BOARD MEETING DATE: June 2, 2006 AGENDA NO. 30

PROPOSAL: Amend Rule 1113 - Architectural Coatings

SYNOPSIS: The proposed amendment to Rule 1113 - Architectural Coatings has been developed to implement the recommendation of the most recent technology assessment for this rule. The proposed rule will reduce the VOC limits for specific coating categories, establish a separate category for high gloss nonflat coatings, set interim and postpone the final limits for high gloss nonflats, quick-dry enamels, specialty primers, and provide a limited exemption for Tertiary-Butyl Acetate from the VOC definition, and include other minor modifications to improve clarity and enforceability of the rule.

COMMITTEE: Stationary Source, April 28, 2006 and May 26, 2006 Reviewed

RECOMMENDED ACTION:

Adopt only one of the following options:

- Option 1 (staff recommendation) – Adopt the Attached Option 1 Resolution:
  1. Certifying the Final Environmental Assessment (EA) for Proposed Amended Rule 1113 – Architectural Coatings, and
  2. Adopting proposed amendments to Rule 1113 – Architectural Coatings.

- Option 2 – Adopt Board Member Antonovich Motion and attached Option 2 Resolution:
  1. Postponing the hearing date for proposed amendments to Rule 1113 - Architectural Coatings from June 2, 2006 until September 8, 2006, and
  2. Amending the effective date for the July 1, 2006 emission limits in Rule 1113 - Architectural Coatings until October 6, 2006, except for interior nonflats; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; and interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart; and exercise enforcement discretion for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart until such time as staff has completed the CEQA

evaluation and returned with rule amendment recommendations as expeditiously as possible; and
3. Directing District staff to continue to work through the Paint & Coatings Task Force (Ad Hoc Board Committee) to find a resolution to the current dispute with the coatings industry and hold at least one task force meeting prior to the June Board hearing; and
4. Directing staff to present a final Paint & Coatings Task force (Ad Hoc Board Committee) report at the June 2006 Governing Board hearing.

- Option 3 – Continue the hearing to the July 7, 2006 Board meeting and consider testimony on the amended proposal and at that time adopt the Attached Option 3 Resolution:
  1. Making infeasibility findings as required under the federal consent decree, and
  2. Certifying the Final Environmental Assessment (EA) for Proposed Amended Rule 1113 – Architectural Coatings, and
  3. Adopting amendments to Rule 1113 – Architectural Coatings, implementing the National Paint and Coatings Association (NPCA) proposal; and
  4. Postponing the future VOC limits for industrial maintenance and rust preventative coatings for one year; and
  5. Eliminating the future VOC limits for exterior stains, waterproofing sealers, waterproofing concrete/masonry sealers and specialty primers; and
  6. Reinstating the small container exemption for clear wood finishes; and
  7. Adopting interior and exterior categories for flat coatings; nonflat coatings; primers, sealers, undercoaters; quick-dry enamels; quick-dry primers, sealers, undercoaters; and floor coatings. Eliminate the future VOC limit for all exterior categories.

Barry R. Wallerstein, D. Env.
Executive Officer

EC:LT:LB

Background

Architectural coatings are one of the largest non-mobile sources of VOC emissions in the South Coast Air Quality Management District (AQMD). The 2003 AQMP projected that the 2006 Summer Planning Inventory would be 38.5 tons per day. Rule 1113 is applicable to manufacturers, distributors, and end-users of architectural coatings. These coatings are used to enhance the appearance of and to protect homes, office buildings, factories and other structures, and their appurtenances on a variety of substrates. The coatings may be applied primarily by brush, roller, or spray guns; and

those applying those coatings include homeowners, painting contractors, or maintenance personnel. Rule 1113 was first adopted in 1977, and has undergone numerous amendments since then.

PAR 1113 – Architectural Coatings has been developed to implement the recommendation of the most recent technology assessment for this rule. The amendment proposes to further reduce VOC emissions from various architectural coating categories used in the architectural coating industry and to provide relief for manufacturers from meeting certain future VOC limits for a few specific coating categories so they may continue adjusting formulations and to provide them additional time for field testing.

Rule 1113 was last amended on July 9, 2004 to address SIP approvability issues identified by the U.S. EPA relative to the alternative compliance Option.

Also, following the May 14, 1999 amendments to Rule 1113, CARB developed a suggested control measure (SCM) for architectural coatings that was largely based on the interim VOC limits and the averaging provision of Rule 1113 as adopted in May 1999. CARB has begun the process to update the 2000 SCM for Architectural Coatings this year. They will be using 2004 survey data as an important resource to update the SCM, but will not begin the formal SCM update process until the survey is completed. CARB anticipates bringing the SCM update to their Board in mid to late 2007. The SCM has been adopted by 19 of the 35 local air districts in California that have an architectural coating rule.

During the course of Rule 1113 implementation, the AQMD Governing Board approved a work plan that required staff to submit annual status reports summarizing issues and activities regarding the implementation of the rule. In addition, the rule required technology assessments for specific coating categories. In preparing the annual status reports, staff has received input from the Technical Advisory Committee made up of individuals from manufacturing companies including NPCA members, CARB, a consulting and engineering firm, a painting contractor and several members from academia. The 2005 Annual Status Report and Technology Assessment indicates that the paint manufacturers have made significant progress toward developing future compliant products in practically all categories, which perform equally to their higher-VOC counterparts.

In 2005 at Chairman Dr. William Burke's request, the AQMD Governing Board established an Ad hoc Committee for the purpose of providing an open forum to discuss key regulatory issues relative to the coatings industry and improving communication between the AQMD and the architectural coating industry to resolve current and future regulatory issues in a non-litigious manner. Staff met with NPCA and member manufacturers more than 30 times including some all day meetings as well as many teleconferences. Over the course of the discussions, NPCA submitted a number of

alternate proposals that all were to be emissions neutral. The NPCA proposals expanded the number of coating categories, maintained current limits and deleted future effective limits for those categories and advanced the future limit for a portion of the flat coating category. All the proposals resulted in emissions ranging from 4.7 tons per day to 13 tons per day permanently forgone, with temporary delays of up to 2.03 tons per day. The most recent formal NPCA proposal would eliminate the July 1, 2006 effective dates for many coating categories, permanently foregoing 4.74 tons per day, and postponing July 1, 2006 effective dates for some categories resulting in emission reductions forgone of 2.03 tons per day for one year.

On May 5, 2006, the Governing Board set a public hearing for June 2, and agreed to consider Board Member Antonovich's motion related to the hearing schedule for the proposed amendments as well as the July 1, 2006 implementation date for lower VOC limits for some coating categories. As a result, staff has prepared three options for Governing Board consideration. Option 1 is the staff's recommendation set for hearing on May 5, 2006. Option 2 is Board Member Antonovich's motion. Option 3 is NPCAs proposal.

Staff Proposal

The proposed amendments will allow the coating manufacturers to:

- use TBAc as an exempt solvent in IM coatings (including zinc-rich primers),
- have a new high gloss subcategory of the nonflat category with a VOC limit of 150 g/l,
- comply with an interim limit for quick-dry enamels of 150 g/l,
- postpone by one year the final limit of 50 g/l for both the high gloss nonflat and quick-dry enamels (quick-dry enamels are high gloss nonflat coatings that dry quicker), and
- postpone the final limit of 100 g/l one year for specialty primers and establish a new interim limit of 250 g/l.

In addition, the proposed amendments will:

- modify some definitions for clarity including clear floor coatings where there may be overlap issues with different coating categories with different VOC limits;
- lower the VOC limit for the following three coating categories: concrete-curing compounds (except for those used for roadways and bridges), dry-fog coatings, and traffic coatings;
- phase out the fire-retardant category requiring these coatings to be subject to the VOC content limit of the coating category for which they are manufactured (i.e., primer, sealer, flat, nonflat);
- allow fire-retardant coatings and metallic pigmented coatings to be averaged; and

- make some administrative changes to: allow a one year sell-through provision for clear wood finish small containers, labeling requirements, annual reports, and technology assessments.

- Staff received several comments after Proposed Amended Rule 1113 was noticed for public hearing and has made the following minor clarifications to the proposed rule:

    1. allow a one-year sell-through for clear wood finishes in small containers, recordkeeping required; and

    2. allow nonflat high gloss coatings and zinc-rich industrial maintenance primers to be averaged, and

    3. clarify that shellacs may be used for wood finishing, excluding floors.

  Staff has determined these amendments, proposed after the hearing was set, only clarifies the proposal and does not significantly change the meaning of the proposed amended rule and would not constitute significant new information pursuant to CEQA guidelines

Board Member Antonovich Proposal
At the May 5, 2006 AQMD Governing Board Meeting in consideration of setting a public hearing for June 2, 2006 to amend Rule 1113 – Architectural Coatings, Board Member Antonovich made a motion to (1) postpone the hearing date for the proposed amendments to Rule 1113 from June 2, 2006 until September 1, 2006; (2) delay the effective date for the amendments to Rule 1113 for 90 days until October 1, 2006; (3) direct AQMD Staff to continue to work through the Paint & Coatings Task Force (Ad hoc Board Committee) to find a resolution to the current dispute with the coatings industry and hold at least one task force meeting prior to the June Board Hearing; and (4) direct staff to present a final Paint & Coatings Task Force (Ad hoc Board Committee) report at the June 2006 Governing Board meeting. Staff has prepared a second recommendation option for Governing Board consideration that reflects the motion by Supervisor Antonovich with minor adjustments, directing staff for further analysis were necessary.

National Paint and Coating Association (NPCA) Proposal
The following reflects NPCAs proposal and is presented as a third recommendation option for Governing Board consideration.

1. Maintain the existing and eliminate the future VOC limits for the following coating categories:

    (a) Maintain 250 g/l for IM coatings and delay implementation of the 100 g/l VOC limit until July 1, 2007 to allow identification and break out of

subcategories requiring VOC limits higher than 100 g/l;

(b) Maintain 400 g/l for rust preventative coatings and delay implementation of the 100 g/l VOC limit until July 1, 2007 to allow additional performance testing;

(c) Eliminate the future 100 g/l VOC limit for exterior stains;

(d) Eliminate the future 100 g/l VOC limit for waterproofing sealers;

(e) Eliminate the 100 g/l VOC limit for waterproofing concrete/masonry sealers;

(f) Reinstate the small container exemption for clear wood finishes (varnishes-clear and semi-transparent, sanding sealers, and lacquers including pigmented lacquers); and

(g) Eliminate the 100 g/l VOC limit for specialty primers.

2. Adopt "Interior" and "Exterior" categories for the following coatings, and the following VOC limits, effective July 1, 2006:

(a) Non-Flat Coatings (Interior 50 g/l, Exterior 150 g/l, High Gloss 150 g/l);

(b) Primers, Sealers & Undercoaters (Interior 100 g/l, Exterior 200 g/l);

(c) Quick Dry Primers, Sealer & Undercoaters (Interior 100 g/l; Exterior 200 g/l);

(d) Quick Dry Enamels (Interior 150 g/l; Exterior 250 g/l);

(e) Stains (Interior 250 g/l; Exterior 250 g/l); and

(f) Floor Coatings (Interior 50 g/l; Exterior 100 g/l).

3. Adopt "Interior" and "Exterior" categories for the flat coatings with the following VOC limits and effective dates:

(a) Interior flat coatings 50 g/l effective July 1, 2007 and

(b) Exterior flat coatings 100 g/l (no change in the current limit).

Emission Inventory and Emission Reduction

The emission inventory of architectural coatings is calculated from the CARB 2001 Architectural Coatings Survey based on 2000 reported sales of architectural coatings in California. Staff adjusts the California emission inventory to account for sales of coatings compliant with the proposed VOC limit as well as sales of exempt small containers and by assuming the coatings above the current AQMD VOC limit are compliant. The share of statewide sales in the AQMD is based upon the percentage of the California population within the AQMD jurisdiction. The emission reductions are also determined from the survey data by calculating the expected emissions on a solids basis as if all coatings comply with the proposed limits and comparing that to the current inventory.

- The staff proposal is expected to result in a delay of VOC emissions of 0.77 ton per day for one year and permanently gain an additional VOC emission reduction of 0.69 ton per day beginning July 1, 2007.

- The motion presented by Board Member Antonovich is expected to result in emissions forgone of 11.21 tons per day or 1,009 tons for 90 days and subsequently 6.5 tons per day emission reductions forgone until such time as the Board adopts amendments to Rule 1113 – Architectural Coatings.

- The NPCA proposal is expected to result in VOC emissions permanently forgone of 4.7 tons per day and a delay of 2.03 tons per day for one year.

Cost-Effectiveness
Staff has estimated the cost-effectiveness to be in the range of $4,882 per ton of VOC reduced from lower VOC limits for concrete-curing compounds, dry-fog coatings, traffic coatings and fire-retardant coatings. The range of cost-effectiveness is within that for other VOC rules adopted by your Board.

Issues
NPCA Proposal
NPCA has formally requested that the AQMD amend Rule 1113 for coating categories with future VOC limits. Their request would postpone and delete future VOC limits for some categories while dividing other categories into interior and exterior keeping future limits for interior and postponing future limits indefinitely for exterior coatings. All issues before the Governing Board are related to the specified VOC limits in the Table of Standards in Rule 1113 that take effect in July of this year, next year and in 2008 with the exception of clear wood finishes in containers greater than one quart.

In trying to reduce the enormous emission impact of architectural coatings to the air quality in the South Coast Basin, the AQMD, through rule amendments, has made architectural coating manufacturers aware of these VOC limits since 1996, 1999 and 2003. Recent industry proposals have requested that the effected categories retain the VOC limits in Rule 1113 as they are today, regardless of technology advancements made in architectural coatings over the last eight to ten years. The most recent proposal submitted to AQMD staff would result in 4.7 tons per day of emissions permanently forgone with 2.03 tons per day delayed for one year. Staff's technology assessment indicates the significant progress in the resin technology registered over the last several years and the increasing number of well performing compliant products practically in all categories of Rule 1113 with a few exceptions. Therefore, the broad relaxation proposed by NPCA is not justifiable. Staff's proposal focuses on those few categories where additional transition time is needed.

