductions associated with lower VOC content limits under Rule 1113, this can partially be attributed to the Rule 314 fee structure which charges a higher fee for higher-VOC coatings. It may also be the result of increased consumer demand for low-VOC products. By lowering the VOC content of coatings, manufacturers can reduce the amount of fees paid under Rule 314. It is also the result of increased consumer demand for low VOC products, primarily waterborne products because of they are easier to clean (water is used for cleaning) than solventborne products, which require solvent for cleaning. The 2005 CARB survey, using 2004 sales data with an adjustment for volumes and emissions representing the South Coast only, indicates the higher volume sales in 2004 and reflects pre-recession volumes.

Table 1- 1
Total Sales and VOC Emissions by Type

Total Annual Sales Volume, gallons per year					
Year	**Total**	**Solvent Based**	**Waterborne**	**Solvent Based**	**Waterborne**
2004[a]	44,304,827	7,607,795	36,697,032	17.2%	82.8%
2008[b]	39,006,780	2,815,527	36,191,253	7.2%	92.8%
2009[b]	34,117,105	2,025,777	32,091,328	5.9%	94.1%
Total Emissions, tons per day					
Year	**Total**	**Solvent Based**	**Waterborne**	**Solvent Based**	**Waterborne**
2004[a]	49.4	28.9	20.5	58.5%	41.5%
2008[b]	15.05	6.51	8.54	43.3%	56.7%
2009[b]	11.64	4.77	6.87	41.0%	59.0%

a) SCAQMD Rule 314 coatings shipped data.
b) CARB 2005 survey based on year 2004 sales data.

PROJECT DESCRIPTION

The following summarizes the proposed amendments to Rule 1113. A copy of PAR 1113 is included in Appendix A.

Applicability (Subdivisions (a))

Applicability would be extended to any person who "markets" any architectural coating. The "for use" phrase would be removed. "Fields or lawn" have been added, as well as, any person who "stores at a worksite."

Definitions (Subdivision (b))

Definitions for architectural coatings; fire proofing coatings; floor coatings; metallic pigmented coating; product line; quick-dry enamels; quick-dry primers, sealers and undercoaters; sanding sealers; swimming pool coatings; varnishes; ~~and~~ volatile organic compound; and waterproofing concrete/masonry sealers have been modified. The fireproofing exterior coatings definition would be renamed fireproofing coatings and the word "outdoor" would be removed from the definition.

The subcategories would be added to the faux finishing coatings paragraph (glazes, decorative coatings, trowel applied coatings and clear topcoats) and the japans category would become a subcategory under faux finishing coatings.

Definitions for clear brush lacquers, fire retardant coatings, and nonflat high gloss coatings have been removed.

Definitions for concrete surface retarders, driveway sealers, form release compounds, gonioapparent, manufacturer, market, non-sacrificial anti-graffiti coatings, pearlescent, pigmented, reactive penetrating sealers, restoration architect, retail outlet, sacrificial anti-graffiti coatings, stationary structures, stone consolidants, and worksite would be added.

Requirements (Subdivision (c))

- PAR 1113 would include a requirement, except where provided elsewhere in PAR 1113, that would prohibit a person from the supplying; selling; offering for sale; marketing; manufacturing; blending; repackaging; applying; storing at a worksite; or soliciting the application of any architectural coating within the district:
  - That is listed in the Table of Standards 1 (Table 1-2 of this EA and contains VOCs (excluding any colorant added to tint bases) in excess of the corresponding VOC content limit specified in the table, after the effective date specified;
  - That is not listed the Table of Standards 1 and contains VOC (excluding any colorant added to tint bases) in excess of 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, until January 1, 2014, at which time the limit drops to 50 grams of VOC per liter of coating (0.42 pounds per gallon), less water, less exempt compounds.
- Prohibit any person from adding colorant at the point of sale, within the district, that is listed in Table of Standards 2 (Table 1-3 of this EA) if the colorant contains VOC in excess of the corresponding VOC content limit specified in Table of Standards 2, after the effective date specified;

In the above requirements, the terms "apply, store at worksite or solicit the application of" were added to replace "for use within the District" from the existing Rule 1113. This wording refers to both the existing Rule 1113 (c)(1) and (c)(2) requirements relating to the Table of Standards and architectural coatings that exceed 250 grams of VOC per liter of coating. Table of Standards 2 for colorants would be new and is not in the existing Rule 1113.

- The existing Table of Standards in Rule 1113 would be renamed Table of Standards 1 (Table 1-2 in this EA). Ceiling and current limits would be updated. Ceiling VOC content limits for coatings that are not allowed to be included in the PAR 1113 averaging compliance option would be removed from the Table of Standards 1. Ceiling VOC content limits for coatings that would remain in the averaging compliance option would be lowered to or remain the same as the VOC content limit that was effective January 1, 2003. Concrete surface retarder, driveway sealer, form release compound, non-sacrificial anti-graffiti coatings, reactive penetrating sealers, sacrificial anti-graffiti coatings, and stone consolidants categories would be added. Clear brush lacquer; fire retardant coatings and related sub-categories; nonflat high gloss; pigmented lacquer; quick dry enamels; quick dry primers, sealers and undercoaters, below ground wood preservatives and other wood preservatives categories would be removed. Fire-proofing exterior coatings would become fire-proofing coatings. Faux finishing coatings would become its own category with sub-categories of clear topcoats, decorative coatings, glazes, japans, and trowel applied coatings. The new categories and effective dates from Table of Standards 1 are presented in Table 1-2.

Sell Through Provision

- Outdated wording related to shellacs would be removed. The outdated small container sell through provision report would be removed.

Averaging Compliance Option

- Outdated wording related to January 1, 2001 and July 1, 2006 averaging requirements would be removed.
- A sunset date of January 1, 2015 would be added to the averaging compliance option.
- Until December 31, 2011, PAR 1113 would allow the following coatings to be averaged: bituminous roof primers; floor coatings; industrial maintenance coatings; interior stains; metallic pigmented coatings; primers, sealers, and undercoaters; roof coatings; rust preventative coatings; sanding sealers; specialty primers; stains; waterproofing concrete/masonry sealers; waterproofing sealers; varnishes; zinc-rich industrial maintenance primers; flats and nonflats (excluding recycled coatings).
- Effective January 1, 2012, only the following coatings may be averaged: floor coatings; industrial maintenance coatings; interior stains; metallic pigmented coatings; rust preventative coatings; sanding sealers; stains; varnishes; as well as flats and nonflats (excluding recycled coatings).

Table 1-2
Summary of Affected Categories and Effective Dates for Table of Standards 1 in PAR 1113
(grams of VOC per liter of colorant less water and less exempt compounds)

Coating Category	Ceiling VOC Content Limit[1]	Current VOC Content Limit	Effective Date 07/01/11	Effective Date 01/01/14
Concrete Surface Retarder[2]		250		50
Driveway Sealer[2]		100	50	
Dry-Fog Coatings		150		50
Faux Finishing Coatings				
Clear topcoat[2]		350	200	100
Decorative Coatings[2]		350		
Glazes[2]		350		
Japan		350		
Trowel Applied Coatings[2]		350	150	50
Fire-Proofing Coatings		350		150
Form Release Compound[2]		250		100
Graphic Arts (Sign) Coatings		500		150
Industrial Maintenance Coatings				
Non-Sacrificial Anti-Graffiti Coatings[2]		100		
Mastic Coatings	300	300		100
Metallic Pigmented Coatings	500	500		150
Reactive Penetrating Sealer[2,3]		350		
Stone Consolidant[2,3]		450		
Sacrificial Anti-Graffiti Coatings		100	50	

1. The specified ceiling limits are applicable to products sold under the Averaging Compliance Option.
2. These categories/subcategories are new in PAR 1113
3. Reactive penetrating sealers and stone consolidants are considered waterproofing concrete/masonry sealers under the existing Rule 1113. This category has a VOC content limit of 100 grams per liter in the existing Rule 1113.

Table 1-3
Table of Standards 2 from PAR 1113
VOC Limits for Colorants
(grams of VOC per liter of colorant less water and less exempt compounds)

Colorant	VOC Content Limit Effective January 1, 2014
Architectural Coatings, excluding Industrial Maintenance	50
Solvent Based Industrial Maintenance	600
Waterborne Industrial Maintenance	50

- The provision for the application or solicitation of the application within the District of any industrial maintenance coatings, except non-sacrificial anti-graffiti coatings, for residential

use or for use in areas such as office space and meeting rooms of industrial, commercial or institutional facilities not exposed to such extreme environmental conditions described in the definition of industrial maintenance coatings would be moved from the subsection (c)(2) to (c)(7). The text "or of any rust preventative coatings for industrial use, unless such a rust preventative coating complies with the Industrial Maintenance Coating VOC limit specified in the Table of Standards" would be removed. This provision is no longer necessary as Industrial Maintenance and rust prevention coatings now have the same VOC content limit.

General Prohibition

- A general prohibition, effective January 1, 2012, would be included that states that no person shall supply, sell, market, offer for sale, manufacture, blend, or repackage any architectural coating in the District subject to the provisions of this rule with any materials that contain in excess of 0.1 percent by weight any Group II exempt compounds listed in Rule 102. Cyclic, branched, or linear, completely volatile methylated siloxanes (VMS) would not be subject to this prohibition. A sell-through provision for products manufactured prior to the effective date until January 1, 2013, would be included.

Administrative Requirements (Subdivision (d))

- Effective January 1, 2014, the VOC content would be required to be displayed on the coating container such that the required language is noticeable and in clear and legible English; separated from other text; and conspicuous, as compared with other words, statements, designs, or devices in the label.
- Quick dry primer, sealer, undercoaters; and quick dry enamels labeling requirements would be removed.
- Past effective compliance dates would be removed.
- The requirement for an annual report on recycled coatings, shellacs and specialty primers would be removed.
- Effective January 1, 2012, the labels of all Clear Topcoat for Faux Finishing coatings would be required to prominently display the statement "This product can only be sold as part of a Faux Finishing coatings system."

Test Methods (Subdivision (e))

- VOC content test methods would be for colorants as well as coatings.
- Requirements for the flame spread index would be removed.
- Gonioapparent characteristics of coatings would be required to be determined by ASTM E 284 (Standard Terminology of Appearance).
- Water repellency for Reactive Penetrating Sealers would be required to be determined by:
  - ASTM C67 (Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile);
  - ASTM C97/97M (Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone);or
  - ASTM C140 (Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units).
- Water Vapor Transmission for Reactive Penetrating Sealers would need to be determined by ASTM E96/96M (Standard Test Methods for Water Vapor Transmission of Materials).

Selection and Use of Stone Consolidants would need to be determined by ASTM E2176 (Standard Guide for Selection and Use of Stone Consolidants).

- Chloride Screening for Reactive Penetrating Sealer shall be determined using the National Cooperative Highway Research Report 244 (1981), "Concrete Sealers for the Protection of Bridge Structures".

Technology Assessment

The technology assessment requirements for flat coatings would be removed, since the effective dates for the requirement have passed.

Exemptions (Subdivision (f))

Small Container Exemption

- The size of the architectural coating containers in small container exemption would be changed from one quart to one liter.
- A sunset date of December 31, 2013 for provisions other than the emission standards has been added to the small container exemption from the provisions of Rule 1113. Until December 31, 2013, the provisions of PAR 1113 would not apply to any architectural coatings in containers having capacities of one liter (1.057 quart) or less, excluding clear wood finishes, varnishes, sanding sealers, lacquers, and pigmented lacquers provided the provisions of the small container exemptions are met.
- Effective January 1, 2014, the specific provisions of the Table of Standards and the VOC content limit of 50 grams per liter, less water, less exempt compounds for architectural coatings that are not listed in Table of Standards 1 (excluding any colorant added to tint bases) would not apply to any architectural coatings in containers having capacities of one liter (1.057 quart) or less, excluding clear wood finishes, varnishes, sanding sealers, lacquers, and pigmented lacquers provided the subsections of the small contain exemptions are met.
- Requirements related to small container exemption reports would be removed. The small container exemption would require instead that the manufacturer reports sales in the Rule 314 Annual Quantity and Emissions Report.
- The date July 1, 2006, has been removed from the provision that clear wood finishes, including varnishes and sanding sealers; and lacquers, including pigmented lacquers in containers having capacities of one quart or less shall no longer be exempt, since this date has passed. The wording "clear wood finishes, including varnishes and sanding sealers; and lacquers, including pigmented lacquers" has been simplified to "clear wood finishes, varnishes, sanding sealers, lacquers and pigmented lacquers." Clear wood finishes, varnishes, sanding sealers, lacquers and pigmented lacquers would remain excluded from the small container exemption.
- The coating containers would be prohibited from being bundled or sold together as a unit that exceeds one liter, excluding containers packed together for shipping to a retail outlet. The label or any other product literature would be prohibited from suggesting combining multiple containers so that the combination exceeds one liter. These anti-bundling provisions would become effective July 1, 2011 with sell-through provision for products manufactured prior to the effective date until January 1, 2012.
- ~~The words "supplied, offered for sale, marketed, manufactured, blended, repackaged or stored" have been added to the exemption to Rule 1113 for architectural coatings sold in this~~

~~District for shipment outside of this District or for shipment to other manufactures for repackaging.~~

Modifications to other Exemptions

- The verbs "supplied, offered for sale, marketed, manufactured, blended, repackaged or stored" were added in addition to the existing verb "sold" in the exemption for coatings shipped outside of the district.
- An allowance of "sale in such areas" would be added to the exemption from the rule for the "use" of stains and lacquers in all areas within the District at an elevation of 4,000 feet or greater above sea level.

Exemptions Removed by PAR 1113

- The exemption to prevent blushing of lacquer finishes would be removed.
- Outdated exemptions for lacquers and flat coatings would be removed.
- Outdated exemptions for nonflats, primers, sealers, undercoaters, quick dry enamels, waterproofing concrete/masonry sealers and rust preventative coatings would be removed.
- The outdated exemption for roof coatings with a VOC content of 100 grams per liter or less that are certified under the U.S. EPA Energy Star Program would be removed.

Appendix A

Averaging Compliance Option (ACO) Provision (Subdivision (A))
The ACO would be phased out by January 1, 2015. Appendix A would only be applicable until the ACO~~L~~ is phased out.

"Maximum VOC content in effect, immediately prior to July 1, 2001" would be replaced by "ceiling limit in the Table of Standards." "Manufacturers that submitted the required 2005 annual report for clear wood finish containers of one quart or less, may include in an ACO Program varnishes and sanding sealers so long as these coatings sold in such containers do not exceed the applicable National Standard of 450 grams of VOC per liter of coating less water and less exempt compounds, in lieu of the otherwise applicable VOC limit of 350 grams per liter" would be removed.

ACO Program (Subdivision (B))
No changes are proposed.

General Requirements (Subdivision (C))
Minor changes in grammar would be made (capitalization).

Reporting Requirements (Subdivision (D))
No changes are proposed.

Renewal of an ACO Program (Subdivision (E))
No changes are proposed.

Modification of a ACO Program (Subdivision (F))
No changes are proposed.

Termination of an ACO Program (Subdivision (G))
No changes are proposed.

Change in VOC Limits (Subdivision (H))
No changes are proposed.

Labeling (Subdivision (I))
No changes are proposed.

Labeling (Subdivision (J))
The phrase "each gallon of" would be added before "each coating product line."

Sell-Through Provision (Subdivision (K))
No changes are proposed.

EMISSIONS INVENTORY

SCAQMD staff developed the existing emissions inventory from 2005 CARB survey of coatings sold in 2004, Rule 314 data for products sold in 2009, and the 2009 Final ACO Reports. SCAQMD staff has data on coatings that were sold in the district as a result of Rule 314 reporting, which was started in 2008. SCAQMD staff noted the significant decline in sales that the architectural coatings industry experienced during 2009. Architectural coating sales are beginning to recover, and while they may not soon reach the peak realized during the housing boom, the 2009 sales volumes do not portray an accurate account of the emissions that would result from the application of architectural coatings in the future. For this reason, SCAQMD staff relied on the 2005 CARB architectural coating survey of coatings sold in California in 2004, using the assumption that 45 percent of those coatings were sold in the district. The 2004 architectural coating sales do not represent the height of the housing/coating boom; however, it is the closest sales data available to the height of the housing boom. The 2004 sales are also considered a more accurate estimate of the level where coating sales may eventually reach. While SCAQMD staff is confident that the coating sales volume should rebound to at least 2004 levels, the same assumption does not apply to VOC emissions. VOC emissions are being reduced though air quality regulation and because of consumer demand. For this reason, the data analysis includes an estimate of the VOC emissions reductions based on the 2004 sales volume from the CARB survey and the sales weighted average VOC content based on the latest data available from Rule 314, which is the 2009 sales data, to estimate baseline emissions. This approach is also consistent with the methodology used to estimate architectural coating emissions in the AQMP, since the baseline emissions from architectural coatings in the AQMP was calculated from data in an earlier CARB survey.

Staff estimates that the baseline emissions from the use of conventional colorants are three tons per day. This assumes that 80 percent of the flat and non-flat coatings sold in the district are tinted at the point of sale with an average of four ounces of colorant containing 325 grams of VOC of Material per liter based on industry feedback. The estimate of volume of colorant added

is conservative, because other coating categories are also tinted but to a lesser extent, i.e. primer, specialty primers, and stains. The volume of colorant added and the average VOC content was based on feedback from members of industry. The volume of colorant added varies widely depending on the desired color; light or pastel colors require as little as 0.5 ounce, while deep colors can require up to 12 ounces. SCAQMD staff used the most recent CARB survey data for the volume of flat and non-flat coatings that may be tinted. CARB conducts a survey of architectural coatings sold into California every four or five years. The most recent survey data is from 2005 indicating total coatings sold in California during 2004. The 2004 sales data does not represent the height of the volume of coatings sold, which more than likely occurred in 2006 during the peak real estate activity. As the economy recovers, SCAQMD staff estimates that the emission reductions that can be achieved will be higher than those indicated from the 2008 and 2009 data.

A summary of the baseline VOC emissions that may be affected by PAR 1113 are presented in Table 1-4. Detailed calculations are presented in Appendix B.

COMPLIANCE

Compliance with PAR 1113 is expected to be met by reformulation of existing coatings and colorants. Existing coatings and colorants that exceed the proposed VOC content limits in PAR 1113 are expected to either reduce the VOC content in the solventborne coatings or remove solvent and use waterborne technology in their coatings/colorants.

Table 1-4
Proposed Project Baseline Emissions

Description	VOC Emissions Potentially Affected by PAR 1113, ton per day
Coatings Affected by VOC Content Change	0.60 ~~0.29~~
Colorants Affected by VOC Content Change	2.98
Coatings Affected by Changes to Averaging Compliance Option	1.2
Total	4.47

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	~~Draft~~ Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) 1113 –Architectural Coatings
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Mr. James Koizumi (909) 396-3234
PAR 1113 Contact Person	Ms. Heather Farr (909) 396-3672
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	The 2007 Air Quality Management Plan, specifically Control Measure CM#2007 MCS-07 – Application of All Feasible Measures, explicitly lists coating and solvent rules to achieve additional VOC reductions. PAR1113 would partially implement CM#2007 MCS-07. PAR 1113 would reduce volatile organic compound (VOC) emissions by proposing new categories with VOC content limits, reducing the VOC content limits of architectural coatings categories where feasible, and limiting the VOC content of colorants used to tint coatings at point of sale. The averaging compliance option would be limited and eventually phased out by the year 2015. The small container exemption would be clarified to be limited to VOC content limits and an anti-bundling requirement would be added.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agriculture and Forestry Resources	☑	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality and Greenhouse Gas Emissions	☑	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☑	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☐	Transportation/Traffic
☑	Energy	☐	Noise	☑	Mandatory Findings

DETERMINATION

On the basis of this initial evaluation:

☑ I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1)has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: April 7, 2011 Signature: Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

PAR 1113 would lower the VOC content limit of coatings, prohibit the use of Group II exempt solvents, limit categories within the averaging compliance provision, and eventually eliminate the averaging compliance provision.

Coating operations can be categorized into three procedures: manufacturing, distribution and sales, and use of coating. Manufacturing comprises raw material storage (silos, storage tanks, drums, etc.), process operatings (storage tanks, mixers, mills, high-speed dispersion tanks, canners etc.) and product storage (drums, cans, etc.). Distribution and sales comprises transporting coatings to warehouses, retail and commercial facilities for sale or resale. Coatings are used (applied) by spraying, rolling or brushing of the coatings on to architectural structures.

Reformulation of Affected Architectural Coatings

The primary result of PAR 1113 would be the reformulation of architectural colorants and coatings to comply with new or lower VOC content limits by new or changes to coating categories, new or changes to VOC content limits for colorants and coatings or by the elimination of the averaging compliance option.

For the analysis in Chapter 2 of this EA, coatings that are compliant with PAR 1113 VOC coating limits are referred to as PAR 1113 compliant coatings. Coatings that are compliant with the existing Rule 1113, but have VOC contents that exceed the VOC content limits of PAR 1113 are referred to as PAR 1113 non-compliant coatings. It is assumed that PAR 1113 non-compliant coatings would be reformulated to be similar to existing PAR 1113 compliant coatings. Therefore, impacts from reformulation were evaluated by comparing PAR 1113 compliant coatings to PAR 1113 non-compliant coatings.

Replacement of Colorant Dispensers

The use of low-VOC colorants may require the replacement or modification of colorant dispensers at retail stores. Some retailers have installed or are planning to install new colorant dispenser, but not necessarily specifically related to the use of low-VOC colorants. A new trend in the retail coating industry is to tint small coating samples. To tint small coating samples, the colorant dispenser has to be capable of delivering small amounts of colorant (e.g., fraction of an ounce). According to dispenser manufacturers, all of the new generation of dispensers can dispense low-VOC colorants. Therefore, operators, who replace existing machines with the new generation of dispensers to tint coating samples, would also be able to dispense low-VOC colorants.

The new colorant dispensers also include humidifiers or sponges to keep dispensing tips moist. The reduction of solvent in colorants can lead to increased dispenser tip drying/clogging. Conventional colorant dispensers using low-VOC colorants are cleared using a metal wire once a day to once a shift depending on how often the dispensers are used. The use of humidifiers or sponges eliminates the need to clear the dispenser tips with metal wires.

SCAQMD staff estimates that there are 188 large retailers that would be required to use low-VOC colorants by PAR 1113. Large retailers include Home Depot, Lowe's, K-Mart, Orchard Supply Hardware, Sears and Wal-Mart. Large retail facilities are in the process, or have already converted ~~their~~ to new colorant dispensers, which are designed to include low-VOC colorant use. The replacement of colorant dispensers by large retail facilities was made to tint small coating

samples not in preparation for PAR 1113, so construction impacts are not included in this analysis. Large facility operators would only need to use low-VOC colorants to comply with PAR 1113 (i.e., would not require any new construction).

Medium-sized retail facilities and manufacturers with retail outlets may choose to replace or modify their colorant dispensers in part to reduce maintenance associated with low-VOC colorants. Medium-sized retailers and manufacturers with retail outlets include Ace Hardware, Denault, Dunn Edwards, Frazee, Ganahl, Sherwin Williams, Tibbets Newport and Vista Paints. SCAQMD staff estimates that there are 221 medium-sized retail facilities and manufacturers with outlets stores in the district. Medium retailers and manufacturers with retail outlets may purchase new equipment, if they do not already have dispensers capable of handling low-VOC colorants. If their business relies on paint sales, it would be worth the capital investment to purchase dispensing equipment that is designed to handle low-VOC colorants and tint paint samples.

SCAQMD staff estimates that there 3,027 ~~3,436~~ small retail facilities that would need to comply with low-VOC content limits for colorants. Small retail facilities are not likely to modify their dispensers to comply with PAR 1113. The existing dispensers at small retailers are capable of dispensing the proposed 50 gram per liter colorants. Small retailers typically do not sell a considerable amount of paint, and so are not likely to invest in new automated units. Instead, small facility operators would clear colorant dispensers manually with a metal wire. SCAQMD staff has visited small retail outlets using conventional colorant dispensers with low-VOC content colorants successfully.

		Potentially Significant Impact	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
I.	**AESTHETICS.** Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I.a), b), c) & d) Because architectural coatings are not typically applied in controlled settings, e.g., spray booths. PAR 1113 is not expected to require construction activities to install control equipment. In addition, compliance with PAR 1113 is expected to be met by reformulation of architectural coatings and colorants. Colorant dispensers at exiting medium-sized retail facilities may need to be replaced. These dispensers are drop-in place units that would not need heavy-duty diesel construction equipment (hand tools are expected to be used) and would be placed within existing retail structures at the same location as the unit being replaced. Thus, implementation of PAR 1113 would not result in any new construction of buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Similarly, additional light or glare would not be created which would adversely affect day or nighttime views in the area since no light generating equipment would be required to comply with PAR 1113. Further, the manufacturing of compliant architectural coatings would not appreciably change the visual profile of the building(s) where compliant architectural coatings are manufactured, because any changes to the manufacturing process would occur inside the facility's buildings and, therefore, would not affect the exterior of the structure in any way. PAR 1113 compliant architectural coatings are expected to be used in a similar fashion to existing coatings, e.g., brushed, rolled or sprayed on to structures or their appurtenances. Therefore, no changes in aesthetics are expected from the use of PAR 1113 compliant architectural coatings.

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant adverse aesthetics impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FOREST RESOURCES.** Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on agriculture and forest resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

II.a), b), c) & d) The proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for

agricultural use or a Williamson Act contract. The manufacture of compliant architectural coatings and colorants would not require converting farmland to non-agricultural uses because the manufacture of compliant architectural coatings is expected to occur completely within the confines of existing affected industrial facilities. The use of architectural coatings that would be required to comply with the proposed VOC content limits is expected to be similar to the use of existing architectural coatings, which typically do not affect farm or agricultural practices, as such coatings are typically used in urban, commercial or industrial areas. For the same reasons, PAR 1113 would not result in the loss of forest land or conversion of forest land to non-forest use.