The proposed VOC limits are largely based on technology assessments presented to the Governing Board beginning with the 1999 amendments and with the annual reports since 2000. These assessments are supported by coatings currently available in the marketplace, CARB Survey data showing many compliant coatings offered by multiple manufacturers for each category with current market penetration based on sales, and technical studies conducted by AQMD contractors and public agencies comparing performance of low- and high-VOC products using empirical tools. Based on staff's technology assessment and detailed review of data from its contractors or manufacturers, staff is recommending to exempt TBAc for IM Coatings and a one year delay for some categories to allow other manufacturers time to develop additional compliant products. In addition, manufacturers will have an additional three-year product sell through period and the Averaging Compliance Option that can provide additional flexibility to transition to compliant products.

Expiring Small Container Exemption

NPCA and several coating manufacturers have requested an amendment to rescind the elimination of the small container exemption for clear wood finishes effective July 1, 2006.

Staff has not found any justification for such an unlimited exemption and its continuance is actually counter-productive to air quality goals. The CARB Survey data indicates a relatively high percentage of sales of products complying with the proposed limits in the larger containers. However, quite the opposite is true for sales in the smaller containers. A large percentage of products sold in the small containers do not even meet current limits that would otherwise be applicable except for the small container exemption. To further compound the matter more than 40% of total gallonage sold of clear wood finishes is in small containers and, based upon small container sales reported to the AQMD, the volume of these small container sales has increased significantly over the last several years. Elimination of the exemption alone for clear wood finishes will achieve close to a ton per day of emission reductions.

Sell-Through Provision for Small Containers

Some manufacturers have requested that the three year sell-through provision included in the current rule also be applied to clear wood finishes in small containers to allow for the sale and use of those coatings currently located in distribution centers and retail stores to prevent recalling these products.

The three year sell-through provision, as currently written, is only available to coatings in small containers provided they were manufactured prior to the July 1, 2006 effective date and meet the VOC limit of 350 g/l in the Table of Standards. The three year sell-through provision is not available for all other products with a VOC content exceeding that of the Table of Standards. The manufacturers had plenty of time to prepare for and were reminded of the sunsetting exemption. Nevertheless, in response to comments received

and in an effort to assist manufacturers with the transition and alleviate the need for a product variance, staff is proposing a one year sell-through provision for coatings in small containers above the current VOC limit of 350 g/l to allow time for the products to be sold and used after the exemption expires on July 1, 2006. That one year sell-through was to apply to clear wood finishes in small containers that were manufactured and distributed before July 1, 2006, provided certain records were maintained.

Staff has continued to meet with industry representatives after the public hearing was noticed to address specific issues. One of those issues had to do with the ability to control the distribution chain of these coatings manufactured prior to the exemption expiration date and the detail of the records to be maintained for these coatings. Staff has amended the proposal to change the applicability for these coatings from manufacture and distribution prior to the expiration of the exemption to simply manufacture prior to the date of expiration of the exemption. In addition, the recordkeeping and reporting requirements have been amended to require the same reporting requirements for the one year sell-through that has been required of manufacturers to maintain their small container exemption. Staff has determined this amendment, proposed after the hearing was set, does not significantly change the meaning of the proposed amended rule and would not constitute significant new information pursuant to CEQA guidelines.

Tertiary-Butyl Acetate (TBAc)

TBAc is a solvent that can be used in the formulation of some architectural coatings. The manufacturer of TBAc and architectural coating manufacturers have requested that TBAc be delisted as a VOC. At the same time, a request has been made to not delist TBAc as an exempt VOC compound because one of its metabolites has been found to cause tumors in rats and therefore could potentially be carcinogenic.

U.S. EPA has delisted TBAc from the VOC definition because of its low photochemical reactivity. Staff agrees with EPA's assessment that TBAc has low photochemical reactivity, but is concerned about its potential toxicity. The proposed amendments limit the use of TBAc to industrial maintenance coatings and the toxics analysis in the Draft EA examines both cancer and non-cancer health effects from IM coatings, which could be reformulated with TBAc to meet the lower VOC content limit. In the case of TBAc, there is little available information on the toxicity of TBAc, but there is some toxicity information available on one of its metabolites, tertiary-butyl alcohol (TBA). While there are studies that indicate tumors in rats and mice when exposed to high concentrations of TBA, TBA has not been classified as a human carcinogen yet. Estimated risk factors for TBA provided by the Office of Environmental Health Hazard Assessment (OEHHA) staff members were used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAc. It should be noted that these surrogate risk factors developed by OEHHA staff have not been formally approved by the Scientific Review Panel yet, but have been peer reviewed. However, they reflect the best

available information from OEHHA at this time, and these factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAc used to formulate IM coatings. In analyzing TBAc's impacts staff also considered CARB documents that assert TBAc's ozone reduction benefits. Staff's very conservative analysis from the use of TBAc based products only, indicates that the potential chronic cancer risk and acute risk is below the AQMDs significant risk threshold. Staff does not recommend expanding the exemption for TBAc to other categories because numerous alternative compliant products that do not pose the added potential risk exist in large volume, whereas atmospheric IM coatings for extraordinary long durability were limited in availability. By limiting the exemption for TBAc to IM coatings, the AQMD recognizes and limits the potential cancer risk exposure due to the use of TBAc while providing the coating manufacturers with flexibility in formulating products compliant with the future IM coatings limits in PAR 1113. Staff will continue to evaluate additional information relative to TBAc's toxicity as it becomes available and reevaluate its position as necessary.

Averaging Compliance Option Clarification

Rule 1113 specifies the coating categories that manufacturers can select for their averaging compliance plan and, as currently written, nonflat and industrial maintenance coatings may be averaged. Since staff is proposing to separate the nonflat high gloss coatings as a subcategory of the nonflats and zinc-rich primers are a subcategory of industrial maintenances coatings, comments were received as to whether the subcategories could also be averaged. For clarification of the categories that may be averaged, staff is proposing to include the nonflat high gloss and zinc-rich primer subcategories into the averaging list. Staff has determined this amendment, proposed after the hearing was set, does not significantly change the meaning of the proposed amended rule and would not constitute significant new information pursuant to CEQA guidelines.

CEQA

Pursuant to the CEQA and AQMD Rule 110, AQMD has prepared an EA for the proposed amendments to Rule 1113. The Draft EA finding significant impacts was circulated for a 45-day public review and comment period from April 5, 2006 to May 19, 2006. Comments received on the Draft EA and responses to the comments have been incorporated into the Final EA for the proposed project.

Socioeconomic Analysis

Proposed amendments to Rule 1113 would potentially impact manufacturers and end users of architectural coatings. The former belongs to the industry of chemical and allied products (SIC 2851 or NAICS 325510), and the latter are a part of the industry of painting and paper hanging (SIC 1721 or NAICS 235210) and do-it-yourself consumers and homeowners. The total annualized cost of the proposed amendments is projected to

be $1.14 million. It is estimated that approximately 43 jobs could be forgone annually from the future projected growth in the four-county area between 2007 and 2020.

Legal Mandates

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

The Settlement Agreement states that the above control measures with implementation dates later than 2006 require the Governing Board at the time of adoption of such rule to make a written finding that it is infeasible to implement the measure in 2006 in order to adopt an ending implementation date in 2007 or that it is infeasible to implement the measure in 2006 or 2007 in order to adopt an ending implementation date in 2008. The Settlement Agreement further states that the AQMD could relax or delay implementation of emission limitations in the Rules set forth in the Agreement, which includes Rule 1113 as long as (i) the Board makes a finding that it is infeasible to implement the measure by specified date; (ii) the implementation date for an individual rule is not delayed by more than 2 years or alternative measures are adopted and implemented to eliminate the shortfall in reductions within 2 years after scheduled implementation of the original rule, but no later than 2010.

Implementations and Resources

Existing AQMD resources will be sufficient to implement the proposed changes to this rule with minimal impact on the budget.

Attachments

A. Summary of Proposed Amendment
B. Rule Development Flow Chart
C. Key Contacts
D. Key Issues and Responses
E. Resolution
F. Rule Language
G. Staff Report
   Appendix A – List of Available Products
   Appendix B – Emissions Calculations
H. Socioeconomic Report
I. CEQA

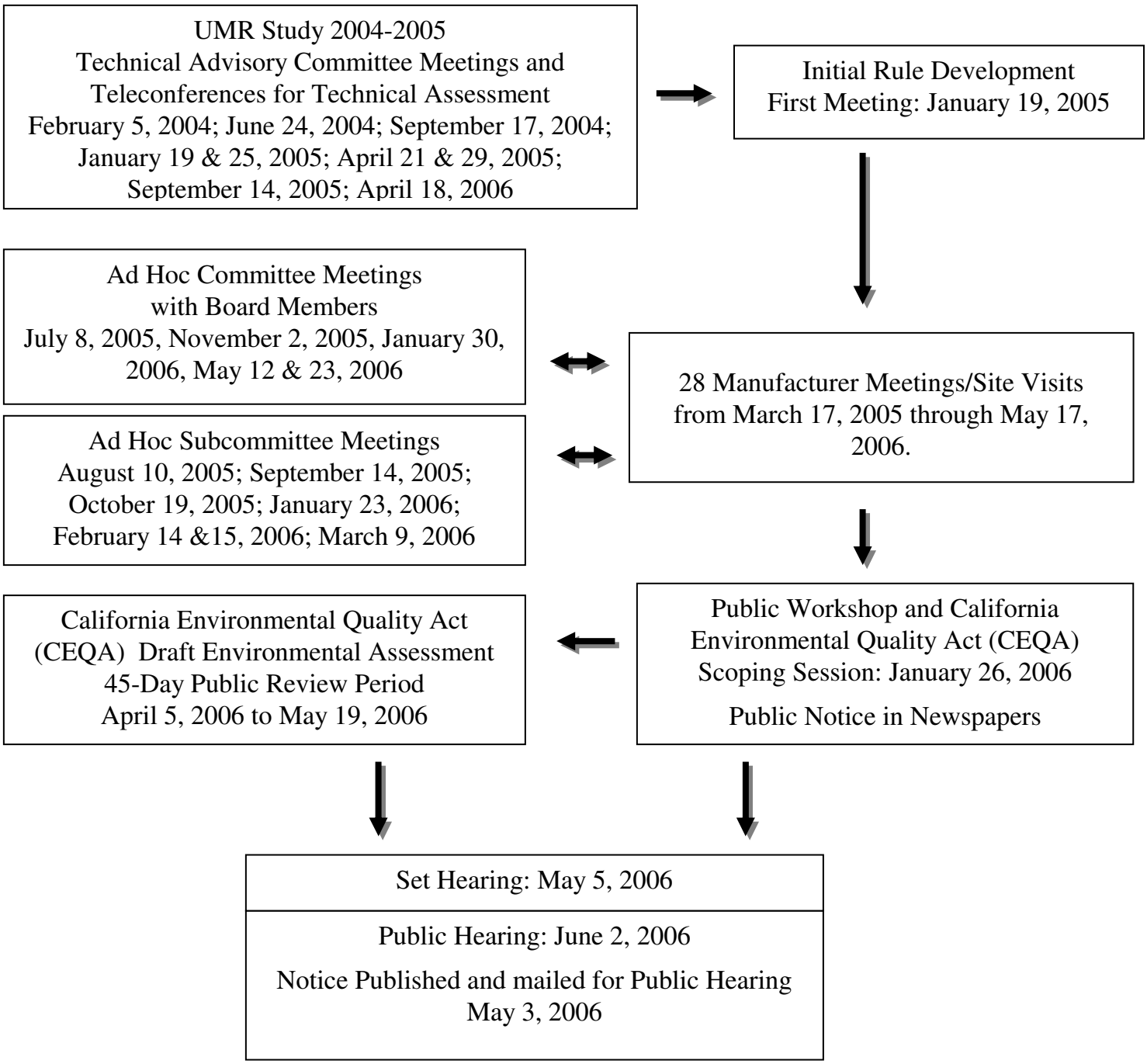
ATTACHMENT A

Summary Of Proposed Amendments to Rule 1113 – Architectural Coatings
Staff proposes amending Rule 1113 as follows: • Add to the definition of clear wood finishes the words "including floors, decks and porches;" • Amend the definition for floor coatings to include clear floor coatings formulated for or applied to concrete flooring and add the words "represented in part for use on flooring" to allow for an exemption of such products from the most restrictive provision of the rule; • Modify the definition of VOC to exclude TBAc when used in formulating IM coatings including zinc-rich primers; • Add a new definition for nonflat high gloss by separating this category from the general nonflat category, establish an interim limit of 150 g/l effective July 1, 2006 and implement the limit of 50 g/l effective July 1, 2007; • Change the VOC limit of 50 g/l for quick-dry enamels to 150 g/l effective July 1, 2006 and implement the limit of 50 g/l effective July 1, 2007; • Modify the definition of concrete-curing compounds to separate them into those for roadways and bridges and those for all other uses. • Reduce the VOC content limit to 100 g/l for concrete-curing compounds (except for roadways and bridges) and traffic coatings, and to 150 g/l for dry-fog coatings, effective July 1, 2007; • Postpone the final limit for specialty primers of 100 g/l for one year and establish a new interim limit of 250 g/l effective July 1, 2006; • Modify the definition of shellacs to clarify that the resinous secretions come from an "insect" rather than a beetle. Drop the words "thinned with alcohol." Add the words "providing a quick-drying, solid, protective film for priming and sealing stains and odors, and for wood finishing excluding floors;" • Phase-out the fire-retardant category by January 1, 2007, requiring these coatings to be subject to the VOC content limit of the coating category for which they are manufactured (i.e., primer, sealer, flat, nonflat); • Allow fire-retardant coatings, metallic pigmented coatings, nonflat high gloss and zinc-rich industrial maintenance coatings to be averaged; • Amend requirements to allow the use of anti-graffiti IM coatings for residential, commercial, or institutional facility use; and • Make limited administrative changes to: allow a one year sell-through provision for clear wood finishes in small containers, and update labeling requirements, technology assessments, recordkeeping requirements and acronyms.

ATTACHMENT B

RULE DEVELOPMENT PROCESS

PROPOSED AMENDED RULE 1113 - Architectural Coatings



ATTACHMENT C

KEY CONTACTS LIST	
Christine Stanley	Ameron Protective Coatings Systems
John Woods	Ameron Protective Coatings Systems
Norm Mowrer	Ameron Protective Coatings Systems
Brian Turk	BASF
Michael Butler	BEHR Process Corporation
Parker Pace	BEHR Process Corporation
Kip Cleverly	Benjamin Moore Paints
Barry Jenkin	Benjamin Moore Paints
Ron Widner	Benjamin Moore Paints
Gerald Thompson	BonaKemi USA, Inc.
Dane Jones, Ph.D.	Cal Poly, SLO
Max Wills, Ph.D.	Cal Poly, SLO
Andy Rogerson	Caltrans
Monique Davis	CARB
Jim Nyarady	CARB
Barry Barman	CSI Services, Inc.
Bud Jenkins	CSU Pomona
Charles Milner Ph.D.	CSU Pomona
Michael G. Rose	Dunn-Edwards Paints
Robert Wendoll	Dunn-Edwards Paints
Kevin McCreight	Eastman Chemical Company
Joseph Tashjian	Ellis Paint Company
Howard Berman	Environmental Mediation, Inc.
Robert Henderson	EPMAR
Dave/Adam Fuhr	Fuhr International
Richard Hart	Hart Polymers
Jim Kantola	ICI Dulux Sinclair
Katy Wolf	Institute for Research and Technical Assistance
Aaron Mann	JFB Hart Coatings, Inc.
Jason Beedie	JFB Hart Coatings, Inc.
Jeffrey P. Mulford	Lifeguard
David Sibbrel	Life Paint Company
Daniel B. Pourreau, Ph.D	Lyondell
Raymond Russell	Diversified Coatings Inc.
Stephen Murphy	Murphy Industrial Coatings
Carol Yip Kaufman	MWD
John Wallace	MWD

KEY CONTACTS LIST	
David Darling	National Paint & Coatings Association
Bob Nelson	National Paint & Coatings Association
Michael Linn	Nox-Crete
Dwayne Fuhlhage	Prosoco
Claude Florent	Rainguard
Brough Richey, Ph.D.	Rohm and Hass Company
Clare Doyle	Rohm and Hass Company
William H. Hill	Rohm and Hass Company
Herman Bacchus	Rust-Oleum
Mike Murphy	Rust-Oleum
Ben McCall	SDA Craft Technologies
Greg Banasky	SGS U.S. Testing Company Inc.
Dan Forestiere	Sherwin-Williams Company
Madelyn Harding	Sherwin-Williams Company
Albert G. Silverton	Silvertown Products, inc.
Wayne Nelson	Spectra-Tone Paint Corporation
Dennis Salley	Dayton Superior
Tony Hobbs	Tnemec Corporation
Kathryn Sheppard	UMR Coatings Institute
Michael R. Van De Mark, Ph.D.	UMR Coatings Institute
Don Sudduth	UV Chemistry Company, Inc
Duncan Gamble	UV Chemistry Company, Inc.
Hamid Pourshirazi	Vista Paint
Jerome Fischer	Vista Paint
John Long	Vista Paint
Tim Gormly	W.R. Meadows of S. CA
Michael Jurist	Zinsser
Timothy O'Reilly	Zinsser

ATTACHMENT D

KEY ISSUES AND RESPONSES Rule 1113	
Issue	**Response**
Tertiary-Butyl Acetate (TBAc) should be allowed in formulations for all architectural coating categories not just industrial maintenance (IM) coatings.	Since there is limited information on the toxicity of TBAc and staff's technology assessment indicates there are products formulated without TBAc that meet the VOC limits in the rule for most affected categories; therefore, staff believes the most responsible approach is limiting TBAc to only the IM category, especially for atmospheric coatings that require long durability to protect infrastructure and there are limited extraordinary alternatives. Once additional information regarding TBAc's toxicity becomes available, staff will be prepared to reconsider its current position.
TBAc should not be allowed for use in any architectural coating category. TBAc forms a metabolite called tert-butyl alcohol (TBA) which is a carcinogen.	Although staff does not require chronic toxicity testing for compounds exempted from the definition of VOC by U.S. EPA and CARB, staff does attempt to compile as much toxicity, global warming, stratospheric ozone depleting potential, etc., information as is currently available in the CEQA document that is typically prepared when exempting a compound from the definition of VOC. In the case of TBAc, there is little available information on the toxicity of TBAc, but there is some toxicity information available on one of its metabolites, TBA. While there are studies that indicate tumors in rats and mice when exposed to high concentrations of TBA, TBA has not been classified as a human carcinogen yet. Estimated risk factors for TBA provided by OEHHA staff members were used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAc. These factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAc used to formulate IM coatings. In analyzing TBAc's impacts, staff also considered CARB documents that assert TBAc's ozone reduction benefits. Staff's very conservative analysis from the use of TBAc based on IM coatings, indicates that the potential chronic cancer risk and acute risk is below the AQMDs significant risk threshold.

KEY ISSUES AND RESPONSES Rule 1113	
Leave the IM category at 250 g/l and extend the 100 g/l limit for one year to allow identification and break out of subcategories requiring higher VOC limits.	Staff disagrees with this suggestion. Staff's technology assessment identified numerous IM coatings complying with the 100 g/l limit with excellent performance characteristics. Furthermore, staff is proposing to exempt TBAc as a VOC solvent and allow its use in formulations requiring exceptionally long-life performance. Given the above facts and the significant emissions associated with IM coatings, staff believes that the requested delay is not warranted. The IM coating manufacturers have not been able to agree on the sub-categorization of the IM category. Staff recommends to those manufacturers that need extra time to transition to the new limits to use the tools already available in the rule, such as the averaging or sell-through provisions or apply for variance. Postponing the effective date for the IM category by one year would have a significant emission impact estimated at 2.44 tons per day delayed.
Break out anti-graffiti coatings from the IM category with a general VOC limit of 250 g/l and a 400 g/l group for concrete and masonry moisture vapor permeability.	Anti-graffiti coatings are a subset of the IM coatings and are generally divided into sacrificial or non-sacrificial coatings. Sacrificial coatings are usually water based modified wax emulsions while non-sacrificial coatings are usually based on acrylic and polyurethane resins. Anti-graffiti coatings are primarily non-penetrating, forming a film to protect the substrate to prevent penetration of spray paint, marking pens, chemical attacks, crayons, etc. Most of the anti-graffiti coatings require the substrate to be sealed, usually with penetrating sealers, prior to application to prevent moisture from being trapped inside. Staff has identified both sacrificial and non-sacrificial anti-graffiti coatings at 100 g/l or less that are breathable allowing water vapor transmission. Therefore, staff disagrees with this suggestion. Since anti-graffiti coatings are reported as IM coatings in the CARB Surveys, it is not possible to evaluate the emission impact.

KEY ISSUES AND RESPONSES Rule 1113	
Maintain the existing VOC limit for rust preventative coatings and delay implementation of the 100 g/l VOC limit for one year to allow additional performance testing.	The 2003 CARB annual report shows a significant increase in sales of rust preventative coatings over the sales reported in the 2001 CARB Survey for this category. Staff's evaluation indicates that compliant coatings with low-VOC are currently available in single component, direct-to-metal (DTM) coatings that provide corrosion resistance for interior and exterior metal surfaces. The 2001 CARB Survey shows that 19% of the products are in compliance with the 100 g/l limit. Appendix A of the current Annual Status Report lists 28 DTM rust preventative coatings that meet the future VOC limit and are currently available from various manufacturers. The UMR study tested rust preventative coating systems, comprised of a primer and topcoat, which supports the 100 g/l limit. Therefore, staff disagrees with this suggestion. The emission impact, if this proposal was accepted, would be 1.28 tons per day delayed for a minimum of one year.
Maintain the existing VOC limits for specialty primers.	One of the major manufacturers of coatings in this category met with staff several times and explained that the waterbased technology to develop a usable specialty primer at 100 g/l limit which can seal fire and smoke damage, as well as severe water-soluble stains was not currently possible but the technology is moving in the right direction and would soon be achievable. After reviewing the available technology and in conjunction with several manufacturer recommendations, staff is proposing to establish an interim VOC limit of 250 g/l effective July 1, 2006 and delay the 100 g/l limit by one year for this category. The emission impact, if this proposal was accepted, would be 0.14 ton per day permanently forgone or a delay of 0.08 ton per day for one year with staff's proposal.
Maintain the existing VOC limits for exterior stains.	The 2001 CARB Survey shows 10% of the products and 11% of the sales complying with the 100 g/l limit. The 2005 Annual Status Report, Appendix A lists 30 exterior stains that have a VOC content of 100 g/l or less. The UMR study conducted accelerated exposure testing and the results support the 100 g/l limit. Manufacturers have additional time for developing and testing their products until July 1, 2007. Therefore, staff disagrees with this suggestion. The emission impact, if the industry proposal was accepted, would be 0.57 ton per day permanently forgone.

KEY ISSUES AND RESPONSES Rule 1113	
Maintain the existing VOC limits for waterproofing sealers and waterproofing concrete-masonry sealers. Comments were made that some substrates, such as travertine and natural stone, do not have the chemistry to react with some types of waterproofing concrete/masonry sealers and those coatings for these substrates were impossible to produce at a VOC content of 100 g/l.	Staff reviewed the technical data sheets for waterproofing concrete/masonry sealers with a VOC content of 100 g/l or less and found nine coatings recommended for use on natural stone, granite, marble, slate, travertine, limestone, and sandstone as well as concrete, exposed aggregate concrete, brick, stucco, block, and clay tile. These products are either film forming or penetrants with all of them breathable allowing vapor transmission or having a permeability rating greater than one. The most recent technology study also supports the 100 g/l limit for this category. The 2001 CARB Survey shows that 25% of the waterproofing sealer products and 20% of their sales meet the 100 g/l limit. The same survey shows 44% of the waterproofing concrete/masonry sealer products and 38% of their sales meet the 100 g/l limit. A more thorough analysis of the technology for this category can be obtained from the 2003 Staff Report for the December 3, 2003 amended Rule 1113. The emission impact, if industry's suggestion was adopted, would be 0.51 ton per day permanently forgone.

KEY ISSUES AND RESPONSES Rule 1113	
Reverse the elimination of the small container exemption for clear wood finishes. Allow the applicability of the sell-through provision to the small containers.	Rule 1113 was amended in 2003 to sunset the exemption of clear wood finishes sold in small containers by July 1, 2006. The amendment was based on a thorough evaluation of clear wood finishes available in the market. Staff concluded that for clear wood finishes; including lacquers, sanding sealers, and varnishes; eliminating the exemption for quart containers or less was feasible based on the technology assessment that indicates numerous adequate substitute products with low-VOC contents are available and in use today. These conclusions were reaffirmed during the 2005 technology assessment. The sell-through provision, as currently written, is only available to the small containers provided they were manufactured prior to the July 1, 2006 effective date and meet the VOC limit of 350 g/l in the Table of Standards. The sell-through provision is not available for all other products with a VOC content exceeding that of the Table of Standards. The manufacturers had plenty of time to prepare and were reminded of the sunsetting exemption. Nevertheless, in response to comments received and in an effort to assist manufacturers with the transition and alleviate the need for a product variance, staff is proposing a one year sell-through provision for coatings in small containers above the current VOC limit of 350 g/l to allow time for the products to be sold and used after the exemption expires on July 1, 2006. The emission impact of reversing the elimination of the small container exemption would be 0.91 ton per day permanently forgone.

KEY ISSUES AND RESPONSES Rule 1113	
Divide nonflat coatings; primers, sealers, undercoaters; quick-dry enamels, quick-dry primers, sealers, undercoaters and floor coatings into interior and exterior keeping some interior coatings at the current VOC limit or slightly lower and all exterior products at the current VOC limit with no future lower limit.	Staff believes that subdividing the suggested coatings into interior and exterior, with each having a different VOC limit, would be difficult to enforce during application of the coatings. Dividing these categories into interior and exterior would raise significant obstacles to the enforceability of the rule, placing much of the anticipated emission reductions in jeopardy. Furthermore, staff's technology assessment identified performing products for both interior and exterior application. However, after reviewing the most recent technology assessment, staff is proposing to create a new category for nonflat high gloss coatings with a VOC limit of 150 g/l effective July 1, 2006 and delaying the 50 g/l limit for one year. Similarly, staff's proposal is to allow quick-dry enamels a 150 g/l VOC limit effective July 1, 2006 and delay the 50 g/l limit one year. The other category VOC limits have been found to be feasible. The emission impact of adopting industry's suggestion would be 1.62 tons per day permanently forgone for all the categories or 0.68 ton per day for one year for staff's proposal.

A T T A C H M E N T E

RESOLUTIONS FOR

PROPOSED AMENDED RULE 1113 - ARCHITECTURAL COATINGS

Option 1

RESOLUTION NO. 2006-

A Resolution of the Governing Board of the South Coast Air Quality Management District ("AQMD") certifying the Final Environmental Assessment prepared for Proposed Amended Rule 1113.

A Resolution of the AQMD Governing Board adopting Amended Rule 1113 - Architectural Coatings.