Based upon these considerations, significant adverse agricultural resource impacts are not anticipated and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant agriculture resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑	☐

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

Air Quality Significance Criteria
To determine whether or not air quality impacts from adopting and implementing PAR 1113 are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

III.a) The 2007 Air Quality Management Plan, specifically Control Measure CM#2007 MCS-07 – Application of All Feasible Measures, explicitly lists coating and solvent rules to achieve additional VOC reductions. PAR1113 would partially implement CM#2007 MCS-07. Therefore, the proposed project is not expected to conflict with or obstruct implementation of the applicable air quality control plan because the 2007 AQMP demonstrates that the effects of all existing rules, in combination with implementing all AQMP control measures (including "black box" measures not specifically described in the 2007 AQMP) would bring the district into attainment with all applicable national and state ambient air quality standards. Therefore, PAR 1113 is not expected to significantly conflict or obstruct implementation of the applicable air quality plan, but would contribute to attaining and maintaining the ozone and PM standards.

III.b) & f) For a discussion of these items, refer to the following analysis:

Construction Impacts
Construction impacts were analyzed for affected coating manufacturing, affected distribution and sales of coatings, and the use (application) of affected coatings:

Manufacturing of Affected Coatings
The manufacturing of coatings and colorants compliant with PAR 1113 is expected to use similar equipment and processes that are used to manufacture existing coatings and colorants for the following reasons. No substantial change to raw material storage (silos, storage tanks, drums, etc.), process operations (storage tanks, mixers, mills, high-speed dispersion tanks, canners etc.) or product storage (drums, cans, etc.) is expected. Manufacturers may need to reformulate coatings and colorants to comply with PAR 1113, but the manufacturing process is not expected to require any new construction to comply with PAR 1113.

Table 2-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction** [b]	**Operation** [c]
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 metric tons per year	
Ambient Air Quality for Criteria Pollutants [d]		
NO2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state – peak hour); 0.10 ppm (federal – 98th percentile) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3 20 μg/m^3	
PM2.5 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	
Sulfate 24-hour average	25 μg/m^3	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

[a] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ greater than or equal to

Distribution and Sales of Affected Coatings

The distribution of PAR 1113 compliant coatings and colorants is expected to be similar to the existing distribution of coatings and colorants. Distribution of compliant coatings and colorants is not expected to require any new construction.

The alteration or replacement of point of sale colorant dispensers is not expected to require heavy-duty diesel-fueled construction equipment. Modification or replacement of colorant dispersers is expected to occur through the use of drop-in replacement units or parts. Based on conversations with coating retailers, the removal and installation of colorant systems would be expected to be completed using hand tools (hand jacks, drills, etc.).

As a worst-case assumption secondary criteria pollutant emissions may be generated by a single round-trip to deliver and install new colorant dispensers or to modify existing units, and a second single round-trip to dispose of any solid waste from the replacement or modification of existing colorant dispensers. Emissions from two round-trips from delivery and disposal were estimated using the SCAQMD EMFAC2007 profile for delivery trucks for the 2010 fleet year. It was assumed that a one-way trip would be 40 miles; therefore, based on four one-way trips, 160 miles would be traveled for a single retail store. It was estimated that two retail stores may be affected per day, if replacement or alteration would is necessary at all at the 221 medium-sized retail stores between adoption of PAR 1113 and January 1, 2014, a period of approximately 2.5 years. Secondary criteria emissions from delivery of colorant systems and removal of old systems are presented in Table 2-2 and detailed in Appendix B. As seen in Table 2-2 secondary criteria emissions from construction would be less than significant; therefore, air quality construction impacts are expected to be less than significant.

Based on Table 2-2 up to 15 units could be replaced without exceeding SCAQMD's criteria significance thresholds (NOx emissions would be the limiting criteria pollutant). However, this is an unlikely scenario because of the distance between stores, the limited number of colorant dispenser manufacturers, the limited number of dispenser installers and the fact that some medium-sized facilities already have low-VOC colorant dispensers installed.

Table 2-2
Secondary Criteria Emissions from PAR 1113

Description	CO, lb/day	NOx, lb/day	ROG, lb/day	SOx, lb/day	PM10, lb/day	PM2.5, lb/day
Single Round Trip	3.0	3.3	0.4	0.004	0.1	0.1
Two Round Trips	5.9	6.6	0.8	0.009	0.2	0.2
SCAQMD Construction Significance Thresholds	550	100	75	150	150	55
Significant?	No	No	No	No	No	No

Use (Application) of Affected Coatings

Compliant coatings are expected to be used (applied) in a similar fashion to existing coatings. Coatings would be expected to be sprayed, rolled or brushed on to architectural structures. Therefore, the use of PAR 1113 compliant coatings is not expected to require physical changes

or modifications that would involve construction activities or additional emissions from coating equipment or additional vehicle trips.

As a result according to the above analysis of potential construction impacts, there would be no significant adverse construction air quality impacts resulting from the proposed project for criteria pollutants.

Operational Impacts

PAR 1113 is only expected to have a direct and beneficial effect on VOC emissions. No other criteria pollutants are expected to be directly affected by PAR 1113, because of the narrow regulatory focus of Rule 1113.

Changes to Coating Categories That Do Not Affect VOC Content Limits or VOC Emissions

Merging coating categories into other categories with no change in VOC content limit generates no air quality impacts. Creating new coating categories with the same VOC content limit as the categories they are currently identified with under the existing Rule 1113 is also not expected to generate any air quality impacts. Coating categories that have been merged and separated to form new categories are presented in Table 2-3. Under these scenarios, there would not be any changes in manufacturing or applying the affected coatings because there are no changes to the VOC content limit.

Changes to VOC Content Limits That Are Not Expected to Affect VOC Emissions

Driveway Sealer Coatings

Driveway sealer coatings are currently included in the waterproofing sealer primary category with a VOC content limit of 100 grams per liter. PAR 1113 would establish a new category for driveway sealers with a VOC content limit of 50 grams per liter effective July 1, 2011. The CARB 2004 Architectural Coatings survey data indicated that all driveway sealers have a VOC content at or below 50 grams per liter. Since all driveway sealer coatings currently comply with PAR 1113, no changes in manufacturing or application of these products is anticipated. Therefore, no adverse air quality impacts are expected.

Japans and Faux Finishing Products

SCAQMD staff is proposing to expand and enhance the definition of the faux finishing/japan category. In recent years, there has been a sharp increase in decorative coatings being marketed to the homeowner such as, metallic coatings, suede coatings, plasters, etc. The current definition in Rule 1113 reflects the products used for studio coating with japans and glazes. Based on feedback during the initial working group meeting, SCAQMD staff developed a specific sub-group to discuss the faux finishing/japan categorization. With the assistance from manufacturers involved with the sub-group, SCAQMD staff has developed the following five distinct subcategories of faux finish coatings:

- Japans - traditionally used by professional artist for developing studio sets
- Glazes – used for some commercial and residential decorative finishes
- Decorative Coatings – used by consumers and sold at typical retail outlets
- Trowel Applied Coatings – used by consumers and sold at typical retail outlets but with significantly lower-VOC levels than typical decorative coatings
- Clear topcoat – used to protect the Faux Finishing Coatings

Table 2-3
Changes to Coating Categories That Do Not Affect VOC Content Limits or VOC Emissions

Existing Rule 1113 Coating Category	PAR 1113 Coating Category	VOC Emissions Change
Primary "Clear Brushing Lacquer" category	Existing category eliminated and merged into the existing "Lacquer" sub-category under the primary "Clear Wood Finishing" category	Same VOC content limit (250 grams per liter), so no change in VOC emissions
Primary "High Gloss Non-flats" category	Existing category eliminated and merged into the existing primary "Non-flats" category	Same VOC content limit (50 grams per liter), so no change in VOC emissions
Primary "Industrial Maintenance" category	New sub-category for "Non-sacrificial Anti-graffiti Coatings" under existing primary "Industrial Maintenance" category	Same VOC content limit (100 grams per liter), so no change in VOC emissions
Primary "Japans and Faux Finishing Coatings"	Place "Japans" as a sub-category under the primary "Faux Finishing Coatings"	Same VOC content limit (350 grams per liter), so no change in VOC emissions
Primary "Japans and Faux Finishing Coatings"	Establish new sub-categories "Glazes," and "Decorative Coatings" under the primary "Faux Finishing Coatings"	Same VOC content limit (350 grams per liter), so no change in VOC emissions
Primary "Quick-dry Enamel" category	Existing category eliminated and merged into the existing primary "Non-flats" category	Same VOC content limit (100 grams per liter), so no change in VOC emissions
Primary "Quick-dry Primer, Sealer and Undercoater" category	Existing category eliminated and merged into the existing primary "Primer, Sealer and Undercoater" category	Same VOC content limit, so no change in VOC emissions

SCAQMD staff coordinated with the working group to develop VOC content limits for the subcategories, which are mainly representative of the broad range of products currently marketed and sold as faux finishing coatings. These coatings are sold in relatively small volume and SCAQMD staff is not projecting any emission reductions from the proposed VOC content limits, since the sales weighted average VOC content is well below the current limit of 350 grams per liter for most of the subcategories and products that meet the proposed final VOC content limit are already in the marketplace. PAR 1113 VOC content limits for the faux finishes can be found in Table 1-2.

Two of the faux finishing subcategories in PAR1113, trowel applied coatings and clear topcoats, have unique properties and characteristics that require separate categories and VOC limits. Currently, the confusion over the faux finishing coatings resulted in miscategorization by the manufacturers as mastic coatings, metallic pigmented coatings or default coatings or products sold under the small container exemption. Based on evaluating the data collected under Rule 314, SCAQMD staff is unable to discern the total emissions for these products, but based on a detailed review of product names as well as discussions with the manufacturers, the total emissions from the faux finishing subcategories is fairly low. Overall, the intent of rule changes to the faux finishing coatings is to provide rule clarification and not achieve VOC emission reductions.

Based on the current categorization by the manufacturers of these products, SCAQMD staff is proposing to allow a VOC limit of 200 grams per liter for the clear topcoats and a final VOC content limit of 100 grams per liter, based on manufacturers' feedback reflecting available technology. While some products may meet the final limit today, other manufacturers are in the process of reformulating their clear topcoats to achieve the 100 grams per liter limit effective January 1, 2014. These VOC content limits were set based on ~~some manufacturers'~~ a portion of the industry sub-working group member's recommendations, with support that the reformulated products would not impact performance.

An interim VOC content limit is also being proposed for the trowel applied coatings, since some manufacturers indicated there are a few coatings that currently have a VOC content near 150 grams per liter. The VOC content limit would be reduced down to 50 grams per liter effective January 1, 2014 allowing ample time for reformulation of the few products that currently exceed the 50 grams per liter VOC limit. The feedback received from the working group stated that higher VOC content of the select trowel applied coatings is needed for additional open time (i.e., to slow drying time of the coating during application), which manufactures feel they can overcome by 2014 for the few products that do not meet the 50 grams per liter VOC content limit.

Default Coating Category

The existing VOC content limit for the architectural coatings that are not included in Rule 1113 Table of Standards is 250 grams per liter. This VOC content limit, often referred to as the "default coating" limit, and has been in place since Rule 1113 was adopted on September 2, 1977. Historically, the "default coating" VOC content limit was one of the lowest VOC content limits in the Table of Standards. Currently, the "default coating" VOC content limit of 250 grams per liter is one of the highest VOC content limits. Other coatings regulations, including the CARB Suggested Control Measure implementing by several air districts and EPA regulations, default to the lower-VOC content limit of the flat or non-flat category, which is VOC limit of 50 gram per liter in Rule 1113. Therefore, SCAQMD staff is proposing to reduce the Rule 1113 "default coating" VOC content limit from 250 grams per liter to 50 grams per liter.

Based on past staff rule interpretations, the coatings that currently are recognized as "default coatings" are concrete surface retarders compounds; form release compounds; dry erase, magnetic board and chalk board coatings; and sacrificial anti-graffiti coatings. SCAQMD staff is proposing to create new categories in the Table of Standards for three default coatings (concrete surface retarders, form release compounds, and sacrificial anti-graffiti coatings).

The Rule 314 data for default coatings includes coatings that were miscategorized as default coatings (e.g. one part of a two part coating, field marking coating, color tints for concrete, etc.). SCAQMD staff is working with the manufacturers who miscategorized their coatings in Rule 314 reporting to address this issue.

Dry erase, magnetic board and chalkboard coatings are the only coatings that SCAQMD staff has identified that should be classified under the default category. Dry erase, magnetic board and chalkboard coatings are typically sold in small containers, and therefore, exempt from the VOC content limits of PAR 1113 by the small container exemption.

Therefore, SCAQMD staff is not expecting any VOC emissions reductions from the default coating VOC content limit reduction. The change is being proposed for additional clarification and alignment with other similar regulations.

Concrete Surface Retarders
PAR 1113 would establish a new primary category for concrete surface retarders with a VOC content limit of 50 grams per liter. As already noted, concrete surface retarders are currently categorized under the default coating category, which has a VOC content limit of 250 in the existing Rule 1113. All concrete surface retarders reported in the 2009 Rule 314 data currently have a VOC content of zero. Since all concrete surface retarder coatings currently comply with PAR 1113, no changes in manufacturing or applying these of products are anticipated. Therefore, this change is expected to have no air quality impacts.

Sacrificial Anti-graffiti Coatings
PAR 1113 would create a new category for sacrificial anti-graffiti coatings with a VOC content limit of 50 grams per liter. Sacrificial anti-graffiti coatings are currently classified under the default category, which has a VOC content limit of 250 grams per liter. Sacrificial anti-graffiti coatings are paraffinic or waxed-based with a low VOC content limit. SCAQMD staff has not identified any sacrificial anti-graffiti coatings with a VOC content greater than 50 grams per liter. Therefore, this change is not expected to create any adverse air quality impacts.

Changes to coating categories that affect VOC content limits, but not VOC emissions are summarized in Table 2-4.

Architectural Coatings Affected by PAR 1113 Where the VOC Content Limit Has Been Increased

Reactive Penetrating Sealers
The ARB SCM for Architectural Coatings includes a separate category under the waterproofing concrete/masonry sealer for reactive penetrating sealers at 350 grams per liter. The ARB SCM states that reactive penetrating sealers are clear or pigmented products formulated for application to above-grade concrete and masonry substrates to provide protection from water and waterborne contaminants, such as, alkalis, acids, and salts. Reactive penetrating sealers penetrate into concrete and masonry substrates and chemically react to form covalent bonds with naturally occurring minerals in the substrate. Reactive penetrating sealers line the pores of concrete and masonry substrates with a hydrophobic coating, but do not form a surface film.

Table 2-4
Changes to Coating Categories That Affect VOC Content Limits, But Not VOC Emissions

Existing Rule 1113 Coating Category	PAR 1113 Coating Category	Existing Rule 1113 VOC Content Limit, grams per liter	PAR 1113 VOC Content Limit, grams per liter	VOC Emissions Change
Primary "Japans and Faux Finishing Coatings"	Establish new sub-category "Trowel Applied Coatings" under the primary "Faux Finishing Coatings"	350	150 effective ~~July 1, 2011~~ January 1, 2012, 50 effective Jan 1, 2014	Majority of towel applied coatings are already available at 50 g/L VOC, few products formulated at 150 g/L VOC are expected to be reformulated by 2014. Small volume category, so no change in VOC emissions is expected.
Primary "Japans and Faux Finishing Coatings"	Establish new sub-category "Clear Topcoat" under the primary "Faux Finishing Coatings"	350	200 effective ~~July 1, 2011~~ January 1, 2012, 100 effective Jan 1, 2014	Majority of clear topcoatings are already available between 150 g/L and 200 g/L VOC. Small volume category, so no change in VOC emissions is expected.
Primary "Waterproofing Sealer" category	Create new primary category for "Driveway Sealer"	100	50 effective ~~July 1, 2011,~~ January 1, 2012	All driveway sealers in CARB 2004 Architectural Coatings Survey have a VOC content at or below 50 grams per liter, so no change in VOC emissions are expected.

Table 2-4 (Continued)
Changes to Coating Categories That Affect VOC Content Limits But Not VOC Emissions

Existing Rule 1113 Coating Category	PAR 1113 Coating Category	Existing Rule 1113 VOC Content Limit, grams per liter	PAR 1113 VOC Content Limit, grams per liter	VOC Emissions Change
Coatings that are not identified in Rule 1113 Table of Standards - VOC limits	Establish new primary category for "Concrete Surface Retarder"	250	50	All concrete surface retarders in Rule 319 data have a VOC content limit of zero, so no change in VOC emissions are expected.
Coatings that are not identified in Rule 1113 Table of Standards - VOC limits	Establish new primary category for "Sacrificial Anti-graffiti Coatings"	250	50 effective ~~July 1, 2011,~~ January 1, 2012	VOC content limit is set a level that sacrificial anti-graffiti coatings are currently formulated, so no change in VOC emissions are expected.
Coatings that are not identified in Rule 1113 Table of Standards - VOC limits	No change in category	250	50	No coatings were identified that are not currently sold under the small container exemption, so no change in VOC emission is expected.

Reactive penetrating sealers generally are composed of silane; siloxane; silane/siloxane blend; inorganic silicate; silane/silicate blend; or siliconate. As formulated, these products often contain low levels of VOCs or zero VOCs. However, after application the ARB SCM states, silanes and some siloxanes undergo a chemical reaction that releases VOCs (e.g., ethanol or methanol).

Alkylalkoxysilane + water → alkyl silanol + ethanol
Alkyl silanol + silanol (in concrete) → silicone crosslinking network + water

The VOCs that are released during the chemical reaction are known as cure volatiles and they should be included when determining the VOC content of a product. However, ARB staff found that there was some inconsistency in the industry regarding this matter relative to reporting VOC content levels. Some manufacturers are correctly including cure volatiles in their reported VOC contents while others are not. As a result, some products that are being marketed as low-VOC products may actually have much higher VOC contents when the cure VOCs are determined correctly.

Caltrans, OHP and one reactive penetrating sealers manufacturer have requested that SCAQMD staff add a new category for reactive penetrating sealers in PAR 1113 with a VOC content limit of 350 grams per liter. A reactive penetrating sealer is defined by PAR 1113 as a product that is only used for reinforced concrete bridge structures for transportation projects within five miles of the coastline or above 4,000 feet in elevation or for restoration and/or preservation projects on registered historical buildings that are under the purview of a restoration architect. The coatings would be required to penetrate into concrete and masonry substrates and chemically react to form covalent bonds with naturally occurring minerals in the substrate. The coatings would be required to line the pores of the concrete and masonry substrates with a hydrophobic coating, but not form a surface film. Performance characteristics specifically identified in the definition of a reactive penetrating sealer would need to be demonstrated using ASTM test methods detailed in PAR 1113.

The waterproofing concrete/masonry sealers VOC content limit is 100 grams per liter in the existing Rule 1113, which currently includes reactive penetrating sealers. VOC emission foregone were estimated by difference between the proposed VOC content limit of 350 grams per liter and the estimated VOC of the material, which is estimated to be 40 grams per liter. Usage records from Caltrans since 1989 have shown consistent use of these products; therefore, no increase in usage is expected from PAR 1113. Based on these records and Rule 314 data, SCAQMD staff estimates 290 gallons of reactive penetrating sealer usage per year. SCAQMD staff intends to monitor usage through the Rule 314 Annual Quantity and Emissions Reports to ensure that the sales does not exceed the estimated usage, and may consider sales caps for this category if actual sales are above the estimated usage. The VOC emissions foregone would be 0.001 tons per year and are presented in Table 2-5. Detailed calculations are presented in Appendix B.

Table 2-5
Existing Rule 1113 and PAR 1113 VOC Content Limits and VOC Emissions or VOC Emissions Reductions

Coating Category	Existing Rule 1113 VOC Content Limit	PAR 1113 VOC Content Limit at Adoption	PAR 1113 VOC Content Limit 7/11/2011	PAR 1113 VOC Content Limit 1/1/2014	VOC Emission Reductions, ton per day
Dry Fog Coatings	150			50	0.16
Fire Proofing Coatings	350			150	0.02
Form Release Compounds	250			100	0.01
Graphic Arts Coatings	500			150	0.003
Mastic Coatings	300			100	0.2
Metallic Pigmented Coatings	500			150	0.01
Reactive Penetrative Sealers	100	350			-0.001
Stone Consolidants	100	450			-0.001
Total					0.4 ~~0.2~~

Stone Consolidants
The ARB SCM for Architectural Coatings includes a separate category under the waterproofing concrete/masonry sealer for stone consolidants at 450 grams per liter to support historical preservation efforts by allowing limited use of these products under the direction of a stone conservation specialist, such as an architect, conservator, or engineer. Stone consolidants penetrate into stone substrates to help restore the integrity of crumbling or decayed materials. These products are often considered to be concrete treatments, rather than coatings, and are not for general purpose use. The Technical Support Document for Proposed Amendments to the Suggested Control Measure for Architectural Coating states that "solventborne products are generally preferred, because it is believed that the solvent can penetrate deeper into the substrate and distribute the consolidate down to the undeteriorated stone." The OHP and a stone consolidant manufacturer have requested that PAR 1113 also include a category for stone consolidants, previously under the waterproofing concrete/masonry sealers, with a VOC content limit of 450 grams per liter. Stone consolidants would be defined in PAR 1113 to be for restoration and/or preservation projects on registered historical buildings that are under the purview of a restoration architect. Stone consolidants would be required to be specified and used in accordance with ASTM E2167.

The waterproofing concrete/masonry sealers VOC content limit is 100 grams per liter in the existing Rule 1113, which currently includes stone consolidants. A stone consolidants category with a VOC content limit of 450 grams per liter would be added by PAR 1113. VOC emission foregone were estimated by calculating the difference between the proposed VOC content limit of 450 grams per liter and the estimated VOC content of the material, which is estimated to be 40

grams per liter. Ten years of national sales records from the stone consolidant manufacturer have shown consistent use of these products; therefore, no increase in usage is expected from PAR 1113. Based on these records, SCAQMD staff estimates approximately 142 gallons of stone consolidant used per year. SCAQMD staff intends to monitor usage through the Rule 314 Annual Quantity and Emissions Reports to ensure that the sales does not exceed the estimated usage, and may consider sales caps for this category if actual sales are above the estimated usage. VOC emissions foregone would be 0.001 tons per year and are presented in Table 2-5. Detailed calculations are presented in Appendix B.

Architectural Coatings Affected by PAR 1113 Where the VOC Content Limit Has Been Reduced

PAR 1113 would reduce the VOC content limits for the following existing coating categories: dry fog coatings, form release, fire proofing coatings, graphic arts coatings, mastic coatings, and metallic pigment coatings. Table 2-5 presents the existing and proposed VOC content limits and the VOC emission reductions expected from these affected coatings. Detailed calculations are provided in Appendix B.

New VOC Content Requirements for Colorants

PAR 1113 would establish VOC content limits for colorants effective January 1, 2014. The VOC content limit for colorants used to tint architectural coatings, excluding industrial maintenance coatings would be 50 grams per liter. The VOC content limit for colorants used to tint waterborne industrial maintenance would also be 50 grams per liter. The VOC content limit for colorants used to tint solventborne industrial maintenance coatings would be 600 grams per liter.

As stated in construction analysis of this section, small retail facilities would continue using existing dispensers for low-VOC colorants because coatings are assumed to be a small part of their business, so it is likely that they would not want to spend money to replace colorant dispensers. Large-sized facilities are in the process or have already replaced their colorant dispensers with the new generation of colorant dispensers to tint small coating samples. Medium-sized retailers and manufacturers with retail outlets are likely to use the new generation of dispensers. VOC emissions are directly tied to the VOC content of the colorant (i.e., VOCs are emitted from the colorant) not from colorant dispensers. The reduction in VOC content in colorants would result in a reduction of 2.8 tons VOC emissions per day after the proposed VOC content limits for colorants become effective on January 1, 2014. Detailed calculations are presented in Appendix B.

VOC Emissions Reductions from Phasing Out the Averaging Compliance Option

Fire retardant coatings; high gloss non-flats; quick-dry enamels; quick-dry primers, sealers and undercoaters would be removed from the averaging compliance option because these coatings would be recategorized into categories that would be allowed to use the averaging compliance option under PAR 1113. Roof coatings; water proofing sealers; bituminous roof primers; zinc rich industrial maintenance primers; and waterproofing concrete/masonry sealers would be removed from the averaging compliance option effective January 1, 2012, because some of these coating categories are not currently averaged in large volumes.

SCAQMD staff is also proposing to remove primer, sealer and undercoaters; and specialty primers from averaging compliance option provisions. SCAQMD staff has been approached by

many manufacturers who have had technological breakthroughs resulting in low- and near zero-VOC specialty primers (average $23 per gallon). Those manufacturers are unable to compete with lower-priced specialty primers (average $15 per gallon) with a higher-VOC content that are sold through the averaging compliance option; therefore, staff is proposing to eliminate this category from the averaging compliance option to stimulate greater market penetration of the new generation of low-VOC specialty primers. SCAQMD staff is proposing to remove the primer, sealer and undercoaters to address potential rule circumvention that may occur if manufacturers re-categorize the specialty primers as primer, sealer and undercoaters. The removal of specialty primer and primer, sealer, undercoating categories from the ACO would result in 0.3 tons per day.

There are alternative products for most, if not all of the high-VOC coatings that are currently being averaged, that are below, and in some cases well below the current VOC limit. Manufacturers have invested substantial funds for reformulation and commercial introduction of these low-VOC product lines and expect them to remain in the marketplace due to the market demand for low-VOC coatings.

The numbers of manufacturers who utilize the averaging compliance option has decreased from 10 manufacturers in 2007, to six manufacturers electing to utilize the averaging compliance option for the 2011 compliance period. High-VOC coatings that were able to participate in the averaging compliance option, but would be eliminated effective January 1, 2012, would have to comply with the applicable VOC content limits in PAR 1113(c)(1) and (2). SCAQMD staff expects that these high-VOC coatings would be reformulated to meet the applicable VOC content limits in PAR 1113(c)(1) and (2), or packaged in small containers to comply with the small container exemption.