WHEREAS, the AQMD Governing Board finds and determines that the proposed amendments to Rule 1113 - Architectural Coatings, are considered a "project" pursuant to the California Environmental Quality Act (CEQA); and

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

WHEREAS, the AQMD staff prepared a program Environmental Assessment (EA) setting forth the potential environmental consequences of adopting Proposed Amended Rule 1113 - Architectural Coatings and was released for a 45-day public review period; and

WHEREAS, the program EA for the 2003 AQMP was incorporated by reference by the Draft EA to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole; and

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

WHEREAS, two comment letters were received and responses to comments have been prepared and included in the Final EA; the Draft EA has been revised such that it is now a Final EA; and

WHEREAS, the Final EA has been completed in compliance with CEQA and Rule 110; and

WHEREAS, the Final EA concluded that the proposed project resulted in significant air quality impacts, and no feasible mitigation measures were identified to reduce adverse air quality impacts to less than significant; and

WHEREAS, a Statement of Findings and Overriding Considerations pursuant to CEQA Guidelines §15091 and §15093, respectively, have been prepared since the remaining air quality impacts will be significant and is included as Attachment 1 of this resolution; and

WHEREAS, the staff report, the Final EA and the Socioeconomic Impact Analysis, this June 2, 2006 Board letter, and other supporting documentation was presented to the AQMD Governing Board and that the Board has reviewed and considered the entirety of this information prior to approving the project; and

WHEREAS, the AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Sections 39002, 40000, 40001, 40440, 40441, 40702, and 41508 of the California Health and Safety Code; and

WHEREAS, the AQMD Governing Board has determined that a need exists to amend Rule 1113 - Architectural Coatings to achieve further VOC emission reductions for architectural coatings to meet the federal and state ambient air quality standard for ozone, to provide additional transition time with respect to a limited number of coating categories and to clarify rule language; and

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

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

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

WHEREAS, the AQMD Governing Board in amending the regulation, references the following statutes which the AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001 (a) (air quality standards), 40440(a) (rules to carry out plan), 40440 (b) (BARCT), 40440 (c) (cost effectiveness), 40702 (adopt regulation to execute duties), and Federal Clean Air Act Sections 116 and 172 (c)(1); and

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

WHEREAS, the AQMD Governing Board has determined that Proposed Amended Rule 1113 - Architectural Coatings should be adopted because the proposed amended rule provides the best balance between cost-effectiveness and air quality benefits; and

WHEREAS, the AQMD Governing Board has determined that the Socioeconomic Impact Assessment is consistent with the provisions of the March 17, 1989 and October 14, 1994, Board Resolution for rule adoption and Health and Safety Code Sections 40440.8, 40728.5 and 40920.6; and

WHEREAS, the AQMD Governing Board has reviewed and considered the staff's findings related to cost and employment impacts of Proposed Rule 1113 – Architectural Coatings set forth in the socioeconomic impact assessment, and hereby finds and determines that cost and employment impacts are as set forth in that assessment; and

WHEREAS, the AQMD Governing Board has actively considered the Socioeconomic Impact Assessment and has made a good faith effort to minimize such impacts; and

WHEREAS, the proposed amendments to Rule 1113 - Architectural Coatings help achieve the maximum feasible emission reduction of VOCs from the various coating categories, which is estimated to be up to 0.69 ton/day, and that even after considering the Socioeconomic Impact Assessment, the adoption of such amendments is necessary for achieving the federal and state standards for ozone and for implementing the AQMP; and

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

WHEREAS, the AQMD Governing Board has held a public hearing in accordance with all provisions of law; and

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

WHEREAS, the Governing Board determines that the VOC emission limits of 50 grams per liter for nonflat high gloss and quick-dry enamels, and 100 grams per liter for specialty primers are not feasible by July 1, 2006 because the technology is not yet sufficiently available, but will be feasible by July 1, 2007 and during the interim period nonflat high gloss and quick-dry enamels will be able to meet a VOC limit of 150 grams per liter and specialty primers will be able to meet a VOC limit of 250 grams per liter; and

WHEREAS, the AQMD Governing Board finds and determines, taking into consideration the factors in §(d)(4)(D) of the Governing Board Procedures, that the modifications adopted which have been made to Proposed Amended Rule 1113 – Architectural Coatings since notice of public hearing was published do not significantly change the meaning of the proposed amended rule within the meaning of Health and

Safety Code §40726 and would not constitute significant new information pursuant to CEQA Guidelines §15088.5; and

NOW, THEREFORE BE IT RESOLVED that the AQMD Governing Board does hereby approve the written responses to the comments to the Draft EA, and certify the Final EA for Proposed Amended Rule 1113 - Architectural Coatings, which was completed in compliance with CEQA and Rule 110 provisions; and find that the Final EA was presented to the AQMD Governing Board, whose members reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1113 - Architectural Coatings; and

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

Attachment

DATE:_____ _____

CLERK OF THE BOARD

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Attachment 1 to the Governing Board Resolution for Proposed Amended Rule 1113 - Architectural Coatings:

Statement of Findings and Statement of Overriding Considerations

June 2006

SCAQMD No. 060405MK

Executive Officer
Barry R. Wallerstein, D.Env.

Deputy Executive Officer
Planning, Rule Development and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development and Area Sources
Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager
Susan Nakamura

Author:	Michael Krause	Air Quality Specialist
Technical Assistance:	Dan Russell	Air Quality Specialist
Reviewed by:	Steve Smith, Ph.D.	Program Supervisor
	Larry Bowen	Planning and Rules Manager
	Ed Muehlbacher	Air Quality Analysis and Compliance Supervisor
	Barbara Baird	Principal Deputy District Counsel
	Frances Keeler	Senior Deputy District Counsel

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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Speaker of the Assembly Appointee

Vice Chairman: S. ROY WILSON, Ed.D.
Supervisor, Fourth District
Riverside County Representative

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MIGUEL A. PULIDO
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Orange County Representative

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Governor's Appointee

DENNIS YATES
Mayor, City of Chino
Cities Representative, San Bernardino County

EXECUTIVE OFFICER:

BARRY R. WALLERSTEIN, D.Env.

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INTRODUCTION

The proposed amended Rule 1113 - Architectural Coatings is a "project" as defined by the California Environmental Quality Act (CEQA) (Cal. Public Resources Code §§21000 et seq.). The South Coast Air Quality Management District (SCAQMD) is the lead agency for the project and, therefore, has prepared an Environmental Assessment (EA) pursuant to CEQA Guidelines §15252 and SCAQMD Rule 110. The purpose of the EA is to describe the project and to identify, analyze, and evaluate any potentially significant adverse environmental impacts that may result from adopting and implementing the proposed project. The EA was circulated to the public for a 45-day public review and comment period beginning April 5, 2006 and ending May 19, 2006. During the 45-day public review and comment period, the SCAQMD received two comment letters on the Draft EA. The comments were responded to and included in the Final EA. Minor changes were necessary to make the Draft EA into a Final EA. However, these minor modifications and updates do not constitute "significant new information"[1] and, therefore, does not require recirculation of the document pursuant to CEQA Guidelines §15088.5.

SUMMARY OF THE PROPOSED PROJECT

The proposed amendments to Rule 1113 will allow the coating manufacturers to use tertiary butyl acetate (TBAc) as an exempt solvent to formulate industrial maintenance (IM) coatings only, including zinc-rich industrial maintenance primers. PAR 1113 also establishes a new high-gloss subcategory of nonflat coatings and postpones the 50 grams per liter (g/l) final VOC content limit by one year to July 1, 2007 for those nonflat high gloss coatings. Interim limits of 150 g/l and 250 g/l are proposed for quick dry enamel coatings and specialty primers, respectively, while delaying the final VOC content limit of 50 g/l for one year until July 1, 2007. In addition, the proposed amendments will require lowering the VOC content limit for the following three existing coating categories: concrete-curing compounds (except for those used for roadways, bridges and bridge decks), dry-fog coatings, and traffic coatings by July 1, 2007. The coating category of fire-retardant coatings will be eliminated and those coatings will be subject to the VOC content limit of the coating category this particular type of coating is normally classified as (i.e., primer, sealer,

[1] "Significant new information" requiring recirculation include, for example, a disclosure showing that:
(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

flat, nonflat). These specific coating categories targeted for VOC content reductions were identified by SCAQMD staff and in one of the five proposals from the National Paint and Coating Association (NPCA) as potential cost-effective means of offsetting the VOC emissions foregone due to the delay in implementation of the final VOC content limit compliance date for nonflat high gloss, quick-dry enamel and specialty coating categories. The delay in emission reductions is expected to exceed the SCAQMD's significance threshold and, thus, generate a significant impact on air quality.

SIGNIFICANT ADVERSE IMPACTS THAT CANNOT BE REDUCED BELOW A SIGNIFICANT LEVEL

One environmental topic area, air quality, was identified as having a temporary significant adverse environmental impact due to the extension of compliance dates for several coating categories, which will delay originally anticipated reductions in VOC emissions.

Air Quality

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

The adoption and implementation of PAR 1113 is expected to produce substantial long-term VOC emission reductions. The proposed rule provides an additional VOC emission reduction of 1,360 pounds per day from the lowering of VOC content limits for three existing coating categories. The additional emission reductions, however, will not be achieved until July 1, 2007. Table 1 outlines the proposed VOC content limits, compliance dates and the emission reductions delayed and achieved.

TABLE 1

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

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

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

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

STATEMENT OF FINDINGS

Public Resources Code §21081 and CEQA Guidelines §15091(a) state that "No public agency shall approve or carry out a project for which an EIR has been completed which identifies one or more significant adverse environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding." Additionally, the findings must be supported by substantial evidence in the record (CEQA Guidelines §15091(b)). As identified in the Final EA and summarized above, the proposed project has the potential to create significant adverse air quality impacts. The SCAQMD Governing Board, therefore, makes the following findings

regarding the proposed project. The findings are supported by substantial evidence in the record as explained in each finding. This Statement of Findings will be included in the record of project approval and will also be noted in the Notice of Determination.

1. **Delay in VOC emission reductions would exceed SCAQMD daily VOC significance thresholds.**

   Finding and Explanation: Extending the compliance date for three coating categories from July 1, 2006 to July 1, 2007 creates a temporary delay in VOC emission reductions of 1,560 pounds per day for one year before the lower VOC content limits become effective.

   No feasible mitigation measures are available to lessen the significant adverse impact to air quality from the proposed delayed compliance. CEQA defines "feasible" mitigation measures as those that are "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors" (Public Resources Code §21061.1). No program for reporting or monitoring changes was required in the proposed project or made a condition of approval pursuant to CEQA Guidelines §15091(d). Therefore, a mitigation monitoring plan, per Public Resources Code §21081.6 and CEQA Guidelines §15097, has not been prepared.

   The Governing Board finds further that aside from the No Project Alternative, which is not feasible to comply with, the Final EA considered alternatives pursuant to CEQA Guidelines §15126.6, but no project alternatives would reduce to insignificant levels the significant air quality impacts identified for the proposed project.

   The record of approval for this project may be found in the SCAQMD's Clerk of the Board's Office located at SCAQMD Headquarters in Diamond Bar, California.

STATEMENT OF OVERRIDING CONSIDERATIONS

If significant adverse impacts of a proposed project remain after incorporating mitigation measures, or no measures or alternatives to mitigate the adverse impacts are identified, the lead agency must make a determination that the benefits of the project outweigh the unavoidable adverse environmental effects if it is to approve the project. CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project (CEQA Guidelines §15093 (a)). If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable" (CEQA Guidelines §15093 (a)). Accordingly, a Statement of

Overriding Considerations regarding potentially significant adverse air quality impacts resulting from the proposed project has been prepared. This Statement of Overriding Considerations is included as part of the record of the project approval for the proposed project. Pursuant to CEQA Guidelines §15093(c), the Statement of Overriding Considerations will also be noted in the Notice of Determination for the proposed project.

Despite the inability to incorporate changes into the project that will mitigate potentially significant adverse air quality impacts to a level of insignificance, the SCAQMD's Governing Board finds that the following benefits and considerations outweigh the significant unavoidable adverse environmental impacts:

1. Extending the date for high gloss nonflat coatings, quick dry enamels and specialty primers to comply with the lower VOC content limit will allow manufacturers more time to formulate and test more successful coatings for these three categories at a lower VOC content limit.

2. The analysis of potential adverse environmental impacts incorporates a "worst-case" approach. This entails the premise that whenever the analysis requires that assumptions be made, those assumptions that result in the greatest adverse impacts are typically chosen. This method likely overestimates the actual emission reductions temporarily foregone from the proposed project.

3. The delay in emission reductions from the proposed project is temporary for one year and not permanent.

4. The proposed rule provides an additional VOC emission reduction of 1,360 pounds per day from the lowering of VOC content limits for three existing coating categories, however, these additional emission reductions will not be achieved until July 1, 2007.

5. Cumulative air quality impacts from the proposed amendments are not expected to be significant because while the delay of VOC emission reductions is significant, the delay is temporary and not permanent. In addition, PAR 1113 will require new lower VOC content limits for three other existing coating categories providing new VOC emission reductions of 1,360 pounds per day from the rule. These new emission reductions will not be realized until after July 1, 2007, when the new lower VOC content limits are promulgated. Although there is a delay in 0.78 tons per day (1,560 pounds per day) of VOC emission reductions, there is still an overall net VOC emission reduction benefit from Rule 1113 when considering the 4.05 tons per day of VOC emission reductions achieved from the previous rule amendments in November 2003.

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

The SCAQMD's Governing Board finds that the above-described considerations outweigh the unavoidable significant effects to the environment as a result of the proposed project.

Option 2

RESOLUTION NO. 2006-

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WHEREAS, the program EA for the 2003 AQMP was incorporated by reference by the Draft EA to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole; and

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

WHEREAS, two comment letters were received and responses to comments have been prepared and included in the Final EA; the Draft EA has been revised such that it is now a Final EA; and

WHEREAS, the Final EA has been completed in compliance with CEQA and Rule 110 except for exercising enforcement discretion for interior nonflat coatings, interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart; and

WHEREAS, the Final EA concluded that the proposed project resulted in significant air quality impacts, and no feasible mitigation measures were identified to reduce adverse air quality impacts to less than significant; and

WHEREAS, a Statement of Findings and Overriding Considerations pursuant to CEQA Guidelines §15091 and §15093, respectively, have been prepared

since the remaining air quality impacts will be significant and included as Attachment 1 of this resolution; and

WHEREAS, the staff report, the Final EA and the Socioeconomic Impact Analysis, this June 2, 2006 Board letter, and other supporting documentation was presented to the AQMD Governing Board and that the Board has reviewed and considered the entirety of this information prior to approving the project; and

WHEREAS, the AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Sections 39002, 40000, 40001, 40440, 40441, 40702, and 41508 of the California Health and Safety Code; and

WHEREAS, the AQMD Governing Board has determined that a need exists to postpone the public hearing to amend Rule 1113 - Architectural Coatings to September 8, 2006; and

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

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

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

WHEREAS, the AQMD Governing Board in amending the regulation, references the following statutes which the AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001 (a) (air quality standards), 40440(a) (rules to carry out plan), 40440 (b) (BARCT), 40440 (c) (cost effectiveness), 40702 (adopt regulation to execute duties), and Federal Clean Air Act Sections 116 and 172 (c)(1); and

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

NOW, THEREFORE BE IT RESOLVED that the AQMD Governing Board does hereby approve the written responses to the comments to the Draft EA, and certify the Final EA for Proposed Amended Rule 1113 - Architectural Coatings except for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior

quick-dry primers, sealers, undercoaters; interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart, which was completed in compliance with CEQA and Rule 110 provisions; and find that the Final EA was presented to the AQMD Governing Board, whose members reviewed, considered, and approved the information therein; and

BE IT FURTHER RESOLVED, that the AQMD Governing Board amends the effective date for the July 1, 2006 emission limits in Rule 1113 - Architectural Coatings until October 6, 2006, except for interior nonflats; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; and interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart; and

BE IT FURTHER RESOLVED, that the AQMD Governing Board directs the Executive Officer to exercise enforcement discretion with regard to the supplying, selling, offering for sale, manufacturing, blending, repackaging and the use of architectural coating categories where new limits take effect on July 1, 2006, for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels for varnish and sanding sealers in containers greater than one quart until such time as staff has completed the CEQA evaluation and returned with rule amendment recommendations as expeditiously as possible; and

BE IT FURTHER RESOLVED, that the AQMD Governing Board does hereby direct staff to continue to work through the Paint and Coatings Task Force (Ad Hoc Board Committee) to find a resolution to the current dispute with the architectural coatings industry, present a final Ad Hoc Board Committee report at the June 2006 Governing Board hearing; and

BE IT FURTHER RESOLVED, that the AQMD Governing Board directs staff to complete the CEQA evaluation for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart which have not been analyzed under CEQA and return to the AQMD Governing Board with recommendations as expeditiously as possible; and

BE IT FURTHER RESOLVED, that the AQMD Governing Board does hereby continue the public hearing to consider amendments to Rule 1113 - Architectural Coatings until the September 8, 2006 regular Board meeting.

Attachment

DATE:_____ _____

CLERK OF THE BOARD

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Attachment 1 to the Governing Board Resolution for Option 2 to the Proposed Amended Rule 1113 - Architectural Coatings:

Statement of Findings and Statement of Overriding Considerations

June 2006

SCAQMD No. 060405MK

Executive Officer
Barry R. Wallerstein, D.Env.

Deputy Executive Officer
Planning, Rule Development and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development and Area Sources
Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager
Susan Nakamura

Author:	Michael Krause	Air Quality Specialist
Technical Assistance:	Dan Russell	Air Quality Specialist
Reviewed by:	Steve Smith, Ph.D.	Program Supervisor
	Larry Bowen	Planning and Rules Manager
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Statement of Overriding Considerations

INTRODUCTION

The proposed amended Rule 1113 - Architectural Coatings is a "project" as defined by the California Environmental Quality Act (CEQA) (Cal. Public Resources Code §§21000 et seq.). The South Coast Air Quality Management District (SCAQMD) is the lead agency for the project and, therefore, has prepared an Environmental Assessment (EA) pursuant to CEQA Guidelines §15252 and SCAQMD Rule 110. The purpose of the EA is to describe the project and to identify, analyze, and evaluate any potentially significant adverse environmental impacts that may result from adopting and implementing the proposed project. The EA was circulated to the public for a 45-day public review and comment period beginning April 5, 2006 and ending May 19, 2006. During the 45-day public review and comment period, the SCAQMD received two comment letters on the Draft EA. The comments were responded to and included in the Final EA. Minor changes were necessary to make the Draft EA into a Final EA. However, these minor modifications and updates do not constitute "significant new information"[1] and, therefore, does not require recirculation of the document pursuant to CEQA Guidelines §15088.5.

SUMMARY OF THE PROPOSED PROJECT

Option 2 to the proposed amendments to Rule 1113 would amend the effective date for the July 1, 2006 emission limits in Rule 1113 - Architectural Coatings for 90 days until October 6, 2006, except for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels; and varnish and sanding sealers in containers greater than one quart, and exercise enforcement discretion for interior nonflat; interior floor coatings; interior primers, sealers, undercoaters; interior quick-dry primers, sealers, undercoaters; interior quick-dry enamels and for varnish and sanding sealers in containers greater than one quart until the environmental impacts from delaying the compliance date for these specific coating categories have been analyzed in accordance to CEQA requirements. The delay in the compliance date for the other coating categories currently subject to the July 1, 2006 effective date have been effectively analyzed within the scope of the Alternatives B and C analyzed in the EA.

[1] "Significant new information" requiring recirculation include, for example, a disclosure showing that:
(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

The delay in emission reductions is expected to exceed the SCAQMD's significance threshold and, thus, generate a significant impact on air quality.

SIGNIFICANT ADVERSE IMPACTS THAT CANNOT BE REDUCED BELOW A SIGNIFICANT LEVEL

One environmental topic area, air quality, was identified as having a temporary significant adverse environmental impact due to the extension of compliance dates for several coating categories, which will delay originally anticipated reductions in VOC emissions.

Air Quality

Option 2 is expected to result in emissions forgone of 22,420 pounds per day (11.21 tons per day) or 2,018,000 pounds (1,009 tons) for 90 days and subsequently 13,000 pounds per day (6.5 tons per day) emission reductions forgone from exercising enforcement discretion on certain coating categories until such time as the Board adopts amendments to Rule 1113 – Architectural Coatings.

STATEMENT OF FINDINGS

Public Resources Code §21081 and CEQA Guidelines §15091(a) state that "No public agency shall approve or carry out a project for which an EIR has been completed which identifies one or more significant adverse environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding." Additionally, the findings must be supported by substantial evidence in the record (CEQA Guidelines §15091(b)). As identified in the Final EA and summarized above, the proposed project has the potential to create significant adverse air quality impacts. The SCAQMD Governing Board, therefore, makes the following findings regarding the proposed project. The findings are supported by substantial evidence in the record as explained in each finding. This Statement of Findings will be included in the record of project approval and will also be noted in the Notice of Determination.

1. **Delay in VOC emission reductions would exceed SCAQMD daily VOC significance thresholds.**

Finding and Explanation: Option 2 is expected to result in emissions forgone of 22,420 pounds per day (11.21 tons per day) or 2,018,000 pounds (1,009 tons) for 90 days and subsequently 13,000 pounds per day (6.5 tons per day) emission reductions forgone from exercising enforcement discretion until such time as the Board adopts amendments to Rule 1113 – Architectural Coatings.

No feasible mitigation measures are available to lessen the significant adverse impact to air quality from the proposed delayed compliance. CEQA defines "feasible" mitigation measures as those that are "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors" (Public Resources Code §21061.1). No program for reporting or monitoring changes was required in the proposed project or made a condition of approval pursuant to CEQA Guidelines §15091(d). Therefore, a mitigation monitoring plan, per Public Resources Code §21081.6 and CEQA Guidelines §15097, has not been prepared.

The Governing Board finds further that aside from the No Project Alternative, which is not feasible to comply with, the Final EA considered alternatives pursuant to CEQA Guidelines §15126.6, but no project alternatives would reduce to insignificant levels the significant air quality impacts identified for the proposed project.

The record of approval for this project may be found in the SCAQMD's Clerk of the Board's Office located at SCAQMD Headquarters in Diamond Bar, California.

STATEMENT OF OVERRIDING CONSIDERATIONS

If significant adverse impacts of a proposed project remain after incorporating mitigation measures, or no measures or alternatives to mitigate the adverse impacts are identified, the lead agency must make a determination that the benefits of the project outweigh the unavoidable adverse environmental effects if it is to approve the project. CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project (CEQA Guidelines §15093 (a)). If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable" (CEQA Guidelines §15093 (a)). Accordingly, a Statement of Overriding Considerations regarding potentially significant adverse air quality impacts resulting from the proposed project has been prepared. This Statement of Overriding Considerations is included as part of the record of the project approval for the proposed project. Pursuant to CEQA Guidelines §15093(c), the Statement of Overriding Considerations will also be noted in the Notice of Determination for the proposed project.

Despite the inability to incorporate changes into the project that will mitigate potentially significant adverse air quality impacts to a level of insignificance, the SCAQMD's Governing Board finds that the following benefits and considerations outweigh the significant unavoidable adverse environmental impacts:

1. Extending the dates for certain coating categories to comply with the lower VOC content limit will allow manufacturers more time to formulate and test more successful coatings for these categories at a lower VOC content limit.

2. The analysis of potential adverse environmental impacts incorporates a "worst-case" approach. This entails the premise that whenever the analysis requires that assumptions be made, those assumptions that result in the greatest adverse impacts are typically chosen. This method likely overestimates the actual emission reductions temporarily foregone from the proposed project.

3. The delay in emission reductions from the Option 2 to the proposed project is temporary and not permanent.

4. Cumulative air quality impacts from the Option 2 to the proposed amendments are not expected to be significant because while the delay of VOC emission reductions is significant, the delay is temporary and not permanent.

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

The SCAQMD's Governing Board finds that the above-described considerations outweigh the unavoidable significant effects to the environment as a result of the proposed project.

Option 3

RESOLUTION NO. 2006-

A Resolution of the Governing Board of the South Coast Air Quality Management District ("AQMD") certifying the Final Environmental Assessment prepared for Proposed Amended Rule 1113.

A Resolution of the AQMD Governing Board adopting Amended Rule 1113 - Architectural Coatings.

WHEREAS, the AQMD Governing Board finds and determines that the proposed amendments to Rule 1113 - Architectural Coatings, are considered a "project" pursuant to the California Environmental Quality Act (CEQA); and

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

WHEREAS, the AQMD staff prepared a program Environmental Assessment (EA) setting forth the potential environmental consequences of adopting Proposed Amended Rule 1113 - Architectural Coatings and was released for a 45-day public review period; and

WHEREAS, the program EA for the 2003 AQMP was incorporated by reference by the Draft EA to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole; and

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

WHEREAS, two comment letters were received and responses to comments have been prepared and included in the Final EA; the Draft EA has been revised such that it is now a Final EA; and

WHEREAS, the Final EA has been completed in compliance with CEQA and Rule 110; and

WHEREAS, the Final EA concluded that the proposed project resulted in significant air quality impacts, and no feasible mitigation measures were identified to reduce adverse air quality impacts to less than significant; and

WHEREAS, a Statement of Findings and Overriding Considerations pursuant to CEQA Guidelines §15091 and §15093, respectively, have been prepared since the remaining air quality impacts will be significant and is included as Attachment 1 of the resolution; and

WHEREAS, the staff report, the Final EA and the Socioeconomic Impact Analysis, this June 2, 2006 Board letter, and other supporting documentation was presented to the AQMD Governing Board and that the Board has reviewed and considered the entirety of this information prior to approving the project; and

WHEREAS, the AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Sections 39002, 40000, 40001, 40440, 40441, 40702, and 41508 of the California Health and Safety Code; and

WHEREAS, the AQMD Governing Board has determined that a need exists to amend Rule 1113 - Architectural Coatings to achieve further VOC emission reductions for architectural coatings to provide relief to manufacturers, distributors and end uses of architectural coatings by postponing implementation of VOC limits, eliminating future VOC limits and reinstating the exemption for clear wood finishes sold in small containers; and

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

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

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

WHEREAS, the AQMD Governing Board in amending the regulation, references the following statutes which the AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001 (a) (air quality standards), 40440(a) (rules to carry out plan), 40440 (b) (BARCT), 40440 (c) (cost effectiveness), 40702 (adopt regulation to execute duties), and Federal Clean Air Act Sections 116 and 172 (c)(1); and

WHEREAS, the AQMD Governing Board determines that there is a problem that Proposed Amended Rule 1113 - Architectural Coatings will alleviate, that all manufacturers are not yet able to supply architectural coatings that comply with current or future VOC limits for some coating categories; and

WHEREAS, the AQMD Governing Board has determined that the Socioeconomic Impact Assessment is consistent with the provisions of the March 17, 1989 and October 14, 1994, Board Resolution for rule adoption and Health and Safety Code Sections 40440.8, 40728.5 and 40920.6; and

WHEREAS, the AQMD Governing Board has reviewed and considered the staff's findings related to cost and employment impacts of Proposed Rule 1113 – Architectural Coatings set forth in the socioeconomic impact assessment, and hereby finds and determines that cost and employment impacts are as set forth in that assessment; and