The remaining PAR 1113 VOC emissions inventory and VOC emission reductions from limiting coating categories under the averaging compliance option effective January 1, 2012 are presented in Appendix B as Table B-4. The emissions inventory was developed from averaging compliance option reports for 2009 submitted by manufacturers to SCAQMD. The elimination of the ACO would result in 0.3 ~~1.2~~ tons of VOC emission reductions per day effective January 1, 2015. The removal of specialty primer and primer, sealer, undercoating categories from the ACO and the elimination of the ACO would result in 1.2 tons of VOC emission reductions. Floor coatings, industrial maintenance coatings; interior stains, metallic pigmented coatings, rust preventative coatings, sanding sealers, stains, varnishes and flats and nonflats are the coating categories that would be affected by the elimination of the averaging compliance option effective January 1, 2015. Once the averaging compliance option is eliminated, all high-VOC coatings would need to be reformulated to meet the applicable VOC content limits in PAR 1113(c)(1) and (2), or packaged in small containers to comply with the small container exemption.

Changes to the Small Container Exemption (SCE)

Based on Rule 314 data approximately 523,749 gallons of coatings that exceed the VOC coating limit for the associated coating category were sold in small containers in 2008 and 370,012 gallons in 2009. The existing rule includes a small container exemption for containers less than one quart. The SCE ~~container~~ requirement would be changed from quart size to liter size containers to be consistent with ARB and EPA regulations. This change is not expected to result in any quantifiable change since one liter is 1.057 quarts.

The exemption would be expanded to prohibit bundling of coatings. Effective January 1, 2014 the small container exemption would exempt small container coatings from the VOC content limits only. The clarification to the exemption and the prohibition would assist in enforcement and is not expected to result in any changes to VOC emissions.

Secondary Criteria Pollutant Emissions from Operation

Manufacturing and Operating Practices
Manufacturing and operating practices for PAR 1113 compliant coatings would be similar to existing manufacturing and operating practices (i.e., no equipment or operational changes are expected to occur). Coatings and colorants are expected to be manufactured at the same facilities with the same types of equipment as existing coatings and colorants. Transportation of coating components and coatings is also expected to be similar or less. Low-VOC coatings or colorants typically use less solvent, which would require less raw material trips. Products are still expected to be sent to the same retailer, repackaging facilities and end users.

Reactivity
Some coating manufacturers assert that a reactivity-based approach should be used to regulate VOC. In 2006, ARB, districts and the U.S. EPA met to discuss a potential reactivity-based approach. Districts expressed concerns that implementation of a reactivity-based rule would require additional resources for enforcement. Detailed chemical formulation data would be needed to identify all of the volatile ingredients contained in the product. District staff would need to identify the appropriate maximum incremental reactivity (MIR) value for each of these ingredients before the overall reactivity could be calculated for the product. A system for updating MIR values to accommodate changes that result from research studies would be needed. Verifying compliance with a mass-based limit requires fewer resources, because it only involves a relatively simple measurement of total VOCs.

In 2007, the National Paint and Coatings Association (NPCA) suggested an Innovative Product Exemption (IPE) for reactivity be considered. For each product submitted for an exemption, district personnel would need to determine the reactivity of the noncompliant product, identify a representative compliant product, and compare the reactivity of the two products. District personnel would also need to develop enforceable conditions for each exemption (e.g., laboratory test methods, reporting requirements, etc.). The U.S. EPA expressed concerns about how a reactivity-based IPE provision would be enforced, and about potential complications that could result from case-by-case, reactivity-based limits that might be adopted by one air district and not a neighboring district. ARB staff concluded that many districts have insufficient resources to implement and enforce reactivity-based limits or the IPE provision, and that the U.S. EPA had concerns regarding the implementation and enforcement of the IPE provision. Based upon the lack of district resources, U.S. EPA's response, and the lack of industry consensus, ARB staff decided to propose mass-based rather than reactivity based VOC limits in their Suggested Control Measure (SCM). ARB staff concluded the proposed mass-based VOC content limits provided significant emission reductions and was easier for the districts to implement and enforce. In addition, the districts have existing variance rules that can provide flexibility for coating manufacturers.

Based on these discussions, SCAQMD staff does not believe that a reactivity-based approach would be appropriate for PAR 1113. However, SCAQMD staff will continue to work with CARB, U.S.EPA staff and industry on a potential reactivity-based approach.

Coating Properties

Coating properties of PAR 1113 non-compliant and PAR 1113 compliant coatings were compared in the Draft Staff Report for PAR 1113 (April 2010). Based on the analysis in the ~~Draft~~ Final Staff Report, coating properties between PAR 1113 non-compliant and PAR 1113 compliant coatings were similar. Therefore, no new adverse air quality impacts are expected from differences between PAR 1113 non-compliant and PAR 1113 compliant coatings.

Retail and Use Practices

Retail operations may require the use of new colorant dispensers. The operation of these new colorant dispensers may have secondary air quality impacts. The colorant dispensers are expected to have electrical use similar to existing units; therefore, no new adverse air quality impacts from increased electrical use are expected. The dispensers may require increased flushing or cleaning, but the increase in liquid waste is expected to be on the order of ounces, so no increase in air quality impacts from liquid waste for treatment is expected. Earlier issues regarding tip drying, mistinting, wasted paint and film property are not expected to be an issue since the VOC content limit in PAR 1113 was increased from 10 grams per liter to 50 grams per liter.

PAR 1113 compliant coatings are expected to be applied in a similar fashion to existing coatings (brushed, sprayed and rolled), so no new emissions from the application of coatings is expected.

Since under PAR 1113 manufacturing, retail and operating practices would be similar to existing manufacturing, retail and operating practices no increases in secondary criteria pollutants are expected.

Summary of Operational VOC Emissions and Emission Reductions

The total operational effects on VOC emissions as a result of adopting and implementing PAR 1113 are presented in Table 2-6.

Although PAR 1113 would result in VOC emission reductions foregone from two coating categories, overall PAR 1113 is expected to result in net VOC emissions reductions once fully implemented. As a result PAR 1113 is expected to result in an operational air quality benefit. Therefore, PAR 1113 is not expected to create significant adverse operational air quality impacts.

III.c) The preceding analysis concluded that there would be no construction emissions impacts and operational criteria emission would not exceed the applicable SCAQMD construction or operational significant thresholds. It is expected that PAR 1113 would result in a reduction of VOC emissions and potential reduction in toxic emissions (see III.d)). Since PAR 1113 is not expected to be significant for any air quality adverse impact it is not expected to be cumulatively considerable and, therefore, is not expected to create significant adverse cumulative air quality impacts.

Table 2-6
Total VOC Emissions Reductions from PAR 1113

	VOC Emission Reductions (tons per day)			
Description	**2012**	**2014**	**2015**	**Totals**
Reduce VOC Content Limits		0.4 ~~0.2~~		0.4 ~~0.2~~
Limit VOC Content Limits of Colorants		2.8		2.8
VOC Emissions Foregone from Stone Consolidants	-0.001			-0.001
VOC Emissions Foregone from Reactive Penetrating Sealers	-0.001			-0.001
Remove Categories from ACO	0.9			0.9
Phase Out of ACO			0.3	0.3
Total VOC Emission Reductions	0.9	3.2 ~~3.0~~	0.3	4.4 ~~4.2~~

III.d) Prohibition of Class II Exempt Compounds

PAR 1113 includes a general prohibition against the use of Group II exempt compounds listed in Rule 102 – Definition of Terms, in excess of 0.1 percent, other than cyclic, branched, or linear, completely methylated siloxanes (VMS). Pursuant to Rule 102, Group II exempt compounds may be restricted in the future because they are toxic, potentially toxic upper atmospheric ozone depleters or have other environmental impacts. This provision would become effective January 1, 2012, with a sell through for products manufactured before the effective date until January 1, 2013. The proposed prohibition is expected to reduce health risks from exposure to potential toxic solvents; however, no quantification of the amount of Group II exempt compounds in currently available coatings was available. Although this provision in PAR 1113 would likely produce human health benefits, because current volumes of Group II exempt compounds in affected coatings are unknown, no credit would be taken from the prohibition.

Reformulation of Coatings

To comply with PAR 1113, some coatings manufacturers may need to reformulate existing coatings. Although not likely, it is possible that reformulated materials could be formulated with toxic products. The following analysis demonstrates that PAR 1113 would not expose sensitive receptors to substantial exposures to air toxics.

Coatings affected by PAR 1113 may need to be reformulated to meet proposed VOC content limits or in response to changes to and elimination of the averaging compliance option provision. Coating components may have differing toxicity characteristics. To evaluate the potential adverse toxics impacts from PAR 1113, SCAQMD staff used Rule 314 data for products sold in 2008 and 2009. Based on discussions with coating manufacturers, the types of solids in affected coatings are not expected to change as a result of implementing PAR 1113, only solvent formulation. As a result, only solvents in replacement coatings were evaluated for human health effects, which were then compared to the human health effects of solvents in coating formulations that exceed the VOC content limits proposed by PAR 1113.

SCAQMD staff reviewed coatings in the Rule 314 data for products sold in 2008 and 2009. Affected architectural coatings (clear topcoat faux coatings, dry fog coatings; fire proofing coatings; graphic arts coatings; metallic pigment coatings, trowel applied faux finishing coatings)

that have VOC contents greater than those proposed for PAR 1113 and had a sales volume greater than one percent of the total sales of that category were used to represent the coatings that would need to be reformulated.

Assuming that coatings reformulated to comply with PAR 1113 would be similar to existing coatings that already comply with PAR 1113, architectural coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 data were also added.

Air toxic solvents were identified by reviewing MSDSs for PAR 1113 non-compliant and PAR 1113 compliant coating lists. The types and amounts of air toxics in the coatings remained the same or were reduced or were eliminated in the PAR 1113 compliant coatings when compared to the PAR 1113 non-compliant coatings (see Table 2-7) with the ~~exemption~~ exception of faux finishing coatings and mastic coatings. A detailed summary is included in Appendix B. Table 2-8 presents all toxic air contaminants identified in MSDS for coatings evaluated in this analysis and their health effects.

Air Toxics from Faux Finishing Coatings

One PAR 1113 compliant interior trowel coatings contains ethylene glycol at five percent by weight. No other toxic air contaminates were identified in any other trowel coatings. Ethylene glycol is a chronic non-carcinogenic toxic air contaminant. Trowel coatings are typically applied once for the life of a structure. Therefore, while PAR 1113 compliant coatings may contain ethylene glycol in low concentrations, since trowel coatings are not expected to be reapplied to a structure, the chronic non-carcinogenic health risk from a single application of a trowel coating with ethylene glycol in low concentrations (five percent) is not expected to be significant.

One PAR 1113 compliant clear topcoat faux finish coating product line contains a maximum of 0.48 percent of triethylamine by weight. Triethylamine is an acute and chronic non-carcinogenic toxic air contaminant, no carcinogenic health values have been established by OEHHA (i.e., cancer potency or unit risk factors). The acute recommended exposure limit (REL) of triethylamine is 2,800 micrograms per cubic meter. The chronic REL triethylamine is 200 micrograms per cubic meter. Total sales of the product line are available from Rule 314 data, but where the product is used and how much at a single location is not known. Since, usage is low and specific information was not available, chronic non-carcinogenic health risk was estimated based on total usage of the clear topcoat faux finish coatings from Rule 314 data (i.e., all clear topcoat faux finish coatings) and the maximum triethylamine by weight in the affected clear topcoat faux finish coating product line. This is very conservative because the total usage in 2009 did not likely occur at the same location and not all clear topcoat faux finish coating products contain triethylamine. The chronic hazard index based on this approach is 0.3 which is below the significance threshold of 1.0. Acute non-carcinogenic health risk was estimated assumed that five gallons per hour may be used on any structure and the maximum triethylamine by weight in the affected clear topcoat faux finish coating product line. The acute hazard index based on this approach is 0.02 which is below the significance threshold of 1.0. Since the non-carcinogenic health risk was below the significant thresholds in Table 2-1, non-carcinogenic health risk is expected to be less than significant.

Table 2-7
Maximum Concentrations of Toxic Air Contaminant in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Coating Category	Di(2-ethylhexyl) phthalate (DEHP)	Ethyl-benzene	Ethylene glycol	Ethylene glycol butyl ether	Iso-propanol	Methylene diphenyl isocyanate	Methyl ethyl ketone	Styrene	Tri-ethylamine	Toluene	Xylene
PAR 1113 Non-Compliant Coatings (maximum weight percent)											
Dry Fog Coatings		1		4	4			20			1
Fire Proofing Exterior Coatings		5					15			15	20
Graphic Arts Coatings				5							
Metallic Pigmented Coatings		2.4					2.7			10	9.9
Faux Finish Clear Coat				0.18							
Form Release											
Trowel Applied Faux Finish											
Mastic Coatings		10	3					40			40
PAR 1113 Compliant Coatings (maximum weight percent)											
Dry Fog Coatings								20			
Fire Proofing Exterior Coatings										10	
Graphic Arts Coatings											
Metallic Pigmented Coatings										7	
Faux Finish Clear Coat									0.46[2]		
Form Release											
Trowel Applied Faux Finish			5.3[2]								
Mastic Coatings	0.1		3			5					

1. Maximum weight percents from review of MSDSs.
2. PAR 1113 compliant coatings weight percent is greater than PAR 1113 non-compliant coatings weight percent (i.e., the PAR 1113 compliant coatings have higher toxic concentration than PAR 1113 non-compliant coatings).

Table 2-8
Toxic Air Contaminant Health Effects

Air Toxic Compound	Inhalation Cancer Potency Factor, (mg/kg-d)-1	Chronic Inhalation Reference Exposure Level, µg/m3	Chronic Hazard Index Target(s) in Humans	Chronic Critical Effect(s)	Acute Inhalation Reference Exposure Level, µg/m3	Acute Hazard Index Target(s) in Humans	Acute Critical Effect(s)
Di(2-Ethylhexyl)Phthalate (DEHP)	8.40E-03	-	-	-	-	-	-
Dipropylene glycol monobutyl ether	None	50 (Interim value , March 2010)	Alimentary system (liver) and nasal mucosa	Histopatholoical lesions	None	None	None
Ethylbenzene	0.0087	2,000	Alimentary system (liver); kidney; endocrine system	Liver, kidney, pituitary gland in mice and rats	None	None	None
Ethylene glycol	None	400	Respiratory system; kidney; development	Respiratory irritation in human volunteers	None	None	None
Ethylene glycol butyl ether	None	None	None	None	14,000	Eyes, respiratory system	Irritation
Isopropanol	None	7,000	Kidney; development	Kidney lesions in mice and rats; fetal growth retardation and developmental anomalies in rats	3,200	Eyes; respiratory system	Irritation of the eyes, nose and throat
Methanol	None	4,000	Teratogenicity	Increased incidence of abnormal cervical ribs, cleft palate, and exencephaly in mice	28,000	Nervous system	Subtle impairment in the performance of complicated tasks
Methylene Diphenyl Isocyanate	-	7.00E-01	Respiratory	Hyperplasia of the olfactory epithelium in rats	-	-	-

Table 2-8 (Concluded)
Toxic Air Contaminant Health Effects

Air Toxic Compound	Inhalation Cancer Potency Factor, (mg/kg-d)-1	Chronic Inhalation Reference Exposure Level, µg/m3	Chronic Hazard Index Target(s) in Humans	Chronic Critical Effect(s)	Acute Inhalation Reference Exposure Level, µg/m3	Acute Hazard Index Target(s) in Humans	Acute Critical Effect(s)
Methyl ethyl ketone	None	None	None	None	13,000	Eyes; respiratory system	Eye, nose and throat irritation in human volunteers
Styrene	None	900	Nervous system	Neuropsychological deficits in humans as measured by memory and sensory/motor function tests	21,000	Eyes; respiratory system; reproductive/developmental	Eye and upper respiratory irritation
Toluene	None	300	Nervous system; respiratory system; teratogenicity	Neurotoxic effects (decreased brain [subcortical limbic area] weight, altered dopamine receptor binding).	37,000	Nervous System; eyes; respiratory System; reproductive/developmental	Headache, dizziness, slight eye and nose irritation
Triethylamine	None	200	Eyes	Eye effects in rats and humans	2,800	Nervous system; eyes	Visual disturbances and ocular irritation in healthy human volunteers
Xylene	None	700	Nervous system; respiratory system	Central nervous system effects in humans; irritation of the eyes, nose, and throat	22,000	eyes; respiratory system	Eye irritation in healthy human volunteers

Acute Reference Exposure Levels and Target Organs, http://www.arb.ca.gov/toxics/healthval/chronic.pdf
Chronic Reference Exposure Levels and Target Organs, http://www.arb.ca.gov/toxics/healthval/acute.pdf
Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values, http://www.arb.ca.gov/toxics/healthval/contable.pdf
OEHHA Acute, 8-hour and Chronic Reference Exposure Level (REL) Summary, http://oehha.ca.gov/air/chronic_rels/
Air Toxics Hot Spots Risk Assessment Guidelines Part II: Technical Support Document for Cancer Potency Factors (May 2009) Appendix D - A listing of Toxic Air Contaminants identified by the California Air Resources Board, http://oehha.ca.gov/air/hot_spots/2008/AppendixD2_final.pdf
Dipropylene glycol monobutyl ether - interim chronic REL, http://www.arb.ca.gov/consprod/regact/2010ra/dpnb29911282.pdf

Air Toxics from Mastic Coatings

Based on the MSDS review, conventional solvent toxic air contaminant concentrations contained in PAR 1113 non-compliant mastic coatings are reduced or eliminated in PAR 1113 compliant mastic coatings with the exception di(2-ethylhexyl)phthalate (DEHP), methylene diphenyl isocyanate (MDI) and ethylene glycol.

One PAR 1113 compliant polyurethane mastic coating contains 0.1 weight percent of di(2-ethylhexyl) phthalate (DEHP) and five percent methylene diphenyl isocyanate (MDI). DEHP is a carcinogen. Phthalate concentration is independent of VOC content (i.e., phthalate concentrations are not expected to change in order to lower VOC content).

MDI is a chronic noncarcinogenic compound. Isocyantes are a component of polyurethane coatings and are used in both high- and low -VOC polyurethane coatings. Like phthalates, isocyante concentration is independent of VOC content.

Since the use of DEHP and MDI would not be affected by reformulating to meet the requirements of PAR 1113, and all other toxic air contaminant concentrations in mastic coatings are expected to be reduced or remain the same (see Table 2-7), adverse air toxic impacts from mastic coatings are expected to be less than significant.

Toxic Air Contaminant Reformulated Coatings Conclusion

Many air toxics also have high VOC content values, so by reducing the VOC content limit, the amount of these air toxics must be reduced or replaced to comply with the lower VOC content limit. Based on the preceding evaluation, with the exception of faux finishing coatings no increase in air toxics is expected from coating reformulation that may be required by PAR 1113. Affected toxic air contaminants (i.e., toxic air contaminates that would be affected by changes to VOC content limits) found in PAR 1113 compliant mastic coatings are expected to be reduced by the proposed project. Based on the above analysis health risk from faux finishing coatings are less than significant. Therefore, PAR 1113 is not expected to be significant for adverse air toxic impacts from reformulation of architectural coatings to meet lower VOC content limits.

Stone Consolidants and Reactive Penetrating Sealers

Stone consolidants and reactive penetrating sealers are primarily supplied under the small container exemption. Based on a review of stone consolidants and reactive penetrating sealers MSDSs, these products may be formulated with methanol, which can cause chronic and acute noncarcinogenic health effects. As stated earlier, ethanol and methanol are also formed by a reaction between the siloxanes and water in concrete. Ethanol is not considered to be an air toxic.

VOC emissions foregone were estimated because reductions were taken for VOC emission reductions to the waterproofing concrete/masonry sealer category in June 9, 2006 amendments to PAR 1113 that were submitted to U.S. EPA for incorporation into the SIP. As stated in the VOC emissions discussion above, usage for stone consolidants and reactive penetrating sealer has been consistently low state-wide and nationally for stone consolidants and reactive penetrating sealers for historical restoration and Caltran use because they are used in very specialized niche applications. Based on these records and Rule 314 data, SCAQMD staff estimates usages would remain consistent with existing usages, which are approximately 142 gallons of stone consolidant used per year and 290 gallons of reactive penetrating sealer used per year.

Therefore, no increase in the use of these products is expected. However, SCAQMD staff intends to monitor usage through the Rule 314 Annual Quantity and Emissions Reports to ensure that the sales does not exceed the estimated usage, and may consider sales caps for this category if actual sales are above the estimated usage. Since no increase in use is expected, new adverse air toxic (methanol) impacts are not expected from PAR 1113.

Colorants

To evaluated compliant colorant formulations SCAQMD staff evaluated MSDSs of colorants that currently comply with the proposed colorant VOC content limit. In addition, colorant manufacturers were contacted to obtain additional information on colorant compositions or any other relevant information. Colorant manufacturers have stated that there would be no change to the solid materials used between existing colorants and PAR 1113 compliant colorants. Therefore, the focus of the air toxics analysis is on the solvents expected to be used in complaint formulations. SCAQMD staff contacted colorant manufacturers to obtain additional information on their products. Glycols, ethylbenzene and isopropyl alcohol were listed on MSDSs for colorants that are compliant with the existing Rule 1113, but would not be compliant with PAR 1113. Some of these glycols, such as ethylene glycol are considered air toxic pollutants. MSDSs for low-VOC colorants (PAR 1113 compliant colorants) were reviewed and no toxic air pollutants were identified. Therefore, PAR 1113 is expected to reduce toxic air pollutants.

In the spring of 2010, the South Coast Air Quality Management District conducted a survey of Architectural Coatings Manufacturers[5] to determine the type of colorants that are currently being used to tint coatings at the point of sale for architectural and industrial maintenance applications. The survey identified nine colorant manufacturers (Evonik Degussa Corporation, Consolidated Color Corporation, Plasticolors, BASF Corporation, Sierra Corporation, Clariant Corporation, Engelhart Corporation, Color Corporation of America and Elementis Specialties). Engelhard Corporation was purchased by BASF Corporation, so now there are only eight colorant manufacturers that have been identified to SCAQMD staff.

Seven of the eight the colorant manufacturers also belong to toxic substance reduction programs such as, Germany's Blue Angel Program, American Chemistry Council (ACC) Responsible Care initiative), Green Seal, International Organization for Standardization (ISO) 14001 or have corporate policies and goals related to ongoing research and development to minimize or eliminate toxic materials from their paints. ACC member companies have made CEO-level commitments to measuring and publicly reporting performance, implementing the Responsible Care Security Code, applying the Responsible Care management system and obtaining independent certification that a management system has been established and operating according to professional standards. The BASF Corporation, Clariant Corporation and Evonik Degussa Corporation are ACC member companies.

The Clariant Corporation, a European colorant manufacturer, has formulated their Colanyl 500 pigments to fulfill the requirements of the Blue Angel Low-Emission Wall Paint Standard RAL-UZ 102. Blue Angel is a German certification for environmentally friendly products and services. It provides a standard for companies to promote the environmental positive aspects of their products on a voluntary basis. The Blue Angel Low-Emission Wall Paint Standard RAL-UZ 102 requires low solvent and formaldehyde content, and plasticizer content below 0.1 percent.

[5] http://www.aqmd.gov/prdas/Coatings/CurrentActivities/AQMDColorantSurvey2010.pdf

Many of the Sierra Corporation coatings conform to the Green Seal Standard for Paints and Coatings GS-11. Green Seal is a non-profit organization that uses science-based programs to assist consumers, purchasers and companies to increase sustainability. The Green Seal Standard for Paints and Coatings GS-11 establishes environmental requirements for paints and coatings. The standard includes product performance requirements and environmental and health requirements such as reduced use of hazardous substances and requires low volatile organic compound (VOC) content. GS-11 compliant product are prohibited from containing: 1,2-dichlorobenzene, alkylphenol ethoxylates (APEs), formaldehyde-donors, heavy metals, including lead, mercury, cadmium, hexavalent chromium and antimony in the elemental form or compounds, phthalates, triphenyl tins (TPT) and tributyl tins (TBT).

Plasticolors is ISO 14001:2004 certified. ISO 14000 standards addresses various aspects of environmental management. The two standards, ISO 14001:2004 and ISO 14004:2004 deal with environmental management systems (EMS). ISO 14001:2004 provides the requirements for an EMS and ISO 14004:2004 gives general EMS guidelines. ISO 14001:2004 EMSs are management tools enabling organizations to: identify and control the environmental impact of its activities, products or services, to continually improve its environmental performance, and to implement a systematic approach to setting environmental objectives and targets, to achieving these and to demonstrating that they have been achieved.

Benjamin Moore's zero-VOC colorant system meets their corporate Green Promise designation. To adhere to the Green Promise designation the colorants must meet or exceed standards established by Green Seal, Greenguard, MPI and the California CHPS programs. These programs limit VOC emissions and restrict certain chemicals (like formaldehyde, crystalline silica, and other carcinogens). These programs also establish baselines for dry-film performance characteristics, such as hiding ability, scrubbability and adhesion.

Elementis Specialties has an environmental policy that states, "Elementis Specialties, Inc. operates our facilities to minimize impact on the environment. We view compliance with all applicable legal requirements and other codes of practice as our minimum standard. We work proactively to reduce emissions, minimize waste from our processes, conserve valuable natural resources and ensure responsible product stewardship up and down the supply chain.

In addition, five of the eight colorant manufacturers produce APE free low-VOC colorants. APEs are synthetic surfactants that are used in conventional colorants pigment. Surfactants are compounds that lower the surface tension of a liquid. Surfactants assist with wetting, film leveling, and pigment and dye stabilization. CARB has published a draft interim acute reference exposure level of 0.73 mg/m3 (0.03 ppm) for APEs,[6] which indicates that APEs have the potential to cause adverse non-carcinogenic health impacts from short-term exposures. In response to concerns about adverse biological impacts from APEs by CARB, EPA and European environmental regulatory agencies, there is a trend among colorant manufacturers to eliminate APEs in only low-VOC colorants. There is no direct relationship between APE content and VOC content in colorants (APE concentrations are too low to typically affect VOC content). Complying with PAR 1113 is not expected to increase the use of APEs in any PAR 1113 compliant formulation or interfere with coating manufacturing treads to produce APE-free low-

[6] http://www.arb.ca.gov/consprod/regact/2010ra/ape9016459.pdf

VOC colorants. Because of the trend to eliminate APEs from low-VOC colorants, the use of low-VOC colorants would result in an indirect health benefit. Since APEs are not prohibited by PAR 1113, but were eliminated by colorant manufacturers instead of by public agency rules or regulations, no credit would be taken for the elimination of APEs in colorants.