WHEREAS, the AQMD Governing Board has actively considered the Socioeconomic Impact Assessment and has made a good faith effort to minimize such impacts; and

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

WHEREAS, the AQMD Governing Board has held a public hearing in accordance with all provisions of law; and

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

WHEREAS, the AQMD Governing Board determines that the VOC emission limits of 100 grams of VOC per liter for industrial maintenance coatings and rust preventative coatings are not feasible by July 1, 2006, but will be feasible by July 1, 2007 ; that the future limits of 100 gram of VOC per liter are not feasible for exterior stains; waterproofing sealers; waterproofing concrete/masonry sealers; specialty primers; exterior primers, sealers, undercoaters; exterior quick-dry primers, sealers, undercoaters and exterior floor coatings; the future limits of 50 grams of VOC per liter for exterior nonflats is not feasible; the future limits of 150 grams of VOC per liter for exterior quick-dry enamels is not feasible; that the 275 grams of VOC per liter for clear wood finishes sold in quart or smaller containers is not feasible and the 50 grams of VOC per liter limit for interior flat coatings is available by July 1, 2007; and

WHEREAS, the AQMD Governing Board finds and determines that alternative measures will be adopted and implemented to eliminate the shortfall in emission reductions by adoption of Proposed Amended Rule – Architectural Coatings on or before July 1, 2008; and

WHEREAS, the AQMD Governing Board finds and determines, taking into consideration the factors in §(d)(4)(D) of the Governing Board Procedures, that the modifications adopted which have been made to Proposed Amended Rule 1113 – Architectural Coatings since notice of public hearing was published do not significantly change the meaning of the proposed amended rule within the meaning of Health and Safety Code §40726 and would not constitute significant new information pursuant to CEQA Guidelines §15088.5; and

NOW, THEREFORE BE IT RESOLVED that the AQMD Governing Board does hereby approve the written responses to the comments to the Draft EA, and certify the Final EA for Proposed Amended Rule 1113 - Architectural Coatings, which was completed in compliance with CEQA and Rule 110 provisions; and find that the Final EA was presented to the AQMD Governing Board, whose members reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1113 - Architectural Coatings; and

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

Attachment

DATE:_____ _____

CLERK OF THE BOARD

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Attachment 1 to the Governing Board Resolution for Option 3 to the Proposed Amended Rule 1113 - Architectural Coatings:

Statement of Findings and Statement of Overriding Considerations

June 2006

SCAQMD No. 060405MK

Executive Officer
Barry R. Wallerstein, D.Env.

Deputy Executive Officer
Planning, Rule Development and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development and Area Sources
Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager
Susan Nakamura

Author:	Michael Krause	Air Quality Specialist
Technical Assistance:	Dan Russell	Air Quality Specialist
Reviewed by:	Steve Smith, Ph.D.	Program Supervisor
	Larry Bowen	Planning and Rules Manager
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INTRODUCTION

The proposed amended Rule 1113 - Architectural Coatings is a "project" as defined by the California Environmental Quality Act (CEQA) (Cal. Public Resources Code §§21000 et seq.). The South Coast Air Quality Management District (SCAQMD) is the lead agency for the project and, therefore, has prepared an Environmental Assessment (EA) pursuant to CEQA Guidelines §15252 and SCAQMD Rule 110. The purpose of the EA is to describe the project and to identify, analyze, and evaluate any potentially significant adverse environmental impacts that may result from adopting and implementing the proposed project. The EA was circulated to the public for a 45-day public review and comment period beginning April 5, 2006 and ending May 19, 2006. During the 45-day public review and comment period, the SCAQMD received two comment letters on the Draft EA. The comments were responded to and included in the Final EA. Minor changes were necessary to make the Draft EA into a Final EA. However, these minor modifications and updates do not constitute "significant new information"[1] and, therefore, does not require recirculation of the document pursuant to CEQA Guidelines §15088.5.

SUMMARY OF THE PROPOSED PROJECT

Option 3 to the proposed amendments to Rule 1113 would do the following:

1. Maintain the existing and eliminate the future VOC limits for the following coating categories:
   - (a) Maintain 250 g/l for IM coatings and delay implementation of the 100 g/l VOC limit until July 1, 2007 to allow identification and break out of subcategories requiring VOC limits higher than 100 g/l;
   - (b) Maintain 400 g/l for rust preventative coatings and delay implementation of the 100 g/l VOC limit until July 1, 2007 to allow additional performance testing;
   - (c) Eliminate the future 100 g/l VOC limit for exterior stains;
   - (d) Eliminate the future 100 g/l VOC limit for waterproofing sealers;

[1] "Significant new information" requiring recirculation include, for example, a disclosure showing that:
(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

(e) Eliminate the 100 g/l VOC limit for waterproofing concrete/masonry sealers;

(f) Reinstate the small container exemption for clear wood finishes (varnishes-clear and semi-transparent, sanding sealers, and lacquers including pigmented lacquers); and

(g) Eliminate the 100 g/l VOC limit for specialty primers.

2. Adopt "Interior" and "Exterior" categories for the following coatings, and the following VOC limits, effective July 1, 2006:

(a) Non-Flat Coatings (Interior 50 g/l, Exterior 150 g/l, High Gloss 150 g/l);

(b) Primers, Sealers & Undercoaters (Interior 100 g/l, Exterior 200 g/l);

(c) Quick Dry Primers, Sealer & Undercoaters (Interior 100 g/l; Exterior 200 g/l);

(d) Quick Dry Enamels (Interior 150 g/l; Exterior 250 g/l);

(e) Stains (Interior 250 g/l; Exterior 250 g/l); and

(f) Floor Coatings (Interior 50 g/l; Exterior 100 g/l).

3. Adopt "Interior" and "Exterior" categories for the flat coatings with the following VOC limits and effective dates:

(a) Interior flat coatings 50 g/l effective July 1, 2007 and

(b) Exterior flat coatings 100 g/l (no change in the current limit).

The permanently foregone and delay in emission reductions is expected to exceed the SCAQMD's significance threshold and, thus, generate a significant impact on air quality.

SIGNIFICANT ADVERSE IMPACTS THAT CANNOT BE REDUCED BELOW A SIGNIFICANT LEVEL

One environmental topic area, air quality, was identified as having a temporary significant adverse environmental impact due to the extension of compliance dates for several coating categories, which will delay originally anticipated reductions in VOC emissions.

Air Quality

Option 3 is expected to result in VOC emissions permanently forgone of 9,400 pounds per day (4.7 tons per day) and a delay of 4,060 pounds per day (2.03 tons per day) for one year.

STATEMENT OF FINDINGS

Public Resources Code §21081 and CEQA Guidelines §15091(a) state that "No public agency shall approve or carry out a project for which an EIR has been completed which identifies one or more significant adverse environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding." Additionally, the findings must be supported by substantial evidence in the record (CEQA Guidelines §15091(b)). As identified in the Final EA and summarized above, the proposed project has the potential to create significant adverse air quality impacts. The SCAQMD Governing Board, therefore, makes the following findings regarding the proposed project. The findings are supported by substantial evidence in the record as explained in each finding. This Statement of Findings will be included in the record of project approval and will also be noted in the Notice of Determination.

1. **Permanently forgone emission reductions and delay in VOC emission reductions would exceed SCAQMD daily VOC significance thresholds.**

Finding and Explanation: Option 3 is expected to result in VOC emissions permanently forgone of 9,400 pounds per day (4.7 tons per day) and a delay of 4,060 pounds per day (2.03 tons per day) for one year.

No feasible mitigation measures are available to lessen the significant adverse impact to air quality from the proposed delayed compliance. CEQA defines "feasible" mitigation measures as those that are "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors" (Public Resources Code §21061.1). No program for reporting or monitoring changes was required in the proposed project or made a condition of approval pursuant to CEQA Guidelines §15091(d). Therefore, a mitigation monitoring plan, per Public Resources Code §21081.6 and CEQA Guidelines §15097, has not been prepared.

The Governing Board finds further that aside from the No Project Alternative, which is not feasible to comply with, the Final EA considered alternatives pursuant to CEQA Guidelines §15126.6, but no project alternatives would reduce to insignificant levels the significant air quality impacts identified for the proposed project.

The record of approval for this project may be found in the SCAQMD's Clerk of the Board's Office located at SCAQMD Headquarters in Diamond Bar, California.

STATEMENT OF OVERRIDING CONSIDERATIONS

If significant adverse impacts of a proposed project remain after incorporating mitigation measures, or no measures or alternatives to mitigate the adverse impacts are identified, the lead agency must make a determination that the benefits of the project outweigh the unavoidable adverse environmental effects if it is to approve the project. CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project (CEQA Guidelines §15093 (a)). If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable" (CEQA Guidelines §15093 (a)). Accordingly, a Statement of Overriding Considerations regarding potentially significant adverse air quality impacts resulting from the proposed project has been prepared. This Statement of Overriding Considerations is included as part of the record of the project approval for the proposed project. Pursuant to CEQA Guidelines §15093(c), the Statement of Overriding Considerations will also be noted in the Notice of Determination for the proposed project.

Despite the inability to incorporate changes into the project that will mitigate potentially significant adverse air quality impacts to a level of insignificance, the SCAQMD's Governing Board finds that the following benefits and considerations outweigh the significant unavoidable adverse environmental impacts:

1. Provide permanent ease to manufacturers from having to reformulate and test coatings at lower VOC content limits.

2. Contractors would be allowed to continue to use familiar higher VOC content limit coating products and avoid training in the usage of the new lower VOC content limit product.

3. The analysis of potential adverse environmental impacts incorporates a "worst-case" approach. This entails the premise that whenever the analysis requires that assumptions be made, those assumptions that result in the greatest adverse impacts are typically chosen. This method likely overestimates the actual emission reductions temporarily foregone from the proposed project.

4. Cumulative air quality impacts from the proposed amendments, previous amendments and all other AQMP control measures considered together are not expected to be significant because implementation of all AQMP control measures is expected to result in net emission reductions and overall air quality improvement. This determination is consistent with the conclusion in the 2003 AQMP EIR that cumulative air quality impacts from all AQMP control measures

are not expected to be significant (SCAQMD, 2003). Indeed, air quality modeling performed for the 2003 AQMP indicated that the Basin would achieve all federal ambient air quality standards by the year 2010 (SCAQMD, 1997). Future VOC control measures will assist in achieving the goal of ozone attainment by 2010.

The SCAQMD's Governing Board finds that the above-described considerations outweigh the unavoidable significant effects to the environment as a result of the proposed project.

A T T A C H M E N T F

PROPOSED AMENDED RULE 1113 – ARCHITECTURAL COATINGS

(Adopted Sept. 2, 1977)(Amended Dec. 2, 1977)(Amended Feb. 3, 1978)
(Amended Sept. 5, 1980)(Amended Apr. 3, 1981)(Amended July 3, 1981)
(Amended by California Air Resources Board Oct. 21, 1981)
(Amended Aug. 5, 1983)(Amended Mar. 16, 1984)(Amended Aug. 2, 1985)
(Amended Nov. 1, 1985)(Amended Feb. 6, 1987)(Amended Jan. 5, 1990)
(Amended Feb. 2, 1990)(Amended Nov. 2, 1990)(Amended Dec. 7, 1990)
(Amended Sept. 6, 1991)(Amended March 8, 1996)(Amended August 9, 1996)
(Amended November 8, 1996)(Amended May 14, 1999; Vacated)
(Amended July 20, 2001)(Amended December 6, 2002)(Amended December 5, 2003)
(Amended July 9, 2004)(PAR 1113 June 2, 2006)

PROPOSED AMENDED RULE 1113. ARCHITECTURAL COATINGS

(a) Applicability

This rule is applicable to any person who supplies, sells, offers for sale, or manufactures any architectural coating for use in the District that is intended to be field applied to stationary structures or their appurtenances, and to mobile homes, pavements or curbs; as well as any person who applies or solicits the application of any architectural coating within the District. The purpose of this rule is to limit the VOC content of architectural coatings used in the District or to allow the averaging of such coatings, as specified, so their actual emissions do not exceed the allowable emissions if all the averaged coatings had complied with the specified limits.

(b) Definitions

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

(1) AEROSOL COATING PRODUCT means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground marking and traffic marking applications.

(2) ALUMINUM ROOF COATINGS are roof coatings containing at least 0.7 pounds per gallon (84 grams per liter) of coating as applied, of elemental aluminum pigment.

(3) APPURTENANCES are accessories to a stationary structure, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, heating and air conditioning equipment, other mechanical equipment, large fixed stationary tools, signs, motion picture and television production sets, and concrete forms.

(4) ARCHITECTURAL COATINGS are any coatings applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.

(5) BELOW-GROUND WOOD PRESERVATIVES are wood preservatives formulated to protect below-ground wood.

(6) BITUMINOUS COATING MATERIALS are black or brownish coating materials, soluble in carbon disulfide, consisting mainly of hydrocarbons and which are obtained from natural deposits, or as residues from the distillation of crude petroleum oils, or of low grades of coal.

(7) BITUMINOUS ROOF PRIMERS are primers formulated for or applied to roofing that incorporate bituminous coating materials.

(8) BOND BREAKERS are coatings formulated for or applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the substrate over which it is poured.

(9) CLEAR BRUSHING LACQUERS are clear wood finishes, excluding clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction and to provide a solid, protective film, which are intended exclusively for application by brush, and which are labeled as specified in paragraph (d)(7).

(10) CLEAR WOOD FINISHES are clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates, including floors, decks and porches, to provide a transparent or translucent solid film.

(11) COATING is a material which is applied to a surface in order to beautify, protect, or provide a barrier to such surface.

(12) COLORANTS are solutions of dyes or suspensions of pigments.

(13) CONCRETE-CURING COMPOUNDS are coatings formulated for or applied to freshly poured concrete to retard the evaporation of water. Concrete-curing compounds manufactured and used for roadways and bridges (does not include curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas) are those concrete-curing compounds that meet ASTM Designation C309, Class B, and meet a loss of water standard of less than 0.15-kg/m^2 in 24 hours as determined by the California Transportation Department, California Test 534.

(14) DRY-FOG COATINGS are coatings which are formulated only for spray application so that when sprayed, overspray droplets dry before falling on floors and other surfaces.

(15) EXEMPT COMPOUNDS (See Rule 102-Definition of Terms.)

(16) FIRE-PROOFING EXTERIOR COATINGS are opaque coatings formulated to protect the structural integrity of outdoor steel and other outdoor construction materials and listed by Underwriter's Laboratories, Inc. for the fire protection of steel.

(17) FIRE-RETARDANT COATINGS are coatings labeled and formulated to retard ignition and flame spread, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The fire-retardant coating shall be tested in accordance with ASTM Test Method E 84~~-99~~, incorporated by reference in paragraph (e)(4) or listed by Underwriter's Laboratories, Inc. as fire-retardant coatings with a flame spread index of less than 25.

(18) FLAT COATINGS are coatings that register a gloss of less than 15 on an 85-degree meter or less than 5 on a 60-degree meter.

(19) FLOOR COATINGS are opaque coatings that are formulated for or applied to flooring; including but not limited to decks~~,~~ and porches, ~~gymnasiums, and bowling alleys~~and clear coatings formulated for or applied to concrete flooring, but do not include Industrial Maintenance Coatings.

(20) FORMULATION DATA is the actual product recipe which itemizes all the ingredients contained in a product including VOCs and the quantities thereof used by the manufacturer to create the product. Material Safety Data Sheets (MSDS) are not considered formulation data.

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

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

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

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

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

Where: W_s = weight of volatile compounds emitted during curing, in grams
W_w = weight of water emitted during curing, in grams
W_{es} = weight of exempt compounds emitted during curing, in grams
V_m = volume of the material prior to reaction, in liters
V_w = volume of water emitted during curing, in liters
V_{es} = volume of exempt compounds emitted during curing, in liters

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

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

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

(23) GRAPHIC ARTS COATINGS (Sign Paints) are coatings formulated for hand-application by artists using brush or roller techniques to indoor and

outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.

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

(25) INDUSTRIAL MAINTENANCE COATINGS are coatings, including primers, sealers, undercoaters, intermediate coatings and topcoats, formulated for or applied to substrates, including floors, that are exposed to one or more of the following extreme environmental conditions:

(A) immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

(B) acute or chronic exposure to corrosive, caustic or acidic agents, or similar chemicals, chemical fumes, chemical mixtures, or solutions;

(C) repeated exposure to temperatures in excess of 250 degrees Fahrenheit;

(D) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleaners, or scouring agents; or

(E) exterior exposure of metal structures.

(26) INTERIOR STAINS are stains labeled and formulated exclusively for use on interior surfaces.

(27) JAPANS/FAUX FINISHING COATINGS are glazes designed for wet-in-wet techniques used as a stain or glaze to create artistic effects, including but not limited to, dirt, old age, smoke damage, and simulated marble and wood grain.

(28) LACQUERS are clear or pigmented wood finishes, including clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction.

(29) LOW-SOLIDS COATINGS are coatings containing one pound or less of solids per gallon of material.

(30) MAGNESITE CEMENT COATINGS are coatings formulated for or applied to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

(31) MASTIC COATINGS are coatings formulated to cover holes and minor cracks and to conceal surface irregularities, and applied in a thickness of at least 10 mils (dry, single coat).

(32) METALLIC PIGMENTED COATINGS are coatings, excluding roof coatings, containing at least 0.4 pounds per gallon (48 grams/liter) of coating, as applied, of elemental metallic pigment (excluding zinc), mica particles or any combination of metallic pigments and mica particles.

(33) MULTI-COLOR COATINGS are coatings which exhibit more than one color when applied and which are packaged in a single container and applied in a single coat.

(34) NONFLAT COATINGS are coatings that are not defined under any other definition in this rule and that register a gloss of 5 or greater on a 60 degree meter and a gloss of 15 or greater on an 85 degree meter according to ASTM Test Method D 523 as specified in paragraph (e)(6).

(35) NONFLAT HIGH GLOSS COATINGS are coatings that register a gloss of 70 or above on a 60 degree meter according to ASTM Test Method D 523 as specified in paragraph (e)(6).

(3~~5~~6) POST-CONSUMER COATINGS are finished coatings that would have been disposed of in a landfill, having completed their usefulness to a consumer, and does not include manufacturing wastes.

(3~~6~~7) PRE-TREATMENT WASH PRIMERS are coatings which contain a minimum of 1/2 percent acid, by weight, applied directly to bare metal surfaces to provide necessary surface etching.

(3~~7~~8) PRIMERS are coatings applied to a surface to provide a firm bond between the substrate and subsequent coats.

(3~~8~~9) PRODUCT LINE is a line of coatings reported under one product number and name and subject to one coating VOC limit as specified in paragraph (c)(2) Table of Standards.

(~~39~~40) QUICK-DRY ENAMELS are non-flat, high gloss coatings which comply with the following:

(A) Shall be capable of being applied directly from the container by brush or roller under normal conditions, normal conditions being ambient temperatures between 60°F and 80°F; and

(B) When tested in accordance with ASTM D 1640 they shall: set-to-touch in two hours or less, dry-hard in eight hours or less, and be tack-free in four hours or less by the mechanical test method~~; and~~.

~~(C) Shall have a 60° dried film gloss of no less than 70 upon application.~~

(~~40~~1) QUICK-DRY PRIMERS, SEALERS, AND UNDERCOATERS are primers, sealers, and undercoaters which are intended to be applied to a surface to provide a firm bond between the substrate and subsequent coats and which are dry-to-touch in one-half hour and can be recoated in two hours (ASTM D 1640).

(~~41~~2) REACTIVE DILUENT is a liquid which is a VOC during application and one in which, through chemical and/or physical reaction, such as polymerization, becomes an integral part of the coating.

(~~42~~3) RECYCLED COATINGS are coatings formulated such that 50 percent or more of the total weight consists of secondary and post-consumer coatings and 10 percent or more of the total weight consists of post-consumer coatings, and manufactured by a certified recycled paint manufacturer.

(~~43~~4) ROOF COATINGS are coatings formulated for application to exterior roofs for the primary purpose of preventing penetration of the substrate by water, or reflecting heat and ultraviolet radiation.

(~~44~~5) RUST PREVENTATIVE COATINGS are coatings formulated for use in preventing the corrosion of metal surfaces in residential and commercial situations.

(~~45~~6) SANDING SEALERS are clear wood coatings formulated for or applied to bare wood for sanding and to seal the wood for subsequent application of coatings. To be considered a sanding sealer a coating must be clearly labeled as such.

(~~46~~7) SEALERS are coatings applied to either block materials from penetrating into or leaching out of a substrate, to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.

(~~47~~8) SECONDARY (REWORK) COATINGS are fragments of finished coatings or finished coatings from a manufacturing process that has converted resources into a commodity of real economic value, but does not include excess virgin resources of the manufacturing process.

(~~48~~9) SHELLACS are clear or pigmented coatings formulated solely with the resinous secretions of the lac ~~beetle~~ insect (laccifer lacca)~~, thinned with alcohol, and~~ Shellacs are formulated to dry by evaporation without a chemical reaction providing a quick-drying, solid, protective film for

priming and sealing stains and odors, and for wood finishing excluding floors.

(~~49~~50) SOLICIT is to require for use or to specify, by written or oral contract.

(5~~0~~1) SPECIALTY PRIMERS are coatings formulated for or applied to a substrate to seal fire, smoke or water damage; or to condition excessively chalky surfaces. An excessively chalky surface is one that is defined as having chalk rating of four or less as determined by ASTM D-4214 – Photographic Reference Standard No. 1 or the Federation of Societies for Coatings Technology "Pictorial Standards for Coatings Defects".

(5~~1~~2) STAINS are opaque or semi-transparent coatings which are formulated to change the color but not conceal the grain pattern or texture.

(5~~2~~3) SWIMMING POOL COATINGS are coatings specifically formulated for or applied to the interior of swimming pools and to resist swimming pool chemicals.

(5~~3~~4) SWIMMING POOL REPAIR COATINGS are chlorinated, rubber-based coatings used for the repair and maintenance of swimming pools over existing chlorinated, rubber-based coatings.

(5~~4~~5) TINT BASE is an architectural coating to which colorants are added.

(5~~5~~6) TRAFFIC COATINGS are coatings formulated for or applied to public streets, highways, and other surfaces including, but not limited to, curbs, berms, driveways, and parking lots.

(5~~6~~7) UNDERCOATERS are coatings formulated for or applied to substrates to provide a smooth surface for subsequent coats.

(5~~7~~8) VARNISHES are clear wood finishes formulated with various resins to dry by chemical reaction.

(5~~8~~9) VOLATILE ORGANIC COMPOUND (VOC) ~~See Rule 102.~~is as defined in Rule 102 – Definition of Terms. For the purpose of this rule, tertiary butyl acetate (TBAc) is not a VOC when used in industrial maintenance coatings including zinc-rich industrial maintenance coatings.

(~~59~~60) WATERPROOFING SEALERS are coatings which are formulated for the primary purpose of preventing penetration of porous substrates by water.

(6~~0~~1) WATERPROOFING CONCRETE/MASONRY SEALERS are clear or pigmented sealers that are formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining.

(6~~1~~2) WOOD PRESERVATIVES are coatings formulated to protect wood from decay or insect attack by the addition of a wood preservative chemical registered by the California Environmental Protection Agency.

(6~~2~~3) ZINC-RICH INDUSTRIAL MAINTENANCE PRIMERS are primers formulated to contain a minimum of 65 percent metallic zinc powder (zinc dust) by weight of total solids for application to metal substrates.

(c) Requirements

(1) Except as provided in paragraphs (c)(2), (c)(3), (c)(4), and specified coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage any architectural coating for use in the District which, at the time of sale or manufacture, contains more than 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, and less any colorant added to tint bases, and no person shall apply or solicit the application of any architectural coating within the District that exceeds 250 grams of VOC per liter of coating as calculated in this paragraph.

(2) Except as provided in paragraphs (c)(3), (c)(4), and designated coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage, for use within the District, any architectural coating listed in the Table of Standards which contains VOC (excluding any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified, and no person shall apply or solicit the application of any architectural coating within the District that exceeds the VOC limit as specified in this paragraph. No person shall apply or solicit the application within the District of any industrial maintenance coatings, except 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; or of any rust-preventative coating for industrial use, unless such a rust preventative coating complies with the Industrial Maintenance Coating VOC limit specified in the Table of Standards.

TABLE OF STANDARDS
VOC LIMITS

Grams of VOC Per Liter of Coating,
Less Water and Less Exempt Compounds

COATING CATEGORY	Ceiling Limit*	Current Limit~~1/1/98~~	Effective Date							
			~~1/1/99~~	~~7/1/01~~	1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Bond Breakers	350									
Clear Wood Finishes	350							275		
Varnish	350							275		
Sanding Sealers	350							275		
Lacquer	680	550					275			
Clear Brushing Lacquer	680						275			
Concrete-Curing Compounds	350								100	
Concrete-Curing Compounds For Roadways and Bridges**	350									
Dry-Fog Coatings	400								150	
Fire-Proofing Exterior Coatings	450	350	~~350~~							
Fire-Retardant Coatings***										
Clear	650									
Pigmented	350									
Flats	250	100		~~100~~						50
Floor Coatings	420				100			50		
Graphic Arts (Sign) Coatings	500									
Industrial Maintenance (IM) Coatings	420					250		100		
High Temperature IM Coatings**					420					
Zinc-Rich IM Primers	420				340			100		
Japans/Faux Finishing Coatings	700	350	~~350~~							
Magnesite Cement Coatings	600	450	~~450~~							
Mastic Coatings	300									
Metallic Pigmented Coatings	500									
Multi-Color Coatings	420	250								
Nonflat Coatings	250				150			50		
Nonflat High Gloss	250				150				50	
Pigmented Lacquer	680	550					275			
Pre-Treatment Wash Primers	780				420					
Primers, Sealers, and Undercoaters	350				200			100		
Quick-Dry Enamels	400				250			150	50	
Quick-Dry Primers, Sealers, and Undercoaters	350				200			100		
Recycled Coatings					250					
Roof Coatings	300				250		50			
Roof Coatings, Aluminum	500						100			
Roof Primers, Bituminous	350				350					
Rust Preventative Coatings	420				400			100		
Shellac										
Clear	730									
Pigmented	550									

COATING CATEGORY	Ceiling Limit*	Current Limit~~1/1/98~~	~~1/1/99~~	~~7/1/01~~	Effective Date 1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Specialty Primers	350							~~10~~250	100	
Stains	350				250				100	
Stains, Interior	250									
Swimming Pool Coatings										
Repair	650				340					
Other	340									
Traffic Coatings	250	150							100	
Waterproofing Sealers	400				250			100		
Waterproofing Concrete/Masonry Sealers	400							100		
Wood Preservatives										
Below-Ground	350									
Other	350									

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

** ~~The National VOC Standard at 650 g/l is applicable until 1/1/2003~~Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

*** The Fire-Retardant Coating category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.

TABLE OF STANDARDS (cont.)
VOC LIMITS

Grams of VOC Per Liter of Material

COATING	Limit
Low-Solids Coating	120

(3) Coating Categorization

(A) If anywhere on the container of any coating listed in the Table of Standards, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the coating may be used as, or is suitable for use as, a coating for which a lower VOC standard is specified in the table or in paragraph (c)(1), then the lowest VOC standard shall apply.