Based on the above analysis, no adverse health impacts are expected from primary and secondary emissions of air toxic pollutants from the colorant requirements of PAR 1113.

Secondary Air Toxic Emissions

Secondary air toxic emissions may be generated by a single round trip to deliver and install new colorant dispensers or to modify existing units and another single round trip to dispose of any solid waste from the replacement or modification of existing colorant dispensers at retail facilities. As a worst-case assumption, the two round trips from delivery and disposal are expected to be completed using diesel-fueled vehicles. CARB has classified the particulates in diesel exhaust as a carcinogen. Health risks from carcinogenic pollutants are estimated over a 70-year lifetime for residential and sensitive receptors and over a 40-year period for off-site worker receptors. Since deliveries and disposal are expected to be completed over a short period of time (within a couple of days) and health risk values are estimated over long periods of time, increased health risk from diesel exhaust particulate matter is expected to be less than significant for secondary air toxic emissions. In addition, retail facilities are not typically located in close proximity to other affected retail facilities and installation of colorant dispensers would occur over a three-year period. Therefore, there would not be any overlapping or additive exposures from deliveries to different facilities.

Based on the above discussion, PAR 1113 is not expected to generate significant air toxic impacts.

III.e) Odor problems depend on individual circumstances, materials involved, and individual odor sensitivities. For example, individuals can differ quite markedly from the population average in their sensitivity to odor due to any variety of innate, chronic or acute physiological conditions. This includes olfactory adaptation or smell fatigue (i.e., continuing exposure to an odor usually results in a gradual diminution or even disappearance of the smell sensation).

As already noted, the proposed project does not require the use of heavy-duty diesel construction equipment, and only two delivery/haul trucks trips are expected to replace colorant dispensers at medium-sized retailers. As a result no odor impacts associated with diesel exhaust from either on-road or off-road mobile sources are expected to occur.

The odors from coatings are typically related to the types and amounts of solvents used in the coatings. Based on a review of MSDSs for both toxics (see the toxics analysis in this section) and hazardous solvents (see Section VIII - Hazards and Hazardous Material), it appears that coatings that comply with the PAR 1113 would use the same solvents used in existing coatings, but in lower quantities to comply with the proposed VOC content limits with the exception of faux finish coatings. PAR 1113 compliant faux finish coatings may increase triethylamine, ethylene glycol and propylene glycol. Triethylamine is a trace component (maximum 0.48 percent) in faux finish clear topcoat, which is unlikely to generate strong odors at such a low concentration. Ethylene glycol and propylene glycol are used in concentrations at less than five percent in dry trowel applied faux coatings, which are mixed with water. The use of ethylene

glycol and propylene glycol diluted in waterborne trowel applied faux coatings is not expected to generate strong odors.

In summary, the overall reduction in solvent use, with the exception of faux finish coatings is expected to reduce odors from coatings. In the case of PAR 1113 compliant faux coatings where triethylamine, ethylene glycol and propylene glycol may increase, the concentrations of these solvents are low and, therefore, not expected to generate additional adverse significant odor impacts. Therefore, PAR 1113 is not expected to create new objectionable odors that would affect as significant number of people.

III.g) & h) Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of greenhouse gas (GHG) emissions in the atmosphere. The six major types of GHG emissions identified in the Kyoto Protocol are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHG emissions absorb longwave radiant energy emitted by the earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect."

The current scientific consensus is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHG emissions in the atmosphere due to human activities. Events and activities, such as the industrial revolution and the increased consumption of fossil fuels (e.g., combustion of gasoline, diesel, coal, et cetera), have heavily contributed to the increase in atmospheric levels of GHG emissions. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHG emissions (CEC, 2004). Further, approximately 80 percent of GHG emissions in California are from fossil fuel combustion (e.g., gasoline, diesel, coal, et cetera).

PAR 1113 is not expected to alter manufacturing processes (other than reformulating coatings) and coating use. No GHG compounds were identified in MSDSs of existing coatings that comply with PAR 1113, and since reformulated coatings are expected to be similar to existing coatings that are already compliant with PAR 1113, reformulated coatings are not expected to generate GHG emissions. Retail operations with new colorants and colorant equipment are expected to be similar to existing systems with respect to GHG generation. Therefore, no additional GHG emissions are expected from operational activities related to PAR 1113.

PAR 1113 would generate new trips to replace colorant systems and dispose of the old systems. These emissions are summarized in Table 2-9 and detailed in Appendix B.

Table 2-9
GHG Emissions from PAR 1113

Description	Activity, vehicle miles traveled	CO2, metric ton	CH4, metric ton	N2O, metric ton	CO2eq, metric ton
Project Emissions	35,360	87.6	0.00403	0.00034	87.7
Amortized Emissions	1,179	2.92	0.0001345	0.0000113	2.9

PAR 1113 is expected to result in an incremental increase of 2.9 metric tons of CO2eq emissions per year generated during construction from delivery/haul truck trips to remove and replace colorant dispensers. To determine significance, total GHG emissions from all construction activities were quantified. Construction activities consists primarily of on-road heavy-duty diesel truck trips to transport new colorant dispensers to affected retail facilities and haul away old dispensers. The total project GHG emissions are shown in the first row of Table 2-9. GHG emissions then are amortized over a 30-year period as prescribed in the Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans[7] adopted by the SCAQMD Governing Board in December 2008. PAR 1113 is not expected to generate any additional GHGs from operations, since PAR 1113 compliant operations are expected to be similar to existing operations. Amortized construction GHG emissions are shown in the second row of Table 2-9. Although methane (CH4) and nitrous oxide (N2) have global warming potentials of 21 and 310, respectively, they are a small amount of the total GHG emissions. An incremental increase of 2.9 tons from construction per year of CO2eq emissions is less than the significance threshold of 10,000 metric tons of CO2eq per year. In general, the Program EIR for the 2007 AQMP concluded that implementing the control measures in the 2007 AQMP, would provide a comprehensive ongoing regulatory program that would reduce overall GHGs emissions in the district. Therefore, PAR 1113 is not expected to create significant for adverse GHG emission impacts or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Conclusion

Based on the preceding evaluate of air quality impacts from PAR 1113, SCAQMD staff has concluded that PAR 1113 does not have the potential to generate significant adverse air quality impacts and will not be further analyzed in this Final EA. Since no significant adverse air quality and greenhouse gases impacts were identified, no mitigation measures are necessary or required.

[7] Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/hb/2008/December/081231a.htm.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV.a), b), c), & d) Manufacturing of architectural coatings that comply with PAR 1113 is expected to occur within existing structures at industrial facilities that already manufacture architectural coatings. The use and application of compliant architectural coatings is expected to be similar to the use and application of existing architectural coatings that are applied to new or existing structure and their appurtenances because their formulation, in many cases, are similar to the formulation in existing coatings except compliant coatings are expected to be formulated with less solvent.

Conventional colorants include solvents such as glycols, ethylbenzene and isopropyl alcohol, which indirectly reduce biological growth in the colorants. These solvents have been removed from existing PAR 1113 compliant colorants and, therefore, are expected to be removed in conventional colorants reformulated to comply with PAR 1113. To prevent biological growth in low-VOC colorants, biocides have been added to or increased in these colorants. Therefore, PAR 1113 may require a slight increase in the amount of biocides in colorants for some formulations, but colorants are a small component of coatings (approximately four ounces per gallon) and biocides are a small portion of colorants. Colorant manufacturers were also contacted and stated that they had not identified any biological impacts from low-VOC colorants. MSDSs of PAR 1113 non-compliant and PAR 1113 compliant coatings were reviewed by SCAQMD staff. No MSDSs, either for PAR 1113 non-compliant coatings or PAR 1113 compliant coatings identified biological impacts from biocides in colorants.

APEs are synthetic surfactants that are used in conventional colorants pigment. Surfactants are compounds that lower the surface tension of a liquid. Surfactants assist with wetting, film leveling, and pigment and dye stabilization. EPA has prepared a Nonylphenol (NP) and Nonylphenol Ethoxylates (NPEs) Action Plan. NPs and NPEs are considered APEs. The EPA has stated in their Action Plan, "available acute and chronic toxicity data of NP to aquatic

organisms indicates NP is highly toxic to fish, aquatic invertebrates, and aquatic plants. The 28-day no observed effect concentration (NOEC) of CASRN 84852-15-3 for fish ranges from 0.05 to 0.07 mg/L and the 28-day lowest observed effect concentration (LOEC) ranges from 0.12 to 0.19 mg/L. A 33-day NOEC for fish is 0.007 mg/L and the 33-day LOEC is 0.014 mg/L. The 21-day NOEC for aquatic invertebrates ranges from 0.10 to 0.24 mg/L."[8] In response to concerns about adverse biological impacts from APEs by EPA and European environmental regulatory agencies, there is a trend among colorant manufacturers to eliminate APEs in only low-VOC colorants. There is no direct relationship between APE content and VOC content in colorants (APE concentrations are too low to typically affect VOC content). Complying with PAR 1113 is not expected to increase the use of APEs in any PAR 1113 compliant formulations or interfere with coating manufacturing trends to produce APE-free low VOC products.

Further, PAR 1113 is only expected to require minor construction activities to install colorant equipment in existing retail facilities because compliance with PAR 1113 is expected to be met by reformulation of architectural coatings and colorants. For the same reason, PAR 1113 would not require the construction of any new buildings or other structures. Colorant systems at medium-sized retail facilities may need to be replaced. But these units are drop-in place units that would not need heavy-duty diesel construction equipment for installation and would be replaced within existing retail structures. As a result, implementing PAR 1113 is not expected to adversely affect in any way habitats that support riparian habitat, are federally protected wetlands, or are migratory corridors. Similarly, since implementing PAR 1113 would not require construction of any structures, special status plants, animals, or natural communities are not expected to be adversely affected.

IV.e) & f) It is not envisioned that PAR 1113 would conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because the proposed project does not require construction of any structures or new development in protected areas. Additionally, PAR 1113 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason.

The SCAQMD, as the Lead Agency for the proposed project, has found that, when considering the record as a whole, there is no evidence that PAR 1113 would have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in §753.5 (d), Title 14 of the California Code of Regulations.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required.

[8] http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/RIN2070-ZA09_NP-NPEs%20Action%20Plan_Final_2010-08-09.pdf

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource, site, or feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside formal cemeteries?	☐	☐	☐	☑

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V.a), b), c), & d) PAR 1113 does not require construction of new facilities, increasing the floor space of existing facilities, or any other construction activities that would require disturbing soil that may contain cultural resources. The only activities expected to occur as a result of PAR 1113 is the removal of old and replacement with new colorant dispensing units at existing retail facilities. The colorant dispensers are drop in replacements, so removal and installation would occur primarily using hand tools.

Since no heavy-duty construction-related activities requiring soil disturbance would be associated with the implementation of PAR 1113, no impacts to historical or cultural resources are anticipated to occur. Further, PAR 1113 is not expected to require physical changes to the environment, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries.

The ARB SCM for Architectural Coatings includes a separate category under the waterproofing concrete/masonry sealer for stone consolidants at 450 grams per liter to support historical preservation efforts by allowing limited use of these products under the direction of a stone conservation specialist, such as an architect, conservator, or engineer. Stone consolidants penetrate into stone substrates to help restore the integrity of crumbling or decayed materials. These products are often considered to be concrete treatments, rather than coatings, and are not

for general purpose use. The Technical Support Document for Proposed Amendments to the Suggested Control Measure for Architectural Coating states that "solventborne products are generally preferred, because it is believed that the solvent can penetrate deeper into the substrate and distribute the consolidate down to the undeteriorated stone."

The ARB SCM also includes a separate category for reactive penetrating sealers with a VOC content limit of 350 grams per liter. Reactive penetrating sealers penetrate and chemically react with concrete and masonry substrates to provide a breathable protective seal that is resistant to water, chemicals, and deicing salts. Reactive penetrating sealers are used to protect bridges and historic structures.

OHP and one stone consolidant manufacturer have requested that PAR 1113 also include new categories for stone consolidants and reactive penetrating sealers with VOC content limits of 450 and 350 grams per liter, respectively.

The VOC content limit for the waterproofing concrete/masonry sealers category is 100 grams per liter in existing Rule 1113. Stone consolidants are currently classified as a waterproofing concrete/masonry sealer under the existing Rule 1113. A stone consolidants category with a VOC content limit of 450 grams per liter would be added by PAR 1113. A reactive penetrating sealer category would be added with a VOC content limit of 350 grams per liter. Both products are currently used under the small container exemption. However, because PAR 1113 would increase the VOC content limit of stone consolidants and reactive penetrating sealers, these products would be available to conservators in more convenient sizes. Ten years of national sales records from the stone consolidant manufacturer and usage records from Caltrans since 1989 have shown consistent use of these products; therefore, no increase in usage is expected from PAR 1113. SCAQMD staff intends to monitor usage through the Rule 314 Annual Quantity and Emissions Reports to ensure that the sales does not exceed the estimated usage, and may consider sales caps for this category if actual sales are above the estimated usage.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PAR 1113 and will not be further assessed in this ~~Draft~~ Final EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with adopted energy conservation plans?	☐	☐	☑	☐
b) Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☑	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☑	☐
e)	Comply with existing energy standards?	☐	☐	☑	☐

Significance Criteria

Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI.a) & e) As noted in other discussions large architectural coating retailers have generally already replaced colorant equipment for reasons unrelated to PAR 1113. Small coating retailers are not expected to replace equipment because coating sales are a small part of their overall operations. It is expected that approximately 221 medium-sized coating retailers would replace colorant equipment with similar or identical colorant equipment. Replacement colorant dispensers are expected to use the same or similar amounts of electricity. For this reason, there is no reason to believe that operators would purchase equipment that would substantially increase electricity use, resulting in conflicts with adopted energy conservation plans or violate existing energy standards. Additionally, those who manufacture or use compliant architectural coatings are expected to comply with any relevant existing energy conservation plans and standards because compliant coatings are manufactured and applied using the same equipment as is currently used.

VI.b), c), & d) The manufacturing and use of compliant architectural coatings is expected to create little or no additional demand for energy at affected facilities because activities and practices that involve the manufacturing or application are not expected to change as a result of implementing PAR 1113. Based on the analysis in the Section III Air Quality and Greenhouse Gases of this EA, manufacturers are expected to use the same materials to manufacture compliant coatings compared to existing coatings except that less organic solvents would be used and more of the water-based solvents already in the coating would be used. Compliant architectural coatings are expected to be applied in a similar manner to existing coatings (i.e., sprayed, rolled or brushed on to structures and appurtenances). As such, PAR 1113 would

require little or no additional energy use to manufacture or apply compliant coatings that would increase the demand for energy or require new or modified energy utilities.

PAR 1113 may require the replacement or modification of colorant systems at up to 221 medium-sized retail facilities. Because the new or modified colorant systems are typically identical, or nearly identical, replacements are expected to use similar amounts of electricity. It is expected that old equipment would be removed and new equipment would be installed using hand tools. No heavy-duty diesel construction equipment would be needed for removal or installation of new colorant equipment.

The replacement or modification of colorant systems is expected to require one vehicle round trip to install or modify and one vehicle round-trip to dispose of the old unit or old parts. Two round trips with a one way distance would result in 16 gallons of diesel fuel use per store. Assuming two stores are modified per day, approximately 32 gallons of diesel fuel would be used per day. The total amount of diesel expected to be used to remove and replace colorant dispenser is 3,536 gallons.

The California Energy Commission projected that the year 2010 demand for diesel fuel would be 3,332,865,762 gallons.[9] Since 3,536 gallons of diesel fuel for the project is less than one percent (0.0001 percent) of the diesel demand in 2010, the proposed project is not considered to have a significant adverse operational impact for diesel fuel use.

In light of the above information and because the primary effect of PAR 1113 would be architectural coatings with slightly different formulations, PAR 1113 would not create any significant adverse effects on peak and base period demands for electricity, natural gas, or other forms of energy, or adversely affect energy producers or energy distribution infrastructure.

Based on the preceding discussion, PAR 1113 would not create any significant effects on peak and base period demands for electricity or other forms of energy and it is expected that any affected facilities would continue to comply with existing energy standards. Therefore, PAR 1113 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this ~~Draft~~ Final EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

[9] California Energy Commission, Transportation Energy Forecast and Analysis for the 2009 Integrated Energy Policy Report, Final Staff Report, Pub # CEC-600-2010-002-SF, http://www.energy.ca.gov/2010publications/ CEC-600-2010-002/CEC-600-2010-002-SF.PDF , May 2010.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☑
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☑
• Strong seismic ground shaking?	☐	☐	☐	☑
• Seismic–related ground failure, including liquefaction?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII.a) There are no provisions in PAR 1113 that would require the construction of new or modified structures or the construction or installation of air pollution control equipment that would call for the disruption or overcovering of soil, changes in topography or surface relief features, the erosion of beach sand, or a change in existing siltation rates. Colorant systems at existing medium sized retail facilities may need to be replaced. But these systems are drop-in place units that would not need heavy-duty diesel-fueled construction equipment and would be placed within existing retail structures with existing foundations; therefore, replacement of colorant systems is not expected to affect geology or soils. The manufacture of compliant architectural coatings is expected to occur at existing industrial facilities that already manufacture existing architectural coatings and no changes to equipment or operations are expected to be necessary to manufacture compliant coatings. It is expected that coating contractors or consumers who use compliant architectural coatings, would use these products in a similar manner to existing architectural coatings, so effects, if any, on geology or soils would not change compared to the existing setting.

Since PAR 1113 would not require the construction of new structures or modify any existing structures (other than replacing existing colorant dispensers within existing medium-sized resale facilities), PAR 1113 would not expose persons or property to new geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards.

VII.b) PAR 1113 is not expected to require construction activities to install build new structures or control equipment because compliance with PAR 1113 is expected to be met by reformulation of architectural coatings. Colorant systems at existing medium sized retail facilities may need to be replaced. But these units are drop-in-place units that would not need heavy-duty, diesel-fueled construction equipment and would be placed within existing retail structures. Since PAR 1113 would not involve heavy construction activities to build new structures or install control equipment, no soil disruption from excavation, grading, or filling activities; changes in topography or surface relief features; erosion of beach sand; or changes in existing siltation rates are anticipated from the implementation of the proposed project.

VII.c) Since no heavy construction activities to construct new structures would be required, no excavation, grading, or filling activities would be required to comply with the proposed project. Since no new structures would be built that could be affected by subsidence, subsidence is not anticipated to be a problem. Further, the proposed project would not require the drilling or removal of underground products (e.g., water, crude oil, etc.) that could produce subsidence effects. Since no groundwork or earth moving activities would be required as part of implementing PAR 1113, no new landslides effects or other changes to unique geologic features would occur.

VII.d) & e) Since PAR 1113 is not expected to require the installation of control equipment or the construction of any structures that would involve earth-moving activities, no persons or property would be exposed to new impacts from expansive soils or soils. Further, because PAR 1113 does not required construction of any structures that require wastewater disposal, the installation of septic tanks or other alternative waste water disposal systems is not anticipated as a result of adopting PAR 1113.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PAR 1113 and will not be further analyzed in this ~~Draft~~ Final EA. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	☐	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑	☐
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
g)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑	☐
h)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑	☐

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII.a), b), c), & h) PAR 1113 does not include provisions that would directly or indirectly dictate the use of any specific coating formulations with the exception of prohibiting Group II exempt solvents, which are, or are potentially toxic compounds. Prohibiting the use of Group II exempt compounds is a beneficial effect because it would reduce the potential for exposures to toxic or potentially toxic compounds by the general public. Persons who currently use architectural coatings would continue to have the flexibility of choosing the product formulation best suited for their needs. It is likely that persons who utilize these materials would choose architectural coatings that do not pose a substantial safety hazard. In addition, in response to increased customer awareness of toxic or hazardous materials and customer demand, colorant

and architectural coating manufacturers have on their own attempted to reduce the amount of hazardous materials included in coatings.

TOXICS AND FLAMMABILITY

Section III.d) evaluates toxics from affected architectural coatings. Based on a comparison of toxics identified in MSDSs from PAR 1113 non-compliant coatings and PAR 1113 compliant coatings, toxic concentrations in affected architectural coatings remain either the same or are reduced with the exemption of faux finish coatings. Therefore, only toxic hazards from faux finish coatings are evaluated the analysis below.

~~Because PAR 1113 would likely require reformulation of some coating products to comply with lower VOC content limits or in response to changes to the averaging compliance option provision, use of some solvents in coatings, including Group I exempt compounds, may result in products with a higher flammability ratings.~~ Coating components may have differing flammability characteristics. Therefore, impacts associated with fire hazards would be considered significant if the project creates a significant fire hazard to the public through the use of more flammable materials by consumers.

SCAQMD staff prepared an analysis of flammability of affected PAR 1113 compliant coatings that is similar to the analysis of toxic air contaminants in PAR 1113 compliant coatings described in Section III.d) of this EA. Based on discussions with coating manufacturers, the solids in coatings are not expected to change as a result of implementing PAR 1113; therefore, only hazards from solvents in coating formulations were evaluated.

SCAQMD staff reviewed MSDSs for coatings in the Rule 314 database for products shipped in 2008 and 2009. Affected architectural coatings (dry fog coatings; faux finish clear topcoats, fire proofing coatings; graphic arts coatings; <u>mastic coatings,</u> metallic pigment coatings; and trowel applied faux finish coatings) that have VOC contents greater than the VOC content limits proposed for PAR 1113 and had a sales volume greater than one percent of the total sales of that category were used to represent the coatings that would need to be reformulated.

Assuming that coatings reformulated to comply with PAR 1113 would be similar to existing coatings that already comply with PAR 1113, architectural coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 data were also added.

A number of physical or chemical properties may cause a substance to be a fire hazard. With respect to determining whether any conventional or replacement solvent is a fire hazard, MSDS lists the National Fire Protection Association 704 flammability hazard ratings (i.e. NFPA 704). NFPA 704 is a "standard (that) provides a readily recognized, easily understood system for identifying flammability hazards and their severity using spatial, visual, and numerical methods to describe in simple terms the relative flammability hazards of a material[10].

[10] National Fire Protection Association, FAQ for Standard 704. http://www.nfpa.org/faq.asp?categoryID=928&cookie%5Ftest=1#23057

Although substances can have the same NFPA 704 Flammability Ratings Code, other factors can make each substance's fire hazard very different from each other. For this reason, additional chemical characteristics, such as auto-ignition temperature, boiling point, evaporation rate, flash point, lower explosive limit (LEL), upper explosive limit (UEL), and vapor pressure, are also considered when determining whether a substance is fire hazard. The following is a brief description of each these chemical characteristics.

Auto-ignition Temperature: The auto-ignition temperature of a substance is the lowest temperature at which it will spontaneously ignite in a normal atmosphere without an external source of ignition, such as a flame or spark.

Boiling Point: The boiling point of a substance is the temperature at which the vapor pressure of the liquid equals the environmental pressure surrounding the liquid. Boiling is a process in which molecules anywhere in the liquid escape, resulting in the formation of vapor bubbles within the liquid.

Evaporation Rate: Evaporation rate is the rate at which a material will vaporize (evaporate, change from liquid to a vapor) compared to the rate of vaporization of a specific known material. This quantity is a represented as a unitless ratio. For example, a substance with a high evaporation rate will readily form a vapor which can be inhaled or explode, and thus have a higher hazard risk. Evaporation rates generally have an inverse relationship to boiling points, (i.e., the higher the boiling point, the lower the rate of evaporation).

Flash Point: Flash point is the lowest temperature at which a volatile liquid can vaporize to form an ignitable mixture in air. Measuring a liquid's flash point requires an ignition source. At the flash point, the vapor may cease to burn when the source of ignition is removed. There are different methods that can be used to determine the flashpoint of a solvent but the most frequently used method is the Tagliabue Closed Cup standard (ASTM D56), also known as the TCC. The flashpoint is determined by a TCC laboratory device which is used to determine the flash point of mobile petroleum liquids with flash point temperatures below 175 degrees Fahrenheit (79.4 degrees Centigrade).

Flash point is a particularly important measure of the fire hazard of a substance. For example, the Consumer Products Safety Commission (CPSC) promulgated Labeling and Banning Requirements for Chemicals and Other Hazardous Substances in 15 U.S.C.§1261 and 16 CFR Part 1500. Per the CPSC, the flammability of a product is defined in 16 CFR Part 1500.3 (c)(6) and is based on flash point. For example, a liquid needs to be labeled as: 1) "Extremely Flammable" if the flash point is below 20 degrees Fahrenheit; 2) "Flammable" if the flash point is above 20 degrees Fahrenheit but less than 100 degrees Fahrenheit; or, 3) "Combustible" if the flash point is above 100 degrees Fahrenheit up to and including 150 degrees Fahrenheit.

Lower Explosive Limit (LEL): The lower explosive limit of a gas or a vapor is the limiting concentration (in air) that is needed for the gas to ignite and explode or the lowest concentration (percentage) of a gas or a vapor in air capable of producing a flash of fire in presence of an ignition source (e.g., arc, flame, or heat). If the concentration of a substance in air is below the LEL, there is not enough fuel to continue an explosion. In other words, concentrations lower than the LEL are "too lean" to burn. For example, methane gas has a LEL of 4.4 percent (at 138 degrees Centigrade) by volume, meaning 4.4 percent of the total volume of the air consists of

methane. At 20 degrees Centigrade, the LEL for methane is 5.1 percent by volume. If the atmosphere has less that 5.1 percent methane, an explosion cannot occur even if a source of ignition is present. When the concentration of methane reaches 5.1 percent, an explosion can occur if there is an ignition source.

Upper Explosive Limit (UEL): The upper explosive limit of a gas or a vapor is the highest concentration (percentage) of a gas or a vapor in air capable of producing a flash of fire in presence of an ignition source (e.g., arc, flame, or heat). Concentrations of a substance in air above the UEL are "too rich" to burn.

Vapor Pressure: Vapor pressure is an indicator of a chemical's tendency to evaporate into gaseous form.

The types and amounts of flammable solvents in the coatings remained the same or were reduced or were eliminated in the PAR 1113 compliant coatings when compared to the PAR 1113 non-compliant coatings (see Table 2-10) with the exemption of faux finishing coatings. A detailed summary is included in Appendix B. Table 2-11 presents all flammable solvents identified in MSDS for coatings evaluated in this analysis and their flammable characteristics.

Therefore, since based on the review of MSDSs flammable solvents might increase only in PAR 1113 compliant faux finish coatings, only faux finish coatings were evaluated in the hazard analysis. Hazard impacts were evaluated from manufacturing, distribution and sales and use (application) of faux finish coatings.

Manufacturing

MSDSs for PAR 1113 non-compliant and complaint coatings were evaluated to identify toxic and hazardous constituents. With the exception of faux finish coatings the analysis of MSDSs showed a reduction in toxic and flammable materials in PAR 1113 compliant coatings compared to PAR 1113 non-compliant coatings.

Manufacturing operations comprise receiving and storing raw material, crushing and mixing operations, and storage of architectural coatings. Emissions from manufacturing architectural coatings are expected to be smaller than emission from accidental releases because manufacturing operations are typically done in enclosed containers and systems. In addition, manufacturing operations are permitted, and therefore, required to apply best available control technology, while architectural coatings are typically used outdoors. The following is an analysis of hazards from accidental release of raw material from the manufacturing process from faux finish coatings and mastic coatings, which are ~~is~~ the worst-case scenarios for manufacturing.

Table 2-10
Maximum Concentrations of Flammable Solvent in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Coating Solvent	PAR 1113 Non-Compliant (weight percent)								PAR 1113 Compliant (weight percent)							
	Dry Fog Coatings	Faux Finish Clear Coat	Fire Proofing Exterior Coatings	Form Release	Graphic Arts Coatings	Mastic Coatings	Metallic Pigmented Coatings	Trowel Applied Faux Finish	Dry Fog Coatings	Faux Finish Clear Coat	Fire Proofing Exterior Coatings	Form Release	Graphic Arts Coatings	Mastic Coatings	Metallic Pigmented Coatings	Trowel Applied Faux Finish
1,3,5-Trimethylbenzene							26.1									
1,2,4 Trimethylbenzene						5										
2,2,4-trimethyl-1, 3-pentanediol monoisobutyrate						5								5		
Asphalt						70								60		
Benzyl alcohol														5		
Butyl benzyl phthalate														40		
Di(2-Ethylhexyl)Phthalate														0.1		
Dimethyl phthalate						0.5										
Diesel				100												
Diethylene glycol monobutyl ether							10.2									
Dipropylene glycol ether					15											
Dipropylene glycol monobutyl ether								5								
Ethanol	2															
Ethylbenzene	1		5			10	2.4									
Ethylene glycol						3	2.7							3		5.3[2]
Ethylene glycol butyl ether	4	0.29			5											
Ethylene monopropyl Ether					5											
Hydrotreated light naphthenic distillate														60		
Isopropanol	4															

Table 2-10 (concluded)
Maximum Concentrations of Flammable Solvent in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Coating Solvent	PAR 1113 Non-Compliant (weight percent))								PAR 1113 Compliant (weight percent)							
	Dry Fog Coatings	Faux Finish Clear Coat	Fire Proofing Exterior Coatings	Form Release	Graphic Arts Coatings	Mastic Coatings	Metallic Pigmented Coatings	Trowel Applied Faux Finish	Dry Fog Coatings	Faux Finish Clear Coat	Fire Proofing Exterior Coatings	Form Release	Graphic Arts Coatings	Mastic Coatings	Metallic Pigmented Coatings	Trowel Applied Faux Finish
Methanol					1											
Methylene diphenyl isocyanate						0.02								5		
Methyl ethyl ketone			15			40										
Methyl isoamyl ketone			5													
Mineral spirits				30	50											
n-Methylpyrrolidone					10											
Polypropylene glycol alkyl phenyl ether														5		
Propylene glycol		5			5	40	2.6	70	5				5	5	2	4[2]
Propylene glycol monomethyl ether							70									
Styrene	20								20							
Toluene			15				10				10				7	
Triethanolamine												5				
Triethylamine										0.5						
Tris-2,4,6-(dimethylaminomethyl) phenol						40					10					
V. M. & P. Naphtha	24					0.02										
Xylene	1		20			40	9.9									

1. Maximum weight percents from review of MSDSs.
2. PAR 1113 compliant coatings weight percent is greater than PAR 1113 non-compliant coatings weight percent (i.e., the PAR 1113 compliant coatings have higher toxic concentration than PAR 1113 non-compliant coatings).

Table 2-11
Flammable Characteristics of Coating Solvents

Chemical Compound	Auto-ignition Temperature (°F)	Boiling Point (@760 mmHg, °F)	Evaporation Rate @25 °C (Butyl Acetate = 1)	Flash Point (°F)	LEL/UEL [a] (% by Vol.)	Vapor Pressure (mmHg @ 20 °C)	NFPA Flammability Rating [b]	Flammability [c]
1,2,4 Trimethylbenzene	932	337	0.01	112	0.9/6.4	1	2	~~Flammable~~ Combustible
1,2-Diaminocyclohexane	N/A	200	N/A	167	N/A	0.4	2	~~Flammable~~ Combustible
1,3,5 Trimethylbenzene	550	329	0.01	122	2.6/12.5	2	2	~~Flammable~~ Combustible
2,2,4-trimethyl-1, 3- pentanediol monoisobutyrate	740.0	471.0	0.01	247.98	0.62/4.24	<0.01	1	Combustible
Asphalt	> 905	649	NA	> 424	0.9/7	Negligible	1	Combustible
Benzyl alcohol	817	401	1.8	199	1.3/13	0.15	2	~~Flammable~~ Combustible
Butyl benzyl phthalate	451	698	NA	390	1.2/	8.6e-06	1	Combustible
Denatured Alcohol (Ethanol)	435	78	2.3	56	3.3/19	44	3	Flammable
Di(2-ethylhexyl)phthalate (DEHP)	419	446	NA	419	0.3/	<0.01	1	Combustible
Diesel	500	320-700	<1	125	0.3/10	0.40	2	~~Flammable~~ Combustible
Diethylene glycol	444	471 - 473	N/A	255	1.6/10.8	1	1	~~Flammable~~ Combustible
Diethylene glycol butyl ether	442	448	0.01	172	1.2/8.5	0.01	2	~~Flammable~~ Combustible
Dipropylene glycol methyl ether	278.6	408	N/A	180	1.1/3	0.5	3	~~Flammable~~ Combustible
Ethylbenzene	809.6	276.8	0.84	70	0.8/7	6.75	3	Flammable
Ethylene glycol	748	388	0.01	232	3.2/ 15.3	0.06	1	~~Flammable~~ Combustible
Ethylene glycol monobutyl ether	460	340	0.07	144	1.1/12.7	0.8	2	Combustible Liquid
Ethylene monopropyl ether	455	301	N/A	120.0	1.3/ 5.8	0.038	2	~~Flammable~~ Combustible
Glycerine	698	554	N/A	390	0.9/N/A	0.0025	1	~~Flammable~~ Combustible
Hydrotreated light naphthenic distillate	>650	>350	0.001	>293	NA	0.04	1	Combustible
Isopropyl Alcohol	399	180	2.3	53	2/12.7	33	3	Flammable
Methanol	867	147	5.9	54	6/36	97	3	Flammable
Methyl ethyl ketone	474	80	4.0	16	1.8/11.5	8.7	3	Extremely Flammable
Methyl isoamyl ketone	860	291	0.46	97	1/8.2	5	3	Flammable
Mineral Spirits (Stoddard)	232	154-188	0.1	109-113	1.0 / 7	1.1	2	Combustible
Polyethylene glycol	N/A	482	N/A	182 - 287	N/A	0.01	1	~~Flammable~~ Combustible
Polypropylene glycol alkyl phenyl ether	NA	> 300	NA	> 200	NA	0.01	1	Combustible
Propylene glycol	700	370	0.01	210	2.6/ 12.5	0.129	1	~~Flammable~~ Combustible
Propylene glycol monomethyl ether	278.6	248.2	0.62	96.8	3/13.8	12.5	3	Flammable
Styrene	914	293 - 295	0.5	88	0.9/6.8	5	2	Flammable
Toluene	538	111	2.0	41	1.3/7	22	3	Flammable
Triethanolamine	599	635	< 1	354	1.3/8.5	< 0.01	1	~~Flammable~~ Combustible
Triethylamine	480	194	5.6	16	1.2/8.0	57.1	3	Extremely Flammable
Tris-2,4,6-(dimethylaminomethyl)phenol	266 - 275	N/A	N/A	255	N/A	N/A	1	~~Flammable~~ Combustible

Table 2-11 (concluded)
Flammable Characteristics of Coating Solvents

Chemical Compound	Auto-ignition Temperature (^{o}F)	Boiling Point (@760 mmHg, ^{o}F)	Evaporation Rate @25 ^{o}C (Butyl Acetate = 1)	Flash Point (^{o}F)	LEL/UEL [a] (% by Vol.)	Vapor Pressure (mmHg @ 20 ^{o}C)	NFPA Flammability Rating [b]	Flammability [c]
VM&P Naphtha	288	266.9	1.2	53.1	1.2/6	20	3	Flammable
Xylene	499	139	0.8	81	1.0/6.6	6	3	Flammable

[a] Lower Explosive Limit / Upper Explosive Limit

[b] NFPA Flammability Rating: 0 = Not Combustible; 1 = Combustible if heated; 2 = Caution: Combustible liquid flash point of 100^{o} to 200^{o}F; 3 = Warning: Flammable liquid flash point below 100^{o}F; 4 = Danger: Flammable gas or extremely flammable liquid

[c] The Consumer Products Safety Commission (CPSC) has Labeling and Banning Requirements for Chemicals and Other Hazardous Substances which are located in 15 U.S.C.§1261 and 16 CFR Part 1500. Specifically, the flammability of a product is defined in 16 CFR Part 1500.3 (c)(6) and is based on flash point. For example, a flammable liquid needs to be labeled as: 1) "Extremely Flammable" if the flash point is below 20 ^{o}F; 2) "Flammable" if the flash point is above 20 ^{o}F but less than 100^{o}F; or, 3) "Combustible" if the flash point is above 100 ^{o}F up to and including 150 ^{o}F.

Sources: OxyChem Specialty Business Group, EPA (Cameo Chemicals), ARB, Science Lab.com, Dow Chemical, J.T. Baker, ATSDR CDC , Vinyl Acetate Council, Sigma-Aldrich, and Phillips Petroleum, The European Chemical Industry Council, Hill Brothers Chemical Company, BASF, Tulstar Products

Trowel Applied Faux Finishing Coatings

Only one toxic air contaminant (ethylene glycol) was identified in PAR 1113 compliant trowel applied faux finish coatings that was not identified in PAR 1113 non-compliant trowel applied faux finish coatings. Glycol ethers are commonly used to improve flow, leveling characteristics, lengthen drying time and improve bonding with by softening primer undercoats. Ethylene glycol is a chronic non-carcinogenic toxic air contaminant. Ethylene glycol does not have carcinogenic or acute non-carcinogenic health risk values listed by OEHHA. Therefore, ethylene glycol is not considered a carcinogen or acute non-carcinogenic air toxic for this analysis. Any accidental release of ethylene glycol is expected to be a onetime event. Chronic non-carcinogenic heath risk is estimated for long term exposures. Since ethylene glycol does not have any acute health risk values and any accidental releases are expected to be cleaned up within a short period of time (within a day or two), no significant adverse toxic impacts would be expected from an accidental release related to trowel applied faux finish coatings.

Ethylene glycol has a NFPA flammability rating of 1, which is low compared to other glycols used in architectural coating manufacturing (see NFPA flammability ratings for diethylene glycol, diethylene glycol butyl ether, dipropylene glycol methyl ether, dipropylene glycol monobutyl ether, ethylene glycol monobutyl ether, ethylene monopropyl ether, polyethylene glycol, propylene glycol, propylene glycol monomethyl ether in Table 2-11). Because glycol ethers are common and ethylene glycol has a low NFPA flammability compared to other glycol ethers, the use of ethylene glycols in the manufacturing of PAR 1113 compliant trowel applied faux finish coatings is not expected to increase adverse flammable impacts to trowel applied faux finish coatings manufacturing or any related accidental releases.

Propylene glycol was identified in one PAR 1113 compliant trowel applied faux finish coatings, but was not identified in PAR 1113 non-compliant trowel applied faux finish coatings. Propylene glycol does not have health risk values listed by OEHHA. Therefore, propylene glycol is not expected to increase health risk.

Propylene glycol has a NFPA flammability rating of 1, which is low compared to other glycols used in architectural coating manufacturing (see NFPA flammability ratings for diethylene glycol, diethylene glycol butyl ether, dipropylene glycol methyl ether, dipropylene glycol monobutyl ether, ethylene glycol, ethylene glycol monobutyl ether, ethylene monopropyl ether, polyethylene glycol, propylene glycol monomethyl ether). Because glycol ethers are common and propylene glycol has a low NFPA flammability compared to other glycol ethers, the use of propylene glycol in the manufacturing of PAR 1113 compliant trowel applied faux finish coatings is not expected to increase adverse flammable impacts to trowel applied faux finish coatings manufacturing or any related accidental releases.

Faux Finish Clear Topcoats

Only one toxic air contaminant (triethylamine) was identified in a PAR 1113 compliant faux finish clear topcoat product line and was not identified in PAR 1113 non-compliant faux finish clear topcoats. Triethylamine is an acute and chronic non-carcinogenic toxic air contaminant. Triethylamine does not have carcinogenic health risk values listed by OEHHA. Therefore, ethylene glycol is not considered a carcinogen for this analysis. Triethylamine is a trace chemical in waterborne polymer (0.6 percent by weight) that is used in the manufacturing of a PAR 1113 compliant faux finish clear topcoat product line, and is considered is an acute and chronic non-carcinogenic toxic air contaminant. Waterborne polymer is expected to be used in

275-gallon totes. Any accidental release of the waterborne polymer is considered a onetime event, so no chronic non-carcinogenic health risk are expected. The health risk from triethylamine emissions from an accidental release would result in an acute hazard index of 0.9. In addition, the acute non-carcinogenic health risk is likely to be less because spills are likely to be neutralized and cleaned up before all of the waterborne polymer has dried (i.e., all the triethylamine has evaporated).

Triethylamine has a NFPA rating of 3. However, at a concentration of 0.6 percent by weight in the waterborne polymer, the flammability of the triethylamine is expected to be less than significant. The final faux finish clear topcoat product, which has a triethylamine concentration of 0.4 percent by weight has a NFPA rating of zero. Therefore, no increase in adverse flammable impacts are expected from using triethylamine in compliant faux finish clear topcoat products or any related accidental release is expected.

Mastic Coatings

Based on the review of MSDSs for mastic coatings reported under Rule 314 the following compounds were identified in PAR 1113 compliant coatings and not in PAR 1113 non-compliant coatings: benzyl alcohol, butyl benzyl phthalate, DEHP, ethylene glycol, hydrotreated light naphthenic distillate, methylene diphenyl isocyanate, polypropylene glycol alkyl phenyl ether, and propylene glycol. All of these compounds have a NFPA rating of one. PAR 1113 non-compliant coatings had compounds with NFPA ratings between one and three (higher number represent higher flammability – see Table 2-10). Therefore, the use of these compounds in the manufacturing of PAR 1113 compliant coatings is not expected to increase mastic flammability.

Distribution and Sales

Architectural coatings are typically packaged and transported in containers that are less than five gallons by volume. Trowel applied faux finishes may be packed in containers that are less than five gallons in volume or packed dry in bags that are less than 80 pounds by weight.

Exposure to toxics and flammable substances in coatings would likely only be related to an accidental release. As stated above, based on a review of MSDSs PAR 1113 compliant affected architectural coatings are expected to have less toxic and flammable compounds than PAR 1113 non-compliant affected architectural coatings with the exception of trowel applied faux finish coatings and faux finish clear topcoats.

Trowel Applied Faux Finishing Coatings

Trowel applied faux finish coatings ~~that~~ are packaged as dry material in 10 to 80 pound bags. Because the ethylene glycol and propylene glycol are less than five percent by weight of the towel applied faux finish coatings and the coatings are packaged dry, no increase in toxicity or flammability is expected from accidental release, which are expected to be easily vacuumed or swept up.

Faux Finish Clear Coats

Triethylamine is a trace component (maximum 0.48 percent) of a PAR 1113 compliant faux finish clear topcoat product line. OEHHA lists both acute and chronic non-carcinogenic health risk values for triethylamine. Since accidental releases are expected to be onetime events, chronic non-carcinogenic health risk is not expected. Typically the largest faux finish clear topcoat container available for retail sale is five gallons. The chronic non-carcinogenic health

risk of emitting all the triethylamine in a five-gallon container of faux finish clear topcoat in one hour is 0.1, which is less than the significance threshold of 1.0. In addition, the chronic non-carcinogenic health risk is likely to be less because spills are likely to be neutralized and cleaned up before all of the faux finish clear topcoat has dried (i.e., all the triethylamine has evaporated).

The MSDS lists the NFPA flammability of PAR 1113 compliant faux finish clear topcoat product line as zero. Therefore, the use of a faux finish clear topcoat with trace triethylamine is not expected to increase adverse flammable impacts from use.

Mastic Coatings

Based on the review of MSDSs for mastic coatings reported under Rule 314 the following compounds were identified in PAR 1113 compliant coatings and not in PAR 1113 non-compliant coatings: benzyl alcohol, butyl benzyl phthalate, DEHP, ethylene glycol, hydrotreated light naphthenic distillate, methylene diphenyl isocyanate, polypropylene glycol alkyl phenyl ether, and propylene glycol. All of these compounds have a NFPA rating of one. PAR 1113 non-compliant coatings had compounds with NFPA ratings between one and three (higher numbers represent higher flammability– see Table 2-10). Therefore, compounds in PAR 1113 compliant coatings are not expected to increase mastic flammability related to sales and distribution.

Coating Use (Application)

As stated above, based on a review of MSDSs PAR 1113 compliant affected architectural coatings are expected to have less toxic and flammable compounds than PAR 1113 non-compliant affected architectural coatings with the exception of trowel applied faux finish coatings and faux finish clear topcoats. Therefore, in general adverse hazard impacts from toxics and flammable compounds are expected to be reduced indirectly by the lower VOC content limits in PAR 1113. Hazard impacts from the use of compliant trowel applied faux finish coatings and faux finish clear topcoats are presented as follows:

Trowel Applied Faux Finish

Health risks from ethylene glycol related to coating use are evaluated in Section III d). Ethylene glycol is not listed as a carcinogen by OEHHA, so there would be no increase in carcinogenic health risk from ethylene glycol in towel applied faux finish coatings. Ethylene glycol is listed by OEHHA has a chronic non-carcinogenic toxic air contaminant. Since towel applied faux finish coatings are expected only to be applied once on a structure, no chronic non-carcinogenic is expected. PAR 1113 compliant towel applied faux finishes may also contain propylene glycol. Propylene glycol does not have any health risk values listed by OEHHA, so no increase in health risk is expected from the propylene glycol. So no health risk from use or accidental release of towel applied faux finish coatings during use (application) is expected.

Ethylene glycol and propylene glycol are included in towel applied faux finish coatings that are packaged as dry material in 10 to 80 pound bags. Because the ethylene glycol and propylene glycol are less than five percent by weight of the towel applied faux finish coatings and the coatings are packaged dry and mixed with water for use, no increase in flammability from use (application) or accidental release during use is expected.

Faux Finish Clear Topcoats

Triethylamine is a trace component (maximum 0.48 percent) of a PAR 1113 compliant faux finish clear topcoat product line. OEHHA lists both acute and chronic non-carcinogenic health

risk values for triethylamine. Both acute and chronic non-carcinogenic health risk from use of a faux finish clear topcoat with triethylamine were determined to be less than significant in Section III.d) of this EA. The MSDS lists the NFPA flammability of PAR 1113 compliant faux finish clear topcoat product line as zero. Therefore, the use of a faux finish clear topcoat with trace triethylamine is not expected to increase adverse flammable impacts from use (application).

Typically the largest faux finish clear topcoat container available for retail sale is five gallons. The acute non-carcinogenic health risk of emitting all the triethylamine in a five-gallon container of faux finish clear topcoat in one hour is 0.12, which is less than the significance threshold of 1.0. In addition, the acute non-carcinogenic health risk is likely to be less because spills are likely to be neutralized and cleaned up before all of the faux finish clear topcoat has dried (i.e., all the triethylamine has evaporated).

Mastic Coatings

Based on the review of MSDSs for mastic coatings reported under Rule 314 the following compounds were identified in PAR 1113 compliant coatings and not in PAR 1113 non-compliant coatings: benzyl alcohol, butyl benzyl phthalate, DEHP, ethylene glycol, hydrotreated light naphthenic distillate, methylene diphenyl isocyanate, polypropylene glycol alkyl phenyl ether, and propylene glycol. All of these compounds have a NFPA rating of one. PAR 1113 non-compliant coatings had compounds with NFPA ratings between one and three (higher numbers represent higher flammability– see Table 2-10). Therefore, the use of PAR 1113 compliant coatings containing these compounds is not expected to increase mastic flammability.

Colorants

Existing colorants typically contain glycols as humectants. MSDSs also list ethylbenzene, isopropyl, mineral spirits and glycerin. Some of these glycols, such as ethylene glycol are considered toxic air contaminants. MSDSs for low-VOC PAR 1113 compliant colorants were reviewed and no toxic or flammable substances were identified. Therefore, no increase in toxicity or flammability is expected from manufacturing, selling or use (application) of PAR 1113 compliant colorants or any accidental release related to manufacturing, selling or use.

Stone Consolidants and Reactive Penetrating Sealers

Stone consolidants are niche products that are used for historic restoration. Reactive penetrating sealers are niche products that are used for historic restoration and to protect bridges by Caltrans. The products are currently used in small containers. PAR 1113 would create new categories for stone consolidants and reactive penetrating sealers with VOC content limits of 450 and 350 grams per liter respectively. Currently, these coatings are considered waterproofing concrete/masonry sealers, which has a VOC content limit of 100 grams per liter in the existing Rule 1113.

Usage has been low and consistent state-wide and nationally for stone consolidants and reactive penetrating sealers for historical restoration. As stated in the VOC emissions discussion in Section III.b) & f), usage for stone consolidants and reactive penetrating sealer has been consistently low state-wide and nationally for stone consolidants and reactive penetrating sealers for historical restoration and Caltrans because they are used in very specialized niche applications. Based on these records and Rule 314 data, SCAQMD staff estimates usages would remain consistent with existing usages, which are approximately 142 gallons of stone consolidant used per year and 290 gallons of reactive penetrating sealer used per year.

Therefore, no increased use of these products is expected. Since there is no increase in manufacturing, sell or use, new adverse toxic or flammable impacts are not expected from the manufacturing, sell or use of PAR 1113 compliant stone consolidants or reactive penetrating sealers or accidental releases related to the manufacturing, sell or use of PAR 1113 compliant stone consolidants or reactive penetrating sealers.

VIII.d) Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. Since PAR 1113 relates to coatings, it is not expected to have direct impacts on facilities affected by Government Code §65962.5 Facilities affected by Government Code §65962.5 would still need to comply with any regulations relating to that code section. The use of PAR 1113 compliant coatings is not expected to interfere with existing hazardous waste management programs and based on analyses presented earlier in this section (VIII.a), b), c), & h)) and in Section III. Air Quality and Greenhouse Gases of this document, PAR 1113 may reduce the amount of hazardous materials in architectural coatings. Accordingly, PAR 1113 is not expected to result in a new significant impact to the public or environment from sites on lists compiled pursuant to Government Code §65962.5.

Lastly, affected facilities would be expected to continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations.

VIII.e) Since the use of PAR 1113 compliant coatings is not expected to generate significant adverse new hazardous emissions in general or increase the manufacture or use of hazardous materials, the implementation of PAR 1113 is not expected to increase or create any new safety hazards to people working or residing in the vicinity of public/private airports. As stated above, PAR 1113 compliant coatings tings are expected to be reformulated with less toxic and hazardous material content than PAR 1113 non-compliant coatings.

VIII.f) As already noted PAR 1113 compliant coatings would likely be formulated with less toxic materials than PAR 1113 non-compliant coatings. Further, PAR 1113 compliant coatings are expected to be manufactured, transported, stored and applied in the same quantities as PAR 1113 non-compliant coatings. As a result, PAR 1113 is not expected to conflict with business emergency response plans. With respect to suppliers and sellers of affected architectural coatings, 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 analysis in VIII.a), b), & c) and VIII.h), PAR 1113 coatings are expected to have similar or less hazardous properties than existing architectural coatings. Therefore PAR 1113 is not expected to impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII.g) Since PAR 1113 compliant coatings are not expected to increase fire hazards and may reduce them (see VIII. a), b), c) &h)), risk of loss or injury associated with wildland fires is not expected as a result of implementing PAR 1113. Therefore, PAR 1113 is not expected to be significant for exposing people or structures to risk of loss, injury or death involving wildland fires.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PAR 1113. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a)	Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	☐	☐	☑	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	☐	☐	☐	☑
d)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
e)	Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑
g)	Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
h)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
i)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑	☐

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.

- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

IX. a) To evaluate potential water quality impacts from PAR 1113, it is assumed that future compliant coatings would be formulated primarily with waterborne technologies. As a result, more water would 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 would continue into the future. Table 2-12 illustrates the "worst-case" potential increase of waste material likely to be received by publicly owned treatment works (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.

The potential increase in the volume of wastewater estimated as a result of implementing PAR 1113 is considered to be within the projected capacity of local POTWs in the district based on historical wastewater data. Hence, wastewater impacts associated with the disposal of waterborne coating clean-up wastewater generated from PAR 1113 compliant coating categories are not considered significant.

State and federal regulations promote the development and use of coatings formulated with non-hazardous solvents. Based on discussions with colorant and coating formulators, the trend in coating technologies is to replace toxic/hazardous solvents with equal or less toxic/hazardous solvents. This trend was verified by review of MSDSs as noted in Sub-sections III.b), VIII.a), b), & c) and VIII.h). Therefore, wastewater which may be generated from reformulated coatings is expected to contain less hazardous materials than the wastewater generated for solventborne coating operations, thereby potentially reducing toxic influent to the POTWs.

Table 2-12
Projected POTW Impact from Implementing PAR 1113

Year	POTW Average Wastewater Flow[a], million gal per day	POTW Treatment Capacity[b] million gal per day	Estimated Affected Coating Usage, gal per year	Projected PAR 1113 Wastewater Flow[c], gallon per year	Projected PAR 1113 Wastewater Flow[c], gallon per day	Total Impacts, Percent of POTW Average Daily Flow
2010	1,413	2,000	3,350,316	3,350,316	9,179	0.0006

a) Total average daily wastewater flows handled by all POTWs greater than 10 million gallons per day in the district from the 2007 AQMP
b) Based on design daily flows by all POTWs greater than 10 million gallons per day in the district from the 2007 AQMP
c) Assumes one gallon of water would be used to clean-up equipment for every gallon of coating applied. This estimate includes the water used in humidifiers and for purging lines in colorant systems.

A comment was made early in the development of PAR 1113, that sub-components of compliant colorants (biocides, humectants, surfactants, plasticizers, etc.) may leach out of painted surfaces. SCAQMD staff has not identified any material that supports this claim. Based on discussions with a coating manufacturer representative, coatings comprise approximately 30 percent of the cost of a project requiring architectural coatings; the remaining 70 percent is attributed to labor cost. The representatives said that failure of the coating film (leaching of sub-components) would be resolved in testing of the coatings, and if such failures occurred in the field it would likely place such companies out of business. They also stated that biocides, surfactants and plasticizers used in PAR 1113 compliant coatings are similar to those used in existing colorants. Different humectants may be used, but waterborne humectants that are less toxic than existing glycol humectants would be used in the new formulations.

In the past the SCAQMD has received comments that with the increased use of waterborne technologies to meet the lower VOC content limits, there would 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 in improper disposal over current practices due to greater use of waterborne 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.[11] The survey was prepared to evaluate the reformulation of solventborne coatings with waterborne coatings. Many of the affected coatings are already waterborne and PAR 1113 would only reduce solvents used in waterborne coatings. Based upon these results, there is no reason to expect that paint contractors would change their disposal practices, especially those that dispose of wastes properly, with the implementation of PAR 1113. Similarly, here is also no evidence that illegal disposal practices would increase as a result of implementing PAR 1113.

Since the proposed project is not expected to generate significant adverse water quality impacts industry-wide, no changes to existing wastewater treatment permits at affected coating manufacturing facilities are expected to be necessary. As a result, it is expected that operators of affected facilities would continue to comply with existing wastewater treatment requirements of the applicable Regional Water Quality Control Boards or sanitation districts.

With the increasing trend toward less toxic waterborne coatings, it is likely that water quality impacts from implementing PAR 1113 would be equivalent to or less than water quality impacts from coatings affected by PAR 1113. Therefore, PAR 1113 would not significantly adversely affect water resources by violating water quality standards, exceed wastewater treatment requirement of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality.

[11] SCAQMD, Final Subsequent Environmental Assessment, SCAQMD No. 960626DWS, October 1996. Contractor survey prepared by SCAQMD staff for the November 1996 amendments to Rule 1113. In November 2008, a paint manufacture conducted a survey of 180 Southern California residential and professional painters. The conclusion was that a majority professional painters use hazardous waste disposal service to dispose of coatings instead of air drying coatings, and then disposing of as a solid waste.

IX. b) & h) Historically, potential water demand to reformulate conventional coatings into waterborne coatings and to clean up waterborne 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 manufacturers of waterborne coatings and water used by consumers to clean coating equipment. As shown in Table 2-13, water demand associated with the manufacture and clean-up of waterborne formulations is estimated to be 18,358 gallons per day (6.7 million gallons per year). This increased water demand does not exceed the SCAQMD's significant thresholds of 5,000,000 gallons per day of total demand or 262,820 gallon per day of potable water demand and, therefore, is not considered to be a significant water demand impact.

Table 2-13
Projected Water Demand from Implementing PAR 1113

Year	Projected Water Supplied,[a] billion gal per year	Projected Water Demand with 20 Percent Reduction,[b] billion gal per year	Projected Coating Sales,[c] million gal per year	Projected Mfgr Water Demand,[d] million gal per year	Projected Cleanup Water Demand [e], million gal per year	PAR 1113 Total Water Demand, [f] million gal per year	PAR 1113 Total Demand,[f] gal per day	Total Impacts,[g] percent of demand
2010	1,498	1,198	3.35	3.35	3.35	6.70	18,358	0.0004

a) Water demand and supply projections obtained from hydrology setting in 2007 AQMP.
b) On November 10, 2009, the state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session, referred to as SBX7-7. This new law is the water conservation component to the historic Delta legislative package, and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. The projected water demand from the 20007 AQMP was reduced by 20 percent pursuant to this legislation.
c) SCAQMD Staff Report for PAR 1113
d) Assumes that one gallon of water would be used to manufacture one gallon of coating applied. This estimate includes the water used in humidifiers for and for purging lines in colorant systems. This volume also assumes as "worst-case" scenario, that all affected coatings used in the SCAQMD's jurisdiction were manufactured here and does not take into consideration the fact that some affected coatings are already waterborne coatings.
e) Assumes that one gallon of water would 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 waterborne formulations occurs in 2012.
f) Total amount of manufactured and clean-up water demand.
g) The percentage of increase in water demand as a result of the incremental increase due to water clean-up of waterborne coating material.

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, "Metropolitan has supply capabilities that would be sufficient to meet expected demands from 2015 through 2035 under the single dry-year and multiple dry-year conditions. Metropolitan has comprehensive plans for stages of actions it would undertake to address up to 50 percent reduction in its water supplies and a catastrophic interruption in water supplies through its Water

Surplus and Drought Management and Water Supply Allocation Plans."[12] 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, California's Colorado River Water Use Plan.

As shown in Table 2-13, 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.

IX. c) & d) The proposed project would not change current architectural manufacturing or coating application or practices. Consequently, no major construction activities would be necessary to comply with PAR 1113. As a result, the proposed project would not require site preparation, or other heavy-duty construction activities that could alter any existing drainage patterns or increase the rate or amount of surface runoff water that would exceed the capacity of existing or planned stormwater drainage systems.

IX. e) Since PAR 1113 does not require construction of any new structures, it would not result in placing housing or other structures in a 100-year flood hazard areas. Therefore, so any flood hazards would be part of the existing setting or would be present for reasons unrelated to PAR 1113.

IX. f) Since PAR 1113 does not require construction of new facilities, it would not alter existing flood risks or risks from seiches, tsunamis or mudflow conditions.

IX. g) & i) As indicated in the discussion under items IX a) the proposed project is not expected to result in a significant increase in the volume of wastewater generated in the district or violate any water quality standards. As a result, it is not anticipated that PAR 1113 would generate additional volumes of wastewater that could exceed the capacity of existing stormwater drainage systems or require the construction of new wastewater or stormwater drainage facilities. Similarly, as discussed under item IX b) & h), the proposed project is not expected to significantly increase demand for water in the district, no new or expanded water supply entitlements are not anticipated to be necessary as a result of implementing PAR 1113.

Based on the above considerations, significant adverse impacts to hydrology and water quality are not expected to occur from implementing PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required.

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[12] From Metropolitan Water District, The Regional Urban Water Management Plan, November 2010.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X.a) It is expected that compliance with PAR 1113 would be achieved primarily through reformulating existing coatings with low VOC formulations. Manufacturing and applying compliant coatings does not require building new structures, installing new equipment, constructing or installing any air pollution control equipment or structures. Existing colorant units at 221 medium-sized retail facilities would need to be removed and replaced with new colorant units. New colorant units are drop-in replacements, do not require heavy-duty construction equipment, and would be installed in existing facilities. Therefore, it would not result in physically dividing an established community.

X.b) There are no provisions in PAR 1113 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by PAR 1113 requirements.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PAR 1113. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI.a) & b) There are no provisions in PAR 1113 that would result in the loss of availability of a known mineral resource 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. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the proposed project is likely only to require the reformulation of coatings and colorants and replacement or modification of colorant systems in existing retail stores, PAR 1113 would have no effects on the use of important minerals, such as those described above. Therefore, no new demand for mineral resources is expected to occur and significant adverse mineral resources impacts from implementing PAR 1113 are not anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of PAR 1113. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☑
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII.a) Lowering the VOC content limit of coatings, prohibiting the use of Group II exempt solvents, and phase out of the averaging compliance provision is not expected to alter coating manufacturing, distribution or application in a substantial way. The manufacture of PAR 1113 compliant coatings is not expected to cause physical modifications that would require heavy-duty diesel-fueled construction activities at the point of manufacture, distribution or use because it is anticipated that the same equipment used to manufacture and apply currently available coatings could be used to manufacture and apply PAT 1113 compliant coatings.

PAR 1113 may require the alteration or replacement of colorant dispensers. Colorant dispensers are drop-in replacement units that are not expected to require heavy-duty construction equipment

to remove or install. Instead, it is expected that removal of existing and replacement of new dispensers could be accomplished using hand tools, e.g., hand jacks, drills, etc., entirely within the existing retail building. Colorant dispensers for PAR 1113 compliant colorants are not expected to generate noise or vibrations that are greater than existing colorant dispensers. Any alteration of colorant dispensers is also not expected to require construction equipment. These units are expected to be replaced or modified using hand tools. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health at distribution and retail locations.

For these reasons, PAR 1113 is not expected to expose persons to the permanent generation of excessive noise levels above current facility levels. Further, the use of these architectural coatings subject to PAR 1113 at the consumer level would occur using the same types of application equipment (e.g., brushes, rollers or sprayguns). Therefore, as a result of implementing PAR 1113 the existing noise levels are unlikely to increase in the vicinities of the existing facilities or other sites where these products are distributed, sold or used to a level exceeding any applicable significance thresholds.

XII.b) PAR 1113 is not anticipated to expose persons to or generate excessive groundborne vibration or groundborne noise levels since only minor construction activities are expected to occur as a result of implementing PAR 1113 and the proposed amended rule does not involve, in any way, the installation of control equipment that would generate vibrations and noise. The only equipment that may be replaced is colorant dispensers. However, these units would not require heavy-duty diesel-fueled construction equipment for removal and replacement. Existing colorant dispensers do not generate ground vibration and neither do replacement units.

XII.c) No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to implementing PAR 1113 is anticipated because the proposed project would not require heavy-duty diesel-fueled construction-related activities nor would it change the existing activities currently performed by persons who utilize architectural coatings. See also the response to items XII.a) and XII.b).

XII.d) Implementation of PAR 1113 would not affect existing practices by persons who utilize PAR 1113 coatings (See discussions in items XII.a) and XII.b)). Even if affected sites where PAR 1113 compliant are used are located near public/private airports, no new noise impacts would be expected since the application of architectural coatings is not typically a noise intensive activity. Thus, PAR 1113 is not expected to expose persons residing or working in the vicinity of public or private airports to excessive noise levels.

Based upon these considerations, significant noise impacts are not expected from the implementation of PAR 1113. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII.a) The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution as no additional workers are anticipated to be required to comply with PAR 1113. Replacement of existing colorant dispensers at retail facilities may require two to three workers, which can be accommodated by the existing labor pool in southern California. No additional workers would be required to manufacture or apply PAR 1113 compliant coatings as the same equipment that is currently used would continue to be used. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1113. As such, PAR 1113 would not result in changes in population densities or induce significant growth in population.

XIII.b) The proposed project would likely only require reformulation of coatings and colorants and replacement or modification of colorant systems in retail stores. As such, PAR 1113 is not expected to substantially alter existing operations where architectural coatings may be manufactured or used (see discussion in item XIII.a)). Consequently, PAR 1113 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of persons or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of PAR 1113. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	☐	☐	☐	☑
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV.a) Potential adverse impacts to fire departments could occur in two ways: 1) if there is an increase in accidental release of hazardous materials used in compliant architectural coatings, fire departments would have to respond more frequently to accidental release incidences; and, 2) if there is an increase in the amount of hazardous materials or flammable materials stored at affected facilities, fire departments may have to conduct additional safety inspections. Based on the analysis in Section VIII. Hazards and Hazardous Materials, PAR 1113 is not expected to generate significant adverse hazards and hazardous material impacts because PAR 1113 compliant coatings tend to be formulated using aqueous-based chemistries. Consequently they tend to be less hazardous and less flammable than conventional solvent based coatings. It should be again acknowledged, however, that PAR 1113 does not require the use of any particular product. In addition, PAR 1113 compliant traditional solvents, aqueous, and bio-based technologies are commercially available for coating reformulation. Consumers who utilize compliant architectural coatings would determine which compliant architectural coatings to use based on a number of factors including, but not limited to, safety considerations.

Based on the human health and flammability analysis (see discussions in Sections III.d) and VIII.a), b), c) & h), respectively), PAR 1113 compliant coatings would be composed of the same types of toxic or flammable materials but in the same or lower concentrations with the exemption of faux finish coatings; therefore, with the exception of faux finish coatings would result in similar or less impacts. As analyzed in Sections III.d) and VIII.a), b), c) & h), respectively, the increase in ethylene glycol, propylene glycol, and triethylamine from faux finish coatings would not create significant adverse air toxics or hazard/flammability impacts. Since it is expected that implementing PAR 1113 would not increase the use of hazardous or flammable materials there would be no need for new or additional fire fighting resources.

XIV.b) Local police departments are also first responders to emergency situations such as fires, for example, to cordon off the area and provide crowd control. As noted in Section VIII.a), b), c) & h), PAR 1113 is not expected to significantly increase adverse hazards or hazardous material impacts. Similarly, implementing PAR 1113 is not expected to increase fire hazards compared to the existing setting. As a result, no significant adverse impacts to local police departments are expected because no increases in hazardous material or fire emergencies are anticipated.

XIV.c) & d) The local labor pool (e.g., workforce) of employees, contractors or consumers who work at coating manufacturing facilities, work at retail locations that sell affected coatings, or use architectural coatings in their day-to-day activities is expected to remain the same since PAR 1113 would not trigger substantial changes to current manufacture or usage practices. Therefore, with no increase in local population anticipated (see discussion "XIII. Population and Housing"), construction of new or additional demands on existing schools and parks are not anticipated. Therefore, no significant adverse impacts are expected to local schools or parks, be further analyzed in this ~~Draft~~ Final EA.

XIV.e) PAR 1113 would not result in the need for new or physically altered facilities, in order to maintain acceptable service ratios. As noted in other sections, PAR 1113 is not expected to require the use of equipment or processes that handle or use hazardous or flammable material that would require public agency oversight or affect in any way public agency service ratios, response times or other performance objectives. Further, there would be no increase in population and, therefore, no need for physically altered government facilities.

Reactive Penetrating Sealers Effect on Caltrans

The ARB SCM for Architectural Coatings includes a separate category under the waterproofing concrete/masonry sealer for reactive penetrating sealers at 350 grams per liter. Reactive penetrating sealers penetrate and chemically react with concrete and masonry substrates to provide a protective hydrophobic seal that repels liquid water and is resistant to chemicals and deicing salts (chloride ions). The sealers are considered to be concrete treatments, rather than coatings, and some are formulated to be resistant to oils and grease. The sealers repel the intrusion of liquid water, but allow water vapor to escape from the substrate without damaging the protective seal. Caltrans has stated interest in using reactive penetrating sealers for bridge deck protection in marine areas of the district subject to direct splash exposure and salt fog and mists. Caltrans desires reactive penetrating sealers that meet the NCHRP 224 standards for protection of concrete from chloride ion intrusion. Products that conform to the NCHRP standard would prevent chloride from penetrating concrete and corroding imbedded steel in cable tensioned slab concrete used in bridges. Caltrans and a reactive penetrating sealers manufacture have requested that SCAQMD staff add a new category for reactive penetrating sealers in PAR

1113 with a VOC content limit of 350 grams per liter. The inclusion of the reactive penetrating sealers category would address Caltrans concerns about protection of concrete from chloride ion intrusion and would likely result in less recoating of affected substrates, thereby, promoting performance objectives.

Based upon these considerations, significant adverse public services impacts are not expected from the implementation of PAR 1113. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	☐	☐	☐	☑

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV.a) & b) As discussed under "Land Use and Planning" above, there are no provisions in PAR 1113 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of PAR 1113, which only affect the manufacture, sale and use of architectural coatings. Further, PAR 1113 would not affect in any way affect district population growth or distribution (see Section XIII), in ways that could increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PAR 1113. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑	☐
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑	☐

Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI.a) & b) Any liquid wastes generated by PAR 1113 are discussed in the "Hydrology and Water Quality" discussion as it is prohibited to dispose of liquid wastes in landfills. PAR 1113 is not expected to increase the amount of solid waste used in manufacturing of PAR 1113 compliant coatings, since coating manufacturing and operation are not expected to change because the same equipment is expected to be used in compliant architectural coatings with the only change being reducing the amount of solvents in existing coatings. PAR 1113 is also not expected to result in an increase the amount of solids used in architectural coatings.

PAR 1113 would increase in the amount of solid waste at existing retail facilities, since colorant dispensers may need to be modified or replaced in medium-sized retail stores. Removal and replacement of colorant units would not be a significant impact as explained below. Operators of large retail stores are in the process or have already replace their colorant dispensers with colorant dispensers that can use low-VOC colorants for reasons other than complying with PAR 1113. Since replacement of color dispensers at large retail operators was done primarily for the ability to tint small coating samples (see discussion in Section III. Air Quality and Greenhouse Gases) and not in anticipation of PAR 1113; solid waste impacts form removal colorant dispensers at large facilities are not included in this analysis. Small retail stores are not expected to replace their colorant dispensers because it is not expected to be cost effective since coatings are typically a small part of their operations. There are 221 medium sized retail stores in the district that may require replacement of colorant dispensers. It was assumed that two medium facilities would replace colorant dispensers on a peak day. Assuming that two dispensers are

replaced at each facility and an average colorant system weight of 0.4 ton, the disposal of colorant systems that are not compatible with PAR 1113 compliant colorants would generate 1.6 tons of waste per day.

The debris from PAR 1113 would be disposed of at a Class II (industrial) or Class III (municipal) landfill. According to the Program EIR for the 2007 AQMP, there are 48 Class II/Class III landfills within the SCAQMD's jurisdiction with an estimated total capacity of approximately 111,198 tons per day. Therefore, as shown in Table 2-14, the amount of waste associated with disposal of old colorant systems as a result of implementing PAR 1113 would be about 0.001 percent of the total disposal capacity and, therefore, is considered to be within the disposal capacity of local landfills.

Table 2-14
Amount of Solid Waste Landfilled
During Construction-Related Activities

Description	Demolition Material (tons/day)
Total Disposal from Colorant Dispenser Replacement	1.6
Threshold (Capacity of Landfills)	111,198
% of Capacity	0.001 %
Significant (Yes/No)	No

The assumption that replaced colorant systems would all be disposed of as solid waste is a very conservative assumption. Replaced colorant dispersers may be sold or transferred to retail facilities located outside of the district. Alternatively, the metal in replaced colorant dispensers has economic value and it is likely that metal parts from the dispensers would be sold as scrap metal and recycled. Increases in solid waste disposal related to complying with PAR 1113 would be small and temporary (a one-time disposal). Therefore, the solid waste impacts from removing existing colorant dispensers associated with the implementation of PAR 1113 would not be significant.

It is important to note that PAR 1113 does not change the current requirements specific to cleanup solvent storage and disposal. Since PAR 1113 compliant solvents are expected to be formulated with solvents that are equally or less hazardous than currently used solvents (see "Hazards and Hazardous Materials" section), implementing PAR 1113 is not expected to generate significant new adverse hazardous waste impacts. Therefore, no significant adverse solid and hazardous waste impacts associated with PAR 1113 were identified.

Based upon these considerations, PAR 1113 is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing PAR 1113 is not expected to interfere with any affected distributors' or retailers' ability to comply with applicable local, state, or federal waste disposal regulations. Therefore, significant adverse solid or hazardous waste impacts are not expected from the implementation of PAR 1113. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:					
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
b)	Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e)	Result in inadequate emergency access?	☐	☐	☐	☑
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑

Significance Criteria

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII.a) & b) The manufacture or use of PAR 1113 compliant architectural coatings is not expected to adversely affect transportation or traffic. In general, the volumes of PAR 1113 compliant architectural coatings are not expected to increase when compared to the volumes of materials currently used. Thus, the current level of transportation demands related to transporting new formulations of materials is not expected to increase. PAR 1113 is not expected to affect existing uses and applications of architectural coatings that would change or cause additional worker trips to distribution or retail facilities or increase transportation demands or services. Therefore, since no substantial increase in operational-related trips are anticipated, implementing PAR 1113 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities or other sites that use these products.

PAR 1113 may require two additional round trips to deliver and dispose of colorant systems at each of the estimated 221 medium-sized retail stores. A one-time increase of two additional round trips per medium-sized facility is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities because the number of vehicle trips is so low and affected facilities are dispersed throughout the 10,473 square mile district.

XVII.c) The height and appearance of the existing structures where compliant architectural coatings would be manufactured or used is not expected be affected by complying with PAR 1113. Therefore, implementation of PAR 1113 is not expected to require construction of structures that have the potential to adversely affect air traffic patterns. Further, PAR 1113 would not affect in any way air traffic in the region because, architectural coatings are typically shipped via ground transportation and not by air.

XVII.d) Manufacturing and use of compliant architectural coatings is not expected to require construction of structures or roadways. Further, implementing PAR 1113 would not involve modifications to existing roadways. Consequently, implementing the proposed project would not create roadway hazards or incompatible roadway uses.

XVII.e) Use of compliant architectural coatings is not expected to affect or require changes to emergency access at or in the vicinity of the affected facilities or other sites where compliant architectural coatings are used since PAR 1113 would not require construction or physical modifications to any structure associated with manufacturing or selling PAR 1113 compliant coatings. The manufacture and use of compliant coatings are not expected to affect businesses' emergency response plans (see discussion in Section VIII.f). Therefore, PAR 1113 is not expected to adversely affect emergency access.

XVII.f) No modifications at facilities or other sites where compliant architectural coatings are manufactured, sold or used are expected that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera. Consequently, implementing PAR 1113 would not create any conflicts with these modes of transportation.

Based upon these considerations, PAR 1113 is not expected to generate significant adverse transportation/traffic impacts. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☑	☐	☐	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☑	☐	☐	☐

XVIII.a) As discussed in the "Biological Resources" section of this EA, PAR 1113 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the proposed project would likely only require the reformulation of coatings and colorants and the replacement or modification of colorant systems at existing retail stores. Additionally, since implementing PAR 1113 would not require construction of any structures, special status plants, animals, natural communities, and important examples of the major periods of California history or prehistory are not expected to be adversely affected.

SCAQMD staff received a single comment that PAR 1113 may increase the use of biocides in colorants, but colorants are a small component of coatings and biocides would be a small component of colorants. Colorant manufacturers were contacted and MSDSs of existing and PAR 1113 compliant coatings were reviewed by SCAQMD staff. No biological impacts from colorants were identified in the MSDSs. Colorant manufactures contacted stated that they had not identified any biological impacts from low-VOC colorants. Colorant manufacturer contacts stated that their low-VOC colorants are APE free. As indicated in the Biological Resources discussion in IV.a), b), c) & d), complying with PAR 1113 is not expected to interfere with manufacturing trends to produce APE free low VOC coatings.

PAR 1113 would add two subcategories under the waterproofing concrete/masonry sealer, which would have a VOC content limit of 100 grams in the existing Rule 1113. The two subcategories are stone consolidants and reactive penetrating sealers with VOC content limits of 450 and 350 grams per liter, respectively, and are typically used in small quantities under the small container exemption. The higher VOC content limits were requested by OHP and one stone consolidant and reactive penetrating sealer manufacturer, because it is believed that solventborne products can penetrate deeper into substrates and distribute the consolidate/sealer down to the undeteriorated stone. Because PAR 1113 would increase the VOC content limit of stone

consolidants and reactive penetrating sealers, these products would continue to be used at the current VOC content limits, so there would be no change in use compared to the existing setting.

XVIII.b) Based on the foregoing analyses, PAR 1113 is not expected to generate any project-specific significant adverse environmental impacts for the following reasons. The environmental topics checked 'No Impact' (e.g., aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, , land use and planning, mineral resources, noise, population and housing, public services, recreation and transportation and traffic) would not be expected to make any contribution to potential cumulative impacts whatsoever. For the environmental topics checked 'Less than Significant Impact' (e.g., air quality, energy, hazards and hazardous materials, and hydrology and water quality and solid/hazardous waste), the analysis indicated that project impacts would not exceed any project-specific significance thresholds. Based on these conclusions, incremental effects of the proposed project would be minor and, therefore, are not considered to be cumulatively considerable. Therefore, since impacts from the proposed project are not considered to be cumulatively considerable, the proposed project has no potential for generating significant adverse cumulative impacts.

XVIII.c) Based on the preceding analyses, PAR 1113 is not expected to cause adverse effects on human beings. Less than significant air quality and greenhouse gases, hazards and hazardous materials, water quality and solid/hazardous waste impacts from implementing PAR 1113 were identified. PAR 1113 would result in a reduction of 4.4 ~~4.2~~ tons of VOC emissions per day. Based on a review of MSDSs of affected existing and PAR 1113 compliant coatings and colorants, PAR 1113 may reduce or replace air toxics and flammability as manufacturers comply with the lower VOC content limit (default coatings, dry fog coatings, fire proofing coatings, graphic arts coatings, mastic coatings, and metallic pigment coatings) with the exception of faux finish coatings (trowel applied and clear topcoats). PAR 1113 compliant coatings may increase the use of ethylene glycol, propylene glycol, and triethylamine in faux finishing coatings. As analyzed in Sections III.d) and VIII.a), b), c) & h), respectively, the increase in ethylene glycol, propylene glycol, and triethylamine would not create significant adverse air toxics or hazard/flammability impacts.

PAR 1113 would create two new subcategories under the waterproofing concrete/masonry sealers category (VOC content limit of 100 grams per liter): stone consolidants and reactive penetrating sealers with VOC content limits of 450 and 350 grams per liter respectively. These products are currently used in small containers at the higher VOC content under the small container exemption. Usage for stone consolidants and reactive penetrating sealer has been consistently low state-wide and nationally for stone consolidants and reactive penetrating sealers for historical restoration because they are used in very specialized niche applications. Based on these records and Rule 314 data, SCAQMD staff estimates usages would remain consistent with existing usages, which are approximately 142 gallons of stone consolidant used per year and 290 gallons of reactive penetrating sealer used per year. Therefore, no increase in the use of these products is expected. Since there is no increase in use, new adverse toxic or hazard/flammable impacts are not expected from PAR 1113.

As discussed in items I through XVIII above, the proposed project is not expected to have the potential to cause significant adverse environmental effects to any environmental topic.

APPENDIX A

PROPOSED AMENDED RULE 1113

In order to save space and avoid repetition, please refer to the latest version of the PAR 1113 located elsewhere in the final rule package. The PAR 1113 version dated April 7, 2011 of the proposed rule was circulated with the Draft EA released on April 12, 2011 for a 30-day public review and comment period ending May 11, 2011.

Original hard copies of the Draft EA, which include version PAR 1113 (dated April 7, 2011) of the proposed amended rule circulated with the Draft EA, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

ASSUMPTIONS AND CALCULATIONS

Table B-1
VOC Emissions after PAR 1113 VOC Content Limits ~~for Coatings~~ Become Effective

Coating Category	Estimated SCAQMD Sales Volume,[2] gal/year	Percent of Rule 314 2009 Sales Above Proposed Limit[3]	Estimated CARB Sales Volume Above Proposed Limit, [4] gal/year	Rule 314 2009 Sales Weighted Average VOC Content of Coating above Proposed Limit,[3,5] grams per liter	Rule 314 2009 Sales Weighted Average VOC Content of Material above Proposed Limit,[3,6] grams per liter	Proposed limit, VOC Content of Coating,[4] grams per liter	VOC Content of Material Based on Proposed Limit,[5] grams per liter	Baseline Emissions Inventory[7]		VOC Emissions Reductions[8]		VOC Emissions Inventory after PAR 1113[9]	
								pound per day	ton per day	pounds per day	tons per day	pounds per day	tons per day
Form Release	145,625	92%	133,371	147~~-146~~	147~~-146~~	100	40	447	0.22	325	0.16	122	0.06
Dry Fog coatings	169,968	47%	79,211	89~~-62~~	~~40-26~~	50	20	72	0.04	36	0.02	36	0.02
Fire Proofing ~~Exterior~~ Coatings	5,630	46%	2,586	311~~-157~~	311~~-154~~	150	60	18	0.01	15	0.01	4	0.002
Graphic Arts Coatings[1]	7,459	32%	2,424	247~~-157~~	155~~-85~~	150	60	9	0.004	5	0.00	3	0.002
Mastic Coatings	304,678	56%	172,032	208	156	100	40	614	0.307	456	0.2	157	0.079
Metallic Pigmented Coatings	20,250	23%	4,601	341	304	150	60	32	0.02	68	0.03	6	0.003
							Totals:	1,192 ~~578~~	0.60 ~~0.29~~	863~~-407~~	0.43 ~~0.20~~	329~~-171~~	0.16 ~~0.09~~

1. 2009 Rule 314 sales volume - CARB data is protected (less than three companies reported)
2. Based on 2005 CARB survey of coatings sold in California in 2004 - Assumes 45 percent of sales were in district.2009 Rule 314
3. 2009 Rule 314 sales data
4. Estimated CARB Sales Volume above Proposed Limit, gal/year = Estimated SCAQMD Sales Volume, gal/year x Percent of Rule 314 2009 Sales above Proposed Limit
5. VOC content limits in PAR 1113 are listed as VOC of coating. VOC content of coating is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material – volume of water – volume of exempt compounds)
6. Emissions inventories are developed using VOC of material. VOC content of material is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material)
7. Based on CARB 2004 sales, Rule 314 sales weighted average VOC 2009 data. Baseline Emissions Inventory, lb/day = Estimated CARB Sales Volume Above Proposed Limit, gal/year x Rule 314 2009 SWA VOC Material Above Proposed Limit, gram/liter x pound/453.59 gram x 3.79 liter/gallon x year/365 day
8. Estimated Emissions Reductions, lb/day = Baseline Emissions Inventory, lb/day - VOC Emissions Inventory after PAR 1113, lb/day
9. VOC Emissions Inventory after PAR 1113, lb/day = Estimated CARB Sales Volume Above Proposed Limit, gal/year x Proposed limit, VOC Content of Material, grams per liter x pound/453.59 gram x 3.79 liter/gallon x year/365 day

Table B-2
Colorant VOC Emissions Inventory and VOC Emission Reductions after PAR 1113 VOC Content Limits ~~for Colorants~~ Become Effective

Faux Finishing Coating Category	Rule 314 2009 Estimate Usage,[1] gallon per year	Rule 314 2009 Sales Weighted Average VOC of Coatings Over Proposed Limit,[1,2] gram per liter	Rule 314 2009 Sales Weighted Average VOC of Material Over Proposed Limit,[1,2] gram per liter	Proposed VOC of Coatings Limit, gram per liter	VOC Content of Material Based on Proposed Limit, grams per liter	Baseline VOC Emissions Inventory[3]		Estimated Emissions Reductions[4]		VOC Emissions Inventory after PAR 1113[5]	
						pounds per day	ton per day	pound per day	ton per day	pound per day	ton per day
Clear Topcoat	1,285	202	69	100	40	2.0	0.0010	0.87	0.0004	1.2	0.0006
Trowel Applied	5,781	95	50	50	20	6.6	0.0033	4.0	0.0020	2.6	0.0013

1. Based on 2009 Rule 314 data
2. VOC content limits in PAR 1113 are listed as VOC of coating. VOC content of coating is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material – volume of water – volume of exempt compounds)
3. Emissions inventories are developed using VOC of material. VOC content of material is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material)
4. Baseline Emissions Inventory, lb/day = Estimated CARB Sales Volume Above Proposed Limit, gal/year x Rule 314 2009 SWA VOC Material Above Proposed Limit, gram/liter x pound/453.59 gram x 3.79 liter/gallon x year/365 day
5. Estimated Emissions Reductions, lb/day = Baseline Emissions Inventory, lb/day - VOC Emissions Inventory After PAR 1113, lb/day
6. VOC Emissions Inventory after PAR 1113, lb/day = Estimated CARB Sales Volume Above Proposed Limit, gal/year x Proposed limit, VOC Content of Material, grams per liter x pound/453.59 gram x 3.79 liter/gallon x year/365 day

Table B-3
Colorant VOC Emissions Inventory and VOC Emission Reductions after PAR 1113 VOC Content Limits for Colorants Become Effective

Category	80 Percent Total Sales, CARB 2004 Survey[1]	Current Inventory[2]		VOC Emissions Reductions[3]		VOC Emissions Inventory After PAR 1113[4]	
		Pounds per day	Tons per day	Pounds per day	Tons per day	Pounds per day	Tons per day
Flat & Non-Flat	25,608,202	5,959	2.98	5,580	2.79	366	0.18

1. 2005 CARB survey of coatings sold in California in 2004 - Assumes 45 percent of sales were in the district.
2. Assume four ounces of colorant (based on industry feedback), at VOC of material 325 grams per liter, added to 80 percent of flat and non-flat coatings.
3. Assumes four ounces of colorant, being reduced from a VOC of material of 325 to 20 grams per liter, added to 80 percent of flat and non-flat coatings.
4. Assumes four ounces of colorant, at VOC of material 20 grams per liter, added to 80 percent of flat and non-flat coatings.

Table B-4
VOC Emissions Inventory and VOC Emission Reductions from Reduction of Coating Categories Then Elimination of Averaging Compliance Option in PAR 1113

Year	Total Gallons Sold Above the VOC Content Limit under an ACO	Current Inventory[1]		Emissions Reductions from reduction of coating categories[2]			VOC Emissions Reductions from Elimination of ACO[3]			VOC Emissions Inventory After PAR 1113[4]	
		Pounds per day	Tons per day	Gallons	Pounds per day	Tons per day	Gallons	Pounds per day	Tons per day	Pounds per day	Tons per day
2009	1,299,875	2,399	1.20	371,741	1,786	0.89	928,134	613	0.31	0	0

1. Coatings sold above the VOC limit under an ACO plan, assume coatings reformulated to meet current VOC limit.
2. Eliminated primer, sealers and undercoaters; specialty primer, and waterproofing concrete/masonry sealers reductions assumed coatings reformulated to meet current VOC limit.
3. Eliminates remaining emissions in current inventory.
4. After phase out, all coatings formulated to meet VOC limit.

Table B-5
VOC Emissions and VOC Emission Reductions from Stone Consolidants

Projected Sales in SCAQMD,[1] gallon/year	Proposed VOC of Coating limit,[2] g/L	Estimated VOC of Material,[3] g/L	Current VOC of Content Limit, [2,4] g/L	Rule 314 2009 Sales Weighted Average VOC Content of Material,[1,3] g/L	Existing VOC Emissions,[5] lb/day	Existing VOC Emissions, ton/day	Estimated Foregone Emissions,[6] lb/day	Estimated Foregone Emissions, ton/day	VOC Emissions after PAR 1113,[7] lb/day	Existing VOC Emissions after PAR 1113, ton/day
142	450	450	100	40	0.27 ~~2.4~~	0.001 ~~0.0012~~	1.3 ~~24.9~~	0.001 ~~0.012~~	1.5 ~~2.4~~	0.001 ~~0.014~~

1. Projected sales in SCAQMD based on 2009 Rule 314 data and national sales from a stone consolidant manufacturer.
2. VOC content limits in PAR 1113 are listed as VOC of coating. VOC content of coating is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material – volume of water – volume of exempt compounds)
3. Emissions inventories are developed using VOC of material. VOC content of material is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material)
4. Existing Rule 1113 VOC content limit of waterproof concrete/masonry sealers.
5. Existing emissions estimated = Projected Sales in SCAQMD x Estimated VOC of material, g/L x (3.79 L/gal)/(453.59 g/lb)
6. Difference between VOC emissions after PAR 1113 and existing VOC emissions.
7. VOC emissions after PAR 1113 = Projected Sales in SCAQMD x Rule 314 2009 Sales Weighted Average VOC Content of Material, g/L x (3.79 L/gal)/(453.59 g/lb)

Table B-6
VOC Emissions and VOC Emission Reductions from Reactive Penetrating Sealers

Projected Sales in SCAQMD,[1] gallon/year	Proposed VOC of Coating limit,[2] g/L	Estimated VOC of Material,[3] g/L	Current VOC of Coating Limit, [4] g/L	Rule 314 2009 Sales Weighted Average VOC Content of Material,[1,3] g/L	Existing VOC Emissions,[5] lb/day	Existing VOC Emissions, ton/day	Estimated Foregone Emissions,[6] lb/day	Estimated Foregone Emissions, ton/day	VOC Emissions after PAR 1113,[5] lb/day	Existing VOC Emissions after PAR 1113, ton/day
290	350	350	100	40	2.3	0.0012	2.1	0.001	0.3	0.0001

1. Projected sales in SCAQMD based on 2009 Rule 314 data and Caltrans data.
2. VOC content limits in PAR 1113 are listed as VOC of coating. VOC content of coating is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material – volume of water – volume of exempt compounds)
3. Emissions inventories are developed using VOC of material. VOC content of material is defined as (weight of volatile compounds – weight of water – weight of exempt compounds)/(volume of material)
4.
5. Existing Rule 1113 VOC content limit of waterproof concrete/masonry sealers.
6. Existing emissions estimated = Projected Sales in SCAQMD x Estimated VOC of material, g/L x (3.79 L/gal)/(453.59 g/lb)
7. Difference between VOC emissions after PAR 1113 and existing VOC emissions.
8. VOC emissions after PAR 1113 = Projected Sales in SCAQMD x Rule 314 2009 Sales Weighted Average VOC Content of Material, g/L x (3.79 L/gal)/(453.59 g/lb)

Table B-7
EMFAC2007 Emission Factors for Delivery Vehicles

CO, lb/mile	NOx, lb/mile	ROG, lb/mile	SOx, lb/mile	PM10, lb/mile	PM2.5, lb/mile	CO2, lb/mile	CH4, lb/mile	N2O, lb/mile
0.0184	0.0206	0.0026	0.00003	0.0008	0.0006	2.73	0.0001	0.000011

All EF from EMFAC2007 as reported for delivery vehicles on SCAQMD website (http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls) for 2010, N2O from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases,

Table B-8
Criteria Pollutant Emissions from Delivery Vehicles

Description	Number of Vehicle Trips[1]	Total Daily VMT,[2] mile/day	CO, lb/day	NOx, lb/day	ROG, lb/day	SOx, lb/day	PM10, lb/day	PM2.5, lb/day
Single Store	4	160	3.0	3.3	0.4	0.004	0.1	0.1
Daily[3]	8	320	5.9	6.6	0.8	0.009	0.2	0.2
Significance Thresholds			550.0	100.0	75.0	150.000	150.0	55.0
Significant?			No	No	No	No	No	No

1. Assumed one two-way vehicle trip to replace or modify colorant systems and one two-way vehicle trip to remove old units or parts.
2. Assumed a 40-mile per day one-way per vehicle trip.
3. Assumed colorants replaced at two retail facilities per day.

Table B-9
GHG Emissions from Delivery Vehicles

Activity, vehicle miles traveled per project	CO2, lb/project	CH4, lb/project	N2O, lb/project	CO2eq, lb/project	CO2, ton/year	CH4, ton/year	N2O, ton/year	CO2eq, ton/year
35,360	193,223	8.9	0.7	236,554	87.6	0.00403	0.00034	87.7

Based on discussions with coating retailers only medium-sized facilities would need to replace or modify colorant systems. SCAQMD staff identified 221 medium-sized retail facilities.

Table B-10
Fuel Use from Delivery Vehicles

Description	Number of Vehicle Trips[1]	Total Daily Vehicle Miles Traveled,[2] mile/day	Fuel Consumption, miles per gallon	Fuel Use, gallon/day
Single Store	4	160	10	16
Daily[3]	8	320	10	32

1. Assumed one two-way vehicle trip to replace or modify colorant systems and one two-way vehicle trip to remove old units or parts.
2. Assumed a 40-mile per day one-way per vehicle trip.
3. Assumed colorants replaced at two retail facilities per day.

Table B-11
Comparison of Air Toxics in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Dry Fog Coatings

Coating Category	Statistical Property, weight percent	Chemical Abstract Service (CAS) No.[4]				
		100-41-4	1330-20-7	100-42-5	67-63-0	111-76-2
		Ethylbenzene, weight percent	Xylene, weight percent	Styrene, weight percent	Isopropanol, weight percent	Ethylene glycol butyl ether, weight percent
PAR 1113 Non-Compliant Dry Fog Coatings[2]	Max	1	1	20	4	4
	Min	1	1	20	2	1.9
	Avg	1	1	20	3	2.9
PAR 1113 Compliant Dry Fog Coatings[3]	Max	0	0	20	0	0
	Min	0	0	20	0	0
	Avg	0	0	20	0	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products sold for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Air toxic weight percents were obtained from a review of MSDSs for the coatings.

Table B-11 (Continued)
Comparison of Air Toxics in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Fire Proofing Exterior Coatings

Coating Category	Statistical Property, weight percent	CAS No.[4]			
		100-41-4	1330-20-7	108-88-3	78-93-3
		Ethylbenzene weight percent	Xylene weight percent	Toluene weight percent	Methyl ethyl ketone weight percent
PAR 1113 Non-Compliant Fire Proofing Exterior Coatings[2]	Max	5	20	15	15
	Min	5	20	15	15
	Avg	5	20	15	15
PAR 1113 Compliant Fire Proofing Exterior Coatings[3]	Max	0	0	10	0
	Min	0	0	10	0
	Avg	0	0	10	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Air toxic weight percents were obtained from a review of MSDSs for the coatings.

Table B-11 (Continued)
Comparison of Air Toxics in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Graphic Arts Coatings

Coating Category	Statistical Property, weight percent	CAS No. 111-76-2 Ethylene glycol butyl ether, weight percent
PAR 1113 Non-compliant Graphic Arts Coatings[2]	Max	5
	Min	5
	Avg	5
PAR 1113 Compliant Graphic Arts Coatings[3]	Max	0
	Min	0
	Avg	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Air toxic weight percents were obtained from a review of MSDSs for the coatings.

Table B-11 (Continued)
Comparison of Air Toxics in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Coating Category	Statistical Property, weight percent	CAS No.						
		100-41-4	1330-20-7	100-42-5	107-21-1	107-98-2	101-68-8	117-81-7
		Ethylbenzene, weight percent	Xylene, weight percent	Styrene, weight percent	Ethylene glycol, weight percent	Propylene Glycol Monomethyl Ether, weight percent	Methylene diphenyl isocyanate, weight percent	Di (2-ethylhexyl) phthalate (DEHP) , weight percent
PAR 1113 Non-compliant Mastic Coating	Max	10	40	40	3	0	0	0
	Min	10	5	40	2	0	0	0
	Avg	10	22.5	40	2.7	0	0	0
PAR 1113 Compliant MasticCoating	Max	0	0	0	3	0	5	0.1
	Min	0	0	0	2	0	5	0.1
	Avg	0	0	0	2.6	0	5	0.1

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Air toxic weight percents were obtained from a review of MSDSs for the coatings.

Table B-11 (Continued)
Comparison of Air Toxics in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Metallic Pigmented Coatings

Coating Category	Statistical Property, weight percent	CAS No.[4]			
		100-41-4	1330-20-7	108-88-3	78-93-3
		Ethylbenzene, weight percent	Xylene, weight percent	Toluene, weight percent	Methyl ethyl ketone, weight percent
PAR 1113 Non-compliant Metallic Pigmented Coatings[2]	Max	2.4	9.9	10	2.7
	Min	0.1	0.6	3	2.7
	Avg	1	4	7	2.7
PAR 1113 Compliant Metallic Pigmented Coatings[3]	Max	0	0	7	0
	Min	0	0	7	0
	Avg	0	0	7	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Air toxic weight percents were obtained from a review of MSDSs for the coatings.

Table B-11 (Concluded)
Comparison of Air Toxics in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Faux Finish Clear Coat

Coating Category	Statistical Property, weight percent	CAS No.[4]	
		111-76-2	121-44-8
		Ethylene glycol butyl ether	Triethylamine
PAR 1113 Non-compliant Clear Coat[2]	Max	0.29	0
	Min	0.26	0
	Avg	0.18	0
PAR 1113 Compliant Clear Coat[3]	Max	0	0.46
	Min	0	0.46
	Avg	0	0.46

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products sold for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Air toxic weight percents were obtained from a review of MSDSs for the coatings.

Trowel Applied Faux Finish Coating

Coating Category	Statistical Property, weight percent	CAS No. 107-21-1[4]
		Ethylene glycol, weight percent
PAR 1113 Non-compliant Trowel[2]	Max	0
	Min	0
	Avg	0
PAR 1113 Compliant Trowel[3]	Max	5.3
	Min	5.3
	Avg	5.3

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products sold for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Air toxic weight percents were obtained from a review of MSDSs for the coatings.

Table B-12
Chronic Non-Carcinogenic Health Risk Analysis of Toxic Air Contaminants in Faux Finish Topcoats

2009 Rule 314 Usage,[1] gal/year	Density[2] lb/gal	Triethylamine,[2] weight fraction	Triethylamine Emissions,[3] lb/year	Triethylamine Emissions,[4] ton/year
1,285	8.67	0.005	55.7	0.028

1. 2009 annual use of faux finish topcoats from Rule 314 database.
2. Density from MSDS. Only one manufacturer was found that use triethylamine in one faux finish topcoats product line. Maximum triethylamine weight fraction from faux finish topcoat manufacturer.
3. Emissions, lb/year = usage, gal/year x density, lb/gal x weight fraction
4. Emissions, ton/year = Emissions, lb/year x ton/2,000 lb

Triethylamine Emissions, ton/year	Chronic REL[1] µg/m^3	X/Q,[2] [µg/m^3]/ [ton/year]	MET[2]	MP[2]	Chronic Hazard Index[3]
0.028	200	41.45	60.49	1	0.3

1. Chronic relative exposure limit (REL) from Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values http://www.arb.ca.gov/toxics/healthval/contable.pdf.
2. X/Q, [µg/m3]/ [ton/year], meteorological correction factor (MET) and multi-pathway (MP) factor from Risk Assessment Procedures for Rules 1401 and 212, Version 7.0, Attachment L, http://www.aqmd.gov/prdas/images/pdficons.gif. The worst-case X/Q and MET values for volume sources were chosen.
3. Chronic non-carcinogenic hazard index = (emissions, ton/year x X/Q, [µg/m3]/ [tons/yr] x MET x MP)/(chronic REL, µg/m3)

Table B-13
Acute Non-Carcinogenic Health Risk Analysis of Toxic Air Contaminants from Five Gallons of Faux Finish Topcoats

Usage,[1] gal/hour	Density,[2] lb/gal	Triethylamine,[2] weight fraction	Triethylamine Emissions,[3] lb/hour
5	8.67	0.005	0.22

1. Usage based on assumption that one five gallon container of faux finish topcoat would be used in an hour or a five gallon container could be accidentally spilt.
2. Density from MSDS. Only one manufacturer was found that use triethylamine in one faux finish topcoats product line. Maximum triethylamine weight fraction from faux finish topcoat manufacturer.
3. Emissions, lb/hour = usage, gal/hour x density, lb/gal x weight fraction

Table B-13 (Concluded)
Acute Non-Carcinogenic Health Risk Analysis of Toxic Air Contaminants from Five Gallons of Faux Finish Topcoats

Emissions, lb/hour	Acute REL,[1] µg/m^3	X/Qhr,[2] [µg/m^3]/ [lb/hour]	Acute Hazard Index[3]
0.22	2,800	1,532	0.1

1. Acute relative exposure limit (REL) from Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values http://www.arb.ca.gov/toxics/healthval/contable.pdf.
2. X/Q, [µg/m3]/ [lb/hr] from Risk Assessment Procedures for Rules 1401 and 212, Version 7.0, Attachment L, http://www.aqmd.gov/prdas/images/pdficons.gif. The worst-case X/Q values for volume sources were chosen.
3. Acute non-carcinogenic hazard index = (emissions, ton/year x X/Q, [µg/m3]/ [tons/yr])/(acute REL, µg/m3)

Table B-14
Acute Non-Carcinogenic Health Risk Analysis of Toxic Air Contaminants from Accidental Release of 275 Gallons of Waterborne Polymer Used for the Manufacture of Faux Finish Topcoats

Tote Size[1] gal	Density,[2] lb/gal	Clean-up Duration,[1] hr/day	Triethylamine,[2] weight fraction	Triethylamine Emissions,[3] lb/hr
275	8.67	8	0.006	1.7

1. Usage based on assumption that one 275 gallon tote could be accidentally spilt. Assumed that clean-up could be done in a single day.
2. Density from MSDS. Only one manufacturer was found that use triethylamine in one faux finish topcoats product line. Maximum triethylamine weight fraction from waterborne polymer used in faux finish topcoat manufacturing.
3. Emissions, lb/hour = (tote size, gal x density, lb/gal x weight fraction x Percent Emitted by Accidental Release)/(8 hour clean-up)

Triethylamine Emissions, lb/hour	Acute REL,[1] µg/m^3	X/Qhr,[2] [µg/m^3]/ [lbs/hour]	Acute Hazard Index[3]
1.7	2,800	1,532	0.9

1. Acute relative exposure limit (REL) from Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values http://www.arb.ca.gov/toxics/healthval/contable.pdf.
2. X/Q, [µg/m3]/ [lb/hr] from Risk Assessment Procedures for Rules 1401 and 212, Version 7.0, Attachment L, http://www.aqmd.gov/prdas/images/pdficons.gif. The worst-case X/Q values for volume sources were chosen.
3. Acute non-carcinogenic hazard index = (emissions, ton/year x X/Q, [µg/m3]/ [ton/yr])/(acute REL, µg/m3)

Table B-15
Comparison of Hazardous Materials in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Dry Fog Coatings

Coating Category	Statistical Property, weight percent	CAS No.[4]							
		100-41-4	1330-20-7	100-42-5	67-63-0	111-76-2	64742-89-8	57-55-6	64-17-5
		Ethyl-benzene, weight percent	Xylene, weight percent	Styrene, weight percent	Isopropanol, weight percent	Ethylene glycol butyl ether, weight percent	V. M. & P. Naphtha, weight percent	Propylene glycol, weight percent	Ethanol, weight percent
PAR 1113 Non-compliant Dry Fog Coatings[2]	Max	1	1	20	4	4.0	24	0	2
	Min	1	1	20	2	1.9	0.7	0	2
	Avg	1	1	20	3	2.9	9.6	0	2
PAR 1113 Compliant Dry Fog Coatings[3]	Max	0	0	20	0	0	0	5	0
	Min	0	0	20	0	0	0	5	0
	Avg	0	0	20	0	0	0	5	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Hazardous material weight percents were obtained from a review of MSDSs for the coatings.

Table B-15 (Continued)
Comparison of Hazardous Materials in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Fire Proofing Exterior Coatings

Coating Category	Statistical Property, weight percent	CAS No.[4]					
		100-41-4	1330-20-7	108-88-3	78-93-3	110-12-3	90-72-2
		Ethyl-benzene	Xylene	Toluene	Methyl ethyl ketone	Methyl isoamyl ketone	Tris-2,4,6-(dimethyl-aminomethyl) phenol
PAR 1113 Non-compliant Fire Proofing Exterior Coatings[2]	Max	5	20	15	15	5	0
	Min	5	20	15	15	5	0
	Avg	5	20	15	15	5	0
PAR 1113 Compliant Fire Proofing Exterior Coatings[3]	Max	0	0	10	0	0	10
	Min	0	0	10	0	0	10
	Avg	0	0	10	0	0	10

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Hazardous material weight percents were obtained from a review of MSDSs for the coatings.

Table B-15 (Continued)
Comparison of Hazardous Materials in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Graphic Arts Coatings

Coating Category	Statistical Property, weight percent	CAS No.[4]						
		111-76-2	67-56-1	64742-88-7	57-55-6	34590-94-8	2807-30-9	872-50-4
		Ethylene glycol butyl ether	Methanol	Mineral spirits	Propylene glycol	Dipropylene glycol ether	Ethylene Monopropyl Ether	n-Methyl-pyrrolidone
PAR 1113 Non-compliant Graphic Arts Coatings[2]	Max	5	1	50	5	15	5	10
	Min	5	1	20	0	0	5	10
	Avg	5	1	35	4	3	5	10
PAR 1113 ~~B~~Compliant Graphic Arts Coatings[3]	Max	0	0	0	5	0	0	0
	Min	0	0	0	3	0	0	0
	Avg	0	0	0	4.4	0	0	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Hazardous material weight percents were obtained from a review of MSDSs for the coatings.

Table B-15 (Continued)
Comparison of Hazardous Materials in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Hazardous Compound	CAS No.	PAR 1113 Non-compliant Mastic Coating			PAR 1113 Compliant Mastic Coating		
		Statistical Property, weight percent			Statistical Property, weight percent		
		Max	Min	Avg	Max	Min	Avg
Ethylbenzene	100-41-4	10	10	10	0	0	0
Xylene	1330-20-7	40	5	22.5	0	0	0
Styrene	100-42-5	0	0	0	40	40	40
Ethylene glycol	107-21-1	3	2	2.7	3	1	2.2
Polyvinyl chloride	9002-86-2	40	40	40	0	0	0
Methylene Diphenyl Isocyanate	101-68-8	0	0	0	5	5	0
Di(2-Ethylhexyl)Phthalate (DEHP)	117-81-7	0	0	0	0.1	0.1	0.1
Mineral Spirits	64742-88-7	40	1	17.5	0	0	0
1,2,4 Trimethylbenzene	95-63-6	5	5	5	0	0	0
Propylene Glycol	57-55-6	0	0	0	5	5	5
Benzyl alcohol	100-51-6	0	0	0	5	5	5
Asphalt	8052-42-4	70	60	66.7	60	60	60
Texanol	25265-77-4	5	1	3	5	3	4.3
Butyl benzyl phthalate	85-68-7	0	0	0	40	7	18
Polypropylene glycol alkyl phenyl ether	9064-13-5	0	0	0	5	5	5
Hydrotreated light naphthenic distillate	64742-53-6	0	0	0	60	60	60

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Hazardous material weight percents were obtained from a review of MSDSs for the coatings.

Table B-15 (Continued)
Comparison of Hazardous Materials in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Coating Category	Statistical Property, weight percent	CAS No.[4]							
		100-41-4	1330-20-7	108-88-3	107-21-1	107-98-2	112-34-5	57-55-6	108-67-8
		Ethylbenzene	Xylene	Toluene	Ethylene glycol	Propylene glycol monomethyl ether	Diethylene glycol monobutyl ether	Propylene glycol	1,3,5-Trimethylbenzene
PAR 1113 Non-compliant Metallic Pigmented Coatings[2]	Max	2.4	9.9	10	2.7	70	10.2	2.6	26.1
	Min	0.1	0.6	3	2.7	1.2	0.6	2.6	26.1
	Avg	1	4	7	2.7	38.0	4.0	2.6	26.1
PAR 1113 Compliant Metallic Pigmented Coatings[3]	Max	0	0	7	0	0	0	2	0
	Min	0	0	7	0	0	0	2	0
	Avg	0	0	7	0	0	0	2	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Hazardous material weight percents were obtained from a review of MSDSs for the coatings.

Table B-15 (Continued)
Comparison of Hazardous Materials in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Clear Coat

Coating Category	Statistical Property, weight percent	CAS No.[4]		
		111-76-2	121-44-8	57-55-6
		Ethylene glycol butyl ether	Triethylamine	Propylene glycol
PAR 1113 Non-Compliant Clear Coat[2]	Max	0.29	0	5
	Min	0.26	0	5
	Avg	0.18	0	5
PAR 1113 Compliant Clear Coat[3]	Max	0	0.5	0
	Min	0	0.5	0
	Avg	0	0.5	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Hazardous material weight percents were obtained from a review of MSDSs for the coatings.

Table B-15 (Concluded)
Comparison of Hazardous Materials in PAR 1113 Non-Compliant and PAR 1113 Compliant Coatings[1]

Trowel Applied Faux Coating

Coating Category	Statistical Property, weight percent	CAS No.[4]		
		107-21-1	57-55-6	29911-28-2
		Ethylene glycol	Propylene glycol	Dipropylene glycol monobutyl ether
PAR 1113 Non-compliant Trowel Applied Faux Coating[2]	Max	0	70	5
	Min	0	5	5
	Avg	0	37.5	5
PAR 1113 Compliant Trowel Applied Faux Coating[3]	Max	5.3	4	0
	Min	5.3	4	0
	Avg	5.3	4	0

1. SCAQMD staff developed the existing emissions inventory from the Rule 314 data for products shipped for 2008 and 2009.
2. PAR 1113 non-compliant coatings were represented by coatings with one or more percent of total sales volume.
3. PAR 1113 compliant coatings in the Rule 314 data that had VOC contents that are equal or less than those proposed for PAR 1113 were used as surrogates to evaluate health impacts from reformulated coatings. Information from new architectural coatings that had VOC contents that are equal or less than those proposed for PAR 1113, but were not included in Rule 314 were also added.
4. Hazardous material weight percents were obtained from a review of MSDSs for the coatings.

APPENDIX C

COMMENT LETTERS AND RESPONSE TO COMMENTS

lyondellbasell

Mr. James Koizumi
Office of Planning, Rule Development, and Area Sources
South Coast Air Quality Management District (SCAQMD)
21865 Copley Drive
Diamond Bar, CA 91765

April 19, 2011

RE: PAR 1113 Draft Environmental Assessment.

Dear Mr. Koizumi:

As the developer of TBAC (tert-butyl acetate), Lyondell Chemical submits the following comments on the proposed amendments to rule 1113 and draft environmental assessment.

We are disappointed that the SCAQMD continues to ignore our requests to exempt TBAC in more architectural coatings categories and the extreme flammability risk that this delay poses for consumers and contractors. The US EPA exempted TBAC from the VOC definition in 2004, in recognition of its negligible photochemical reactivity (MIR = 0.17g ozone/g). TBAC is now VOC exempt in 49 states and 21 California counties and can be used in 14 other counties that do not regulate VOCs. In 2009, Environment Canada exempted TBAC in architectural coatings and automotive refinishing operations. In 2006, the SCAQMD staff also exempted TBAC in industrial maintenance coatings and zinc-rich primers in rule 1113. The exemption of TBAC was limited to these two categories because of speculative concerns that TBAC may pose a chronic risk to humans due to its metabolism to tert-butanol (TBA) and occupational exposure to TBAC-containing solvents.

Because of these concerns, SCAQMD conducted a CEQA analysis on the use of TBAC in IM coatings using worst case hypothetical heath risk factors and worst case exposure scenarios. Despite these extremely conservative assumptions, the theoretical chronic risk fell below the level of concern for TBAC-based IM coating use. SCAQMD staff did not conduct a CEQA analysis for other coating categories, including consumer coatings despite the absence of chronic exposures to solvent-based coatings by consumers. The FEA for rule 1113 stated that ***"staff is opposed to allowing TBAc use in residential applications until final conclusions regarding the toxicity of TBAc have been concluded"*** but provided no justification for this opposition. 1-1

There is still no evidence that either TBAC or TBA poses a chronic risk to humans. On the other hand, additional high quality toxicity studies been conducted since 2006 on TBAC and its metabolite TBA to address OEHHA's speculative toxicity concerns. These studies confirm that neither compound is genotoxic[1] or poses an acute or chronic risk to humans. In 2010, the

[1] McGregor, D.B., et.al. (2005). The mutagenicity testing of tertiary-butyl alcohol, tertiary-butyl acetate, and methyl tertiary-butyl ether in Salmonella typhimurium. *Mutat. Res.* 565:181–189

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Pathology Working Group reviewed the male rat kidney data from the 1995 NTP chronic study that showed a dose dependent increase in benign tumors following TBA ingestion.[2] The PWG concluded unanimously that ***"under the conditions of this study, TBA-related renal changes in rats posed no risk for humans, and it would be inappropriate to extrapolate TBA-associated renal proliferative changes in rats to humans."*** The PWG is the fifth panel of toxicologists to independently come to this conclusion since 2003.[3,4,5,6]

Other studies have shown that TBAC is not a reproductive or developmental toxicant and that the mouse thyroid tumors observed in the 1995 TBA chronic study were caused by a mode of action to which humans are not susceptible.[7] It is now clear that OEHHA's concerns were unfounded and that TBAC does not pose a health risk when used in any architectural coatings. This is particularly true for coatings applied outdoors by professional contractors and for DIY products that are used infrequently. Therefore, it is not protective of human health or the environment to continue to deny the VOC exemption for TBAC. In fact, it promotes the use of acetone, which is extremely flammable, and PCBTF whose chronic toxicity has not been evaluated. The exemption of TBAC in architectural coatings would *reduce* product hazards, not increase them.

1-1

The flash point of acetone is -4°F which is well below that of other solvents currently used in architectural coatings, or that of TBAC (40°F). It is also well below the Consumer Products Safety Commission (CPSC) cutoff of 20°F for "Extremely Flammable" solvents. Of all the solvents listed in table 2-11 of the DEA, only one, MEK (FP 16°F) is classifiable as "extremely flammable" by the CPSC. Table 2-11 is fraught with errors, with a majority of compounds incorrectly classified as to flammability. Fifteen non-combustible or combustible materials are listed as "flammable" as is MEK. The properties of exempt solvents acetone, methyl acetate, TBAC, and PCBTF are not listed. Theses errors and omissions should be corrected in the final version of the Environmental Assessment.

1-2

The DEA acknowledges on page 2-45 that PAR-1113 that **"*because PAR 1113 would likely require reformulation of some coating products to comply with lower VOC content limits or in response to changes to the averaging compliance option provision, use of some solvents in coatings, including Group I exempt compounds, may result in products with a higher flammability ratings.*"** As long as TBAC is not recognized as an exempt compound in architectural coating categories, formulators will turn to acetone to the lower VOC content limits in solvent-borne coatings for contractors and consumers. The 2005 CARB survey proves that

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[2] Hard, G., Cohen, S., Regan, K., Pletcher, J., Bruner, R. (2010). Pathology Working Group Review of Selected Histopathologic Changes in the Kidneys of Rats Assigned to Toxicology and Carcinogenicity Studies of t-Butyl Alcohol in F344/N Rats NTP Study No. 05142-03.

[3] NSF International (2003) tert-Butyl Alcohol Oral Risk Assessment Document

[4] NSF International (2008) tert-Butyl Acetate Oral Risk Assessment Document.

[5] Shipp, AM., McDonald, T., Vanlandingham, C., 2005. Hazard Narrative for Tertiary-Butyl Alcohol (TBA) CAS Number 75–65–0, API Publication 4743.

[6] Independent Peer assessment for TBAC (2009): http://www.tera.org/Peer/TBAC/index.html

[7] Blanck O., Fowles J., Schorsch F., Pallen C., Espinasse-Lorneau H., Schulte-Koerne E., Totis M., and Banton M. (2010). Tertiary butyl alcohol in drinking water induces phase I and II liver enzymes with consequent effects on thyroid hormone homeostasis in the B6C3F1 female mouse. *J. Appl. Toxicol.* 30:125-132

acetone is the predominant exempt compound used by formulators in California and that its use continues to grow.

The DEA also recognizes that a solvent's ***"flash point is a particularly important measure of the fire hazard of a substance. For example, the Consumer Products Safety Commission (CPSC) promulgated Labeling and Banning Requirements for Chemicals and Other Hazardous Substances in 15 U.S.C.§1261 and 16 CFR Part 1500. Per the CPSC, the flammability of a product is defined in 16 CFR Part 1500.3 (c)(6) and is based on flash point. For example, a liquid needs to be labeled as: 1) "Extremely Flammable" if the flash point is below 20 degrees Fahrenheit; 2) "Flammable" if the flash point is above 20 degrees Fahrenheit but less than 100 degrees Fahrenheit; or, 3) "Combustible" if the flash point is above 100 degrees Fahrenheit up to and including 150 degrees Fahrenheit."*** In addition, blending acetone with flammable or combustible solvents renders the coating extremely flammable and greatly extends the flammability range. Therefore, it is apparent that without a VOC exemption for TBAC, PAR 1113 creates a significant fire hazard to the public through the use of more flammable materials by consumers, contractors, distributors, and formulators.

1-2

Solvent-based architectural coatings fall into the following categories 1) niche DYI products that are used only occasionally by consumers, and 2) commercial products used by professional contractors. Consumers do not use solvent-based paints occupationally so chronic exposure does not occur. This is acknowledged by the SCAQMD in previous rule 1113 documents:[8]

"Since the application of architectural coatings does not occur continuously over a long period of time, carcinogenic risk and long-term (chronic) non-carcinogenic effects will not be analyzed since they are both based on long-term exposure."

Furthermore, indoor air quality testing[9] using ASTM D5116 Small Chamber Test and Modified California Specification 01350 Test Methods shows that TBAC-based consumer trim paint and floor varnish cannot pose a long-term exposure risk to consumers because 99.9% of the TBAC evaporates in the first 24 hours and residual air concentrations are below the analytical detection limit of 0.3 parts per billion (1.3µg/m3) after 14 days. This level is 30 times below the TBAC odor threshold and 1,000 times below the chronic RfC (safe level). Without chronic overexposure there is no chronic risk, even if a chronic hazard from TBAC actually existed. Therefore, OEHHA's speculative concern about TBAC's chronic toxicity is not only unfounded, but also irrelevant to consumer use of TBAC-containing architectural paints and coatings.

1-3

As for contractor use of architectural coatings, they fall into the following categories 1) exterior application, and 2) interior application. Exterior application provides sufficient ventilation to

[8] http://www.aqmd.gov/ceqa/documents/2006/aqmd/is_nop/IS_1113.doc

[9] Research Triangle Park Laboratories report 08-106, June 23 2008. RTP labs is compliant with ISO 17025 Standard for laboratories, is a State of Pennsylvania Registered Laboratory and Federal Drug Enforcement Agency & North Carolina Controlled Substances Registered Analytical Laboratory and conducts indoor air quality testing for LEEDS and Green Seal (GS-11) product certifications. http://www.rtp-labs.com/

prevent acute and chronic overexposure to solvents. Interior application of solvent-based coatings can lead to overexposure but is usually avoided through the use of respiratory protection and/or forced ventilation of the space. This is commonly done in operations like tub & tile and kitchen cabinet refinishing. Leading suppliers of tub, tile, and cabinet refinishing paints such as NAPCO ltd. provide professional training of the safe application of these coatings and supply a full line of personal protective equipment, supplied air, and fume exhaust equipment and accessories.[10] Their products also bear labels that warn users of the potential hazards of solvent vapors and suggest NIOSH-approved respiratory protection when using their products. Finally, the OSHA PEL for TBAC is 200ppm which is equal or higher than many of the solvents safely used today.

In summary, it is not health protective to further delay the exemption of TBAC due to unfounded chronic toxicity concerns, especially in consumer products that are used infrequently or in commercial products applied by contractors trained in the safe handling of solvent-based coatings. The use of TBAC instead of more reactive, flammable, and hazardous solvents will allow suppliers to formulate lower VOC products for both consumers and contractors without affecting cost, performance, or compromising worker or consumer safety. It will also reduce 314 fees for a number of producers during this recession and lower the cost of low-VOC coating products for contractors and consumers.

1-3

Therefore, we again request that TBAC be exempted for all coating categories in rule 1113 and, if not, at least in exterior coatings applied by contractors. These include concrete curing compounds, concrete surface retarders, driveway sealers, form release coatings, fire proofing exterior, roof coatings and primers, swimming pool coatings, traffic coatings, and waterproofing concrete/masonry coatings.

Thank you for the opportunity to comment. If you have any questions or need any further information, please free to contact me.

Sincerely,

Daniel B. Pourreau, Ph.D.
Technical Advisor

David J. Roznowski, APR
Manager, State Government Affairs

[10] https://www.napcoltd.com/training.asp

Page 4 of 4

Comment Letter 1
Lyondellbasell
April 19, 2011

Response to Comment 1-1
SCAQMD staff relies on the Office of Environmental Health Hazard Assessment (OEHHA) for toxic air pollutant health risk values and health risk assessment guidance. OEHHA staff have raised concern about the potential carcinogenicity of tBAc. Until such time as OEHHA makes further determination regarding the toxicity of tBAc, SCAQMD will exercise caution with regard to considering it an exempt compound.

Based on a review of MSDSs for PAR 1113 compliant coatings, existing PAR 1113 compliant coatings contain conventional solvents but in concentrations less than PAR 1113 non-compliant solvents (i.e., do not contain exempt solvents). A statement in the Draft EA to the contrary was incorrect and has been deleted. It was assumed that PAR 1113 non-compliant coatings would be reformulated to be similar to existing PAR 1113 compliant coatings. Therefore, PAR 1113 is not expected to increase the use of exempt solvents, including acetone, methyl acetate, tBAc and parachlorobenzotrifluoride (PCBTF).

Since, PAR 1113 does not include any provisions that would define tBAc as an exempt solvent in coatings other than industrial maintenance coatings, it is not expected there would be increase in the use of tBAc; therefore, no analysis of tBAc is needed.

Response to Comment 1-2
The Draft EA does indeed include the statement, "Because PAR 1113 would likely require reformulation of some coating products to comply with lower VOC content limits or in response to changes to the averaging compliance option provision, use of some solvents in coatings, including Group I exempt compounds, may result in products with a higher flammability ratings." However, this statement is inconsistent with data compiled and will be removed in the Final EA.

First, many of the proposed changes in PAR 1113 simply move the coatings into a different coating category without changes to the VOC content limit. For coating categories where VOC content limits are proposed to be lowered (dry fog coatings, form release, fire proofing coatings, graphic arts coatings, mastic coatings, and metallic pigment coatings), i.e., where reformulation is expected to be necessary to comply with PAR 1113 limits, staff reviewed MSDSs of the many PAR 1113 compliant products available in the market and used in the distirct (PAR 314 database). In the review of MSDSs for PAR 1113 compliant coatings, no PAR 1113 compliant coatings were identified that used any exempt solvents, including acetone, methyl acetate, tBAc and PCBTF. Since no PAR 1113 compliant architectural coatings that contained exempt compounds were identified in the MSDS review, and no coatings containing exempt compounds were identified by the commenter; exempt compounds are not expected to be used to comply with PAR 1113 and are not included in Table 2-11.

The commenter states that some of the entries in the flammability column in Table 2-11 are not correct (i.e., combustible coatings were labeled as flammable and methyl ethyl ketone and triethanolamine were identified as flammable instead of extremely flammable). Table 2-11 has been corrected in the Final EA. MEK and triethylamine were listed as flammable and now are

listed as extremely flammable. 1,2,4 trimethylbenzene, 1,2-diaminocyclohexane, 1,3,5 trimethylbenzene, benzyl alcohol, diesel, diethylene glycol, diethylene glycol butyl ether, dipropylene glycol methyl ether, ethylene glycol, ethylene monopropyl ether, glycerine, polyethylene glycol, propylene glycol, triethanolamine, and tris-2,4,6-(dimethylaminomethyl) phenol were listed as flammable and are now listed as combustible. However, since the flammability analysis in the Draft EA is based on the NFPA Flammability Rating, not the Consumer Products Safety Commission (CPSC) ratings, the change to the CPSC column do not affect the conclusion of the flammability analysis in the Draft EA.

Response to Comment 1-3

The commenter asks that tBAc be exempted for all coating categories in Rule 1113, and, if not, at least in exterior coatings applied by contractors. Exterior coatings identified by the commenter are concrete curing, concrete surface retarders, driveway sealers, form release coatings, fire proofing exterior, roof coatings and primers, swimming pool coatings, traffic coatings, and waterproofing concrete/masonry coatings. As stated in Response to Comment 1-1, until such time as OEHHA makes a determination regarding the potential toxicity of tBAc, SCAQMD will exercise caution with regard to considering it an exempt compound.

No VOC content limit are being changed for concrete curing, roof coatings and primers, swimming pool coatings, traffic coatings and waterproofing concrete/masonry coatings, so no reformulation of these coatings is expected to be caused by PAR 1113.

VOC content limits of concrete surface retarders and driveway sealers would be reduced by PAR 1113. However, as stated in the Draft EA, the VOC contents of these coatings are already at or below the PAR 1113 VOC content limits. Therefore, no reformulation is expected for concrete surface retarders and driveway sealers because of PAR 1113.

VOC content limits of form release coatings, and fire proofing exterior would be reduced by PAR 1113. The Draft EA assumed that PAR 1113 non-compliant coatings would be reformulated to be similar to existing PAR 1113 compliant coatings to comply with PAR 1113. As stated in the Draft EA, MSDSs were reviewed for these coatings (also see Response to Comment 1-2) and no exempt solvent, such as acetone, methyl acetate, tBAc and parachlorobenzotrifluoride (PCBTF), were identified in PAR 1113 compliant coatings. Therefore, PAR 1113 is not expected to increase the use of exempt solvents. The general trend based on the MSDS review is that conventional coatings are expected to be used in reformulated PAR 1113 compliant coatings (i.e, not using exempt solvents), but used in less concentrations than before reformulation (see Table 2-10 of the Final EA). Since the concentrations of these conventional solvents would be reduced by PAR 1113, the flammability of PAR 1113 compliant coatings is expected to be reduced. However, the Draft EA identified exceptions to this general trend. Increased concentrations of ethylene glycol, propylene glycol and triethylamine were identified in PAR 1113 compliant faux finishing coatings. However, as stated in the Draft EA, ethylene glycol and propylene glycol have low NFPA flammability ratings (both have a NFPA flammability rating of 1) compared to other glycols, which are used in both PAR 1113 compliant coatings and PAR 1113 non-compliant coatings. Therefore, no increase flammability hazards are expected from possible increases in ethylene glycol and propylene glycol use. Triethylamine is used in low concentrations (0.6 percent by weight) in aqueous coatings. At this concentration, health risk and flammability was determined to be less than significant in the Draft EA.

From: Dave Darling [mailto:ddarling@paint.org]
Sent: Wednesday, May 11, 2011 11:44 AM
To: James Koizumi
Subject: 1113DEA.doc

May 11, 2011

Mr. James Koizumi
Office of Planning, Rule Development, and Area Sources
SCAQMD
21865 Copley Drive
Diamond Bar, CA 91765-4178

RE: Proposed Amended Rule 1113 – Architectural Coatings; Notice of Completion of a Draft Environmental Assessment: ACA Comments

Dear Mr. Koizumi:

The American Coatings Association (ACA) [1] has several comments on Section VIII Hazardous and Hazardous Materials of the Draft Environmental Assessment:

It is interesting that exempt solvents (including Acetone, Methyl Acetate etc.) are not listed in Table 2-10 or Table 2-11, it appears based on Table 2-10 that little if any exempt solvents will be used in compliant coatings formulations, which does not seem realistic.

In addition, there seems to be typos in Table 2-11. The Consumer Products Safety Commission (CPSC) has a flashpoint cutoff of 20˚F for "Extremely Flammable" solvents. Of all the solvents listed in table 2-11 of the DEA, two (MEK and Triethylamine) would be classifiable as "extremely flammable" by the CPSC. Also fifteen non-combustible or combustible materials are listed as "flammable". Further as mentioned above, the properties of exempt solvents (acetone, methyl acetate, TBAC, and PCBTF) are not listed on the table or described in the DEA.

2-1

Sincerely,

/s/
David Darling
Senior Director, Environmental Affairs
American Coatings Association

** *Sent via email* **

[1] **The American Coatings Association (ACA) is a voluntary, nonprofit trade association working to advance the needs of the paint and coatings industry and the professionals who work in it. The organization represents paint and coatings manufacturers, raw materials suppliers, distributors, and technical professionals. ACA serves as an advocate and ally for members on legislative, regulatory and judicial issues, and provides forums for the advancement and promotion of the industry through educational and professional development services.**

Comment Letter 2
American Coatings Association
May 11, 2011

Response to Comment 2-1
Based on a review of MSDSs of coatings reported in Rule 314, none of the existing affected PAR 1113 compliant coatings contain exempt compounds (acetone, methyl acetate, tBAc and PCBTF). PAR 1113 compliant coatings contain conventional solvent at lower concentrations (see Tables 2-7, 2-10, B-11and B-15 of the Final EA). It was assumed that PAR 1113 non-compliant coatings would be reformulated to be similar to existing PAR 1113 compliant coatings. Based on the above, it is not expected that exempt compounds would be used to reformulate PAR 1113 non-compliant coatings.

The consumer product safety commission column in Table 2-11 was not correct and has been corrected in the Final EA. MEK and triethylamine were listed as flammable and now are listed as extremely flammable. 1,2,4 trimethylbenzene, 1,2-diaminocyclohexane, 1,3,5 trimethylbenzene, benzyl alcohol, diesel, diethylene glycol, diethylene glycol butyl ether, dipropylene glycol methyl ether, ethylene glycol, ethylene monopropyl ether, glycerine, polyethylene glycol, propylene glycol, triethanolamine, and tris-2,4,6-(dimethylaminomethyl) phenol were listed as flammable and are now listed as combustible. However, since the flammability analysis in the Draft EA is based on the NFPA Flammability Rating not the Consumer Products Safety Commission (CPSC) ratings, the changes do not affect the conclusion of the flammability analysis in the Draft EA.

Exempt solvents were not included in Table 2-11, because they were not found in existing affected PAR 1113 compliant coatings and, therefore, are not expected to be found in reformulated PAR 1113 non-compliant coatings.