(B) The provisions of paragraph (c)(3)(A) shall not apply to a coating described in part as a flat, nonflat or primer-sealer-undercoater coating, or represented in part for use on flooring, provided that all of the following requirements are met:

(i) The coating meets the definition of a specific coating category for which a higher VOC standard is specified in the Table of Standards, and

(ii) The coating is labeled in a manner consistent with the definition and all the specific labeling requirements for that specific coating category, and

(iii) The coating is suitable and only recommended for the intended uses of that specific coating category.

(4) Sell-Through Provision

(A) Any coating that is manufactured prior to the effective date of the applicable limit specified in the Table of Standards, and that has a VOC content above that limit (but not above the limit in effect on the date of manufacture), may be sold, supplied, offered for sale, or applied for up to three years after the specified effective date. The manufacturer shall maintain sales and distribution records, as applicable, for any coating manufactured prior to the effective date if that coating volume is not included in an approved Averaging Compliance Option [specified in paragraph (c)(6) of this rule] Program that includes the same coating manufactured on or after the effective date. Such records shall clearly indicate the date of manufacture (or date code or batch code) and volume of coating sold or distributed to distinguish between those coatings subject to the provisions of this paragraph and those subject to the provisions of Appendix A section (K). These records shall be made available to the Executive Officer upon request and shall be maintained for a period of at least three years after the end of a compliance period of the Averaging Compliance Option Program.

(B) Any coating in containers of one quart or less that is manufactured ~~*and distributed*~~ prior to the expiration of the exemption under subparagraph (g)(1)(A) which has a VOC content above that limit specified in the Table of Standards may be sold, supplied, offered for sale, or applied for up to one year after the specified effective date. A manufacturer using this sell-through provision shall submit an annual report to the Executive Officer within three months of the end of the appropriate sell-through period. The report shall contain information as required by the Executive Officer to monitor the use of small containers under this provision. ~~*The manufacturer shall maintain sales and distribution records, as applicable, and such records shall clearly indicate the date of*~~

~~*manufacture (or date code or batch code) and volume of coating sold or distributed.*~~ The manufacturer shall also provide written notice of the one year sell-through expiration date to their distribution chain. These records shall be made available to the Executive Officer upon request and shall be maintained for a period of at least three years.

(5) All architectural coating containers used to apply the contents therein to a surface direct from said container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but should not be limited to: drums, buckets, cans, pails, trays or other application containers.

(6) Averaging Compliance Option

In lieu of specific compliance with the applicable limits in the Table of Standards, manufacturers may average designated coatings such that their actual cumulative emissions from the averaged coatings are less than or equal to the cumulative emissions that would have been allowed under those limits over a compliance period not to exceed one year.

(A) On or after January 1, 2001, the following coatings may be averaged: floor coatings; primers, sealers, and undercoaters; quick-dry primers, sealers, and undercoaters; quick-dry enamels; rust preventative coatings; roof coatings; specialty primers; stains; waterproofing sealers; industrial maintenance coatings; as well as flats and nonflats (excluding recycled coatings).

(B) On or after July 1, 2006, the following coatings in addition to those designated in subparagraph (c)(6)(A) may be averaged: bituminous roof primers; fire-retardant coatings, high gloss nonflats, metallic pigmented coatings, zinc-rich industrial maintenance primers, interior stains; waterproofing concrete/masonry sealers; varnishes; and sanding sealers.

(C) Manufacturers using the Averaging Compliance Option shall:

(i) Comply with the averaging provisions contained in Appendix A, as well as maintain all records for the Averaging Compliance Option (ACO) Program and make these records available to the Executive Officer upon

request, for a period of at least three years after the end of the compliance period; and

(ii) Use only the sell-through provision in Appendix A for each coating included in the ACO Program in lieu of the sell-through provision of subparagraph (c)(4).

(d) Administrative Requirements

(1) Containers for all coatings subject to this rule shall display the date of manufacture of the contents or a code indicating the date of manufacture. The manufacturers of such coatings shall file with the Executive Officer of the District and the Executive Officer of the Air Resources Board an explanation of each code.

(2) Containers for all coatings subject to the requirements of this rule shall carry a statement of the manufacturer's recommendation regarding thinning of the coating. This requirement shall not apply to the thinning of architectural coatings with water. The recommendation shall specify that the coating is to be employed without thinning or diluting under normal environmental and application conditions, unless any thinning recommended on the label for normal environmental and application conditions does not cause a coating to exceed its applicable standard.

(3) Each container of any coating subject to this rule shall display the maximum VOC content of the coating, as supplied, and after any thinning as recommended by the manufacturer. The VOC content of low-solids coatings shall be displayed as grams of VOC per liter of material (excluding any colorant added to the tint bases) and the VOC content of any other coating shall be displayed as grams of VOC per liter of coating (less water and less exempt compounds, and excluding any colorant added to tint bases). VOC content displayed may be calculated using product formulation data, or may be determined using the test method in subdivision (e). VOC content calculated from formulation data shall be adjusted by the manufacturer to account for cure volatiles (if any) and maximum VOC content within production batches.

(4) The coating container label or container for quick-dry primers, sealers, and undercoaters and quick-dry enamels shall include the words “Quick-Dry” or shall list the following:

(A) The recoat time for quick-dry primers, sealers, and undercoaters, or

(B) The dry-hard time for quick-dry enamels.

Containers and container labels shall not contain the words "Quick-Dry" unless the material meets the dry times specified in the respective definitions or the material complies with the respective general VOC limit for enamels or primers, sealers, and undercoaters.

(5) The labels of all rust preventative coatings shall include the statement "For Metal Substrates Only" prominently displayed, effective January 1, 2003.

(6) Effective January 1, 2003, the labels of all specialty primers shall prominently display one or more of the following descriptions:

(A) For fire-damaged substrates.

(B) For smoke-damaged substrates.

(C) For water-damaged substrates.

(D) For excessively chalky substrates.

(7) The labels of ~~all clear brushing lacquers~~concrete-curing compounds manufactured and used for roadways and bridges shall include the statement~~s~~ "FOR ~~brush applications~~ROADWAYS AND BRIDGES ONLY (Not for Use on Curbs and Gutters, Sidewalks, Islands, Driveways and Other Miscellaneous Concrete Areas)" ~~and "This product must not be thinned or sprayed",~~ prominently displayed, effective ~~January~~ July 1, 200~~2~~7 ~~until January 1, 2005~~.

(8) Each manufacturer of the following coating categories shall, on or before April 1 of each calendar year submit an annual report to the Executive Officer:

~~(A) Clear brushing lacquers until April 1, 2006.~~

(~~B~~A) Recycled coatings, including the gallons repackaged and distributed in the District.

(~~C~~B) ~~Rust preventative coatings.~~Shellacs

(~~D~~C) Specialty primers.

The report shall specify the number of gallons of each coating within the category sold in the District during the preceding calendar year as well as their coating VOC content, and shall describe the method used by the manufacturer to calculate such sales.

(9) A manufacturer, distributor, or seller of a coating meeting the requirements of this rule, who supplies that coating to a person who applies it in a non-compliant manner, shall not be liable for that non-

compliant use, unless the manufacturer, distributor, or seller knows that the supplied coating would be used in a non-compliant manner.

(10) Manufacturers of recycled coatings shall submit a letter to the Executive Officer certifying their status as a Recycled Paint Manufacturer.

(e) Test Methods

For the purpose of this rule, the following test methods shall be used:

(1) VOC Content of Coatings

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

(A) ~~The United States Environmental Protection Agency (~~U.S. EPA~~)~~ Reference Test Method 24 (Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, Code of Federal Regulations Title 40, Part 60, Appendix A) with the exempt compounds' content determined by Method 303 (Determination of Exempt Compounds) in the South Coast Air Quality Management District's (SCAQMD) "Laboratory Methods of Analysis for Enforcement Samples" manual, or

(B) Method 304 [Determination of Volatile Organic Compounds (VOC) in Various Materials] in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples" manual.

(C) Exempt Perfluorocarbons

The following classes of compounds:

cyclic, branched, or linear, completely fluorinated alkanes

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

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

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

will be analyzed as exempt compounds for compliance with subdivision (c), only when manufacturers specify which individual compounds are used in the coating formulations. In addition, the manufacturers must identify the U.S. EPA, CARB, and SCAQMD

approved test methods, which can be used to quantify the amount of each exempt compound.

(2) Acid Content of Coatings

The acid content of a coating subject to the provisions of this rule shall be determined by ASTM Test Method D 1613-85 (Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products).

(3) Metal Content of Coatings

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

(4) Flame Spread Index

The flame spread index of a fire-retardant coating subject to the provisions of this rule shall be determined by ASTM Test Method E 84-~~99~~ 05 (Standard Test Method for Surface Burning Characteristics of Building Materials), or the most recent version, after application to an organic or inorganic substrate, based on the manufacturer's recommendations.

(5) Drying Times

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

(6) Gloss Determination

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

(7) Equivalent Test Methods

Other test methods determined to be equivalent after review by the ~~staffs of the District~~Executive Officer, ~~the California Air Resources Board~~CARB, and the U.S. EPA, and approved in writing by the District Executive Officer may also be used.

(8) Multiple Test Methods

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

one of the specified test methods or set of test methods shall constitute a violation of the rule.

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

(f) Technology Assessment

The Executive Officer shall conduct a technology assessment for the future VOC limit ~~for the following coatings~~ as specified in paragraph (c)(2) for flat coatings by July 1, 2007. In conducting the assessment, the Executive Officer shall consider any applicable future CARB surveys on architectural coatings and shall report to the Governing Board as to the appropriateness of maintaining the future VOC limit.

~~(1) Flat coatings by July 1, 2007.~~

~~(2) Lacquers by January 1, 2004.~~

~~(3) Nonflats; primers, sealers, and undercoaters; quick-dry primers, sealers, and undercoaters; quick-dry enamels; waterproofing sealers; stains; floor; rust preventative; varnishes; and industrial maintenance coatings by July 1, 2005.~~

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

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

~~The Executive Officer shall conduct a study to further assess reactivity of architectural coatings.~~

(g) Exemptions

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

(A) Architectural coatings in containers having capacities of one quart or less, provided that the manufacturer submits an annual report to the Executive Officer within three months of the end of each calendar year. The report shall contain information as required by the Executive Officer to monitor the use of the small container exemption. The loss of this exemption due to the failure of the manufacturer to submit an annual report shall apply only to the manufacturer. Effective July 1, 2006 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 from the requirements of this rule.

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

(C) Emulsion type bituminous pavement sealers; or

(D) Aerosol coating products.

(E) Use of stains and lacquers in all areas within the District at an elevation of 4,000 feet or greater above sea level.

(2) Notwithstanding the provisions of paragraph (c)(2), a person or facility may add up to 10 percent by volume of VOC to a lacquer to avoid blushing of the finish during days with relative humidity greater than 70 percent and temperature below 65 degrees Fahrenheit, at the time of application provided that:

(A) The coating is not applied from April 1 to October 31 of any year.

(B) The coating contains acetone and no more than 550 grams of VOC per liter of coating (275 grams of VOC per liter of coating after January 1, 2005), less water and exempt compounds, prior to the addition of VOC.

(3) The January 1, 2005 VOC limit for lacquers shall not be applicable until January 1, 2007 and the July 1, 2008 VOC limit for flat coatings shall not be applicable to any manufacturer which meets all of the following criteria:

(A) The total gross annual receipts are $2,000,000 or less, and

(B) The total number of employees is 100 or less, and

(C) The manufacturer requesting this exemption files a written request with the Executive Officer annually which includes, but is not limited to:

(i) The total gross annual receipts for each of the last three years.

(ii) The total number of employees for each of the last three years.

For the purposes of determining the total gross annual receipts and the total number of employees, a manufacturer shall include data from all facilities (both within and outside of the District) which they own, operate,

have an ownership interest, or are legally affiliated. If a manufacturer exceeds the criteria specified in subparagraphs (g)(3)(A) or (g)(3)(B) any time after the initial request is filed with the Executive Officer, this exemption shall be immediately terminated, the manufacturer shall forfeit any future eligibility for this exemption, and the manufacturer shall be considered in violation of this rule for each and every day that lacquers or flat coatings which do not comply with the respective VOC limit in the Table of Standards are supplied, sold, or offered for sale within the District. The loss of this exemption due to the manufacturer exceeding the criteria in subparagraphs (g)(3)(A) or (g)(3)(B) shall apply only to the manufacturer.

(4) The provisions of paragraph (c) shall not apply to facilities which apply coatings to test specimens for purposes of research and development of those coatings.

(5) The July 1, 2006 VOC limit for nonflats, primers, sealers, and undercoaters, quick-dry enamels, waterproofing concrete/masonry sealers and rust-preventative coatings shall not be applicable until July 1, 2008 to any manufacturer which meets all of the following criteria:

(A) The total gross annual receipts are $5,000,000 or less, and

(B) The total number of employees is 100 or less, and

(C) The manufacturer requesting this exemption files a written request with the Executive Officer annually which includes, but is not limited to:

(i) The total gross annual receipts for each of the last three years.

(ii) The total number of employees for each of the last three years.

For the purposes of determining the total gross annual receipts and the total number of employees, a manufacturer shall include data from all facilities (both within and outside of the District) which they own, operate, have an ownership interest, or are legally affiliated. If a manufacturer exceeds the criteria specified in subparagraphs (g)(5)(A) or (g)(5)(B) any time after the initial request is filed with the Executive Officer, this exemption shall be immediately terminated, the manufacturer shall forfeit any future eligibility for this exemption, and the manufacturer shall be considered in violation of this rule for each and every day that nonflats,

primers, sealers, and undercoaters, quick-dry enamels, and rust-preventative coatings do not comply with the respective VOC limit in the Table of Standards are supplied, sold, or offered for sale within the District. The loss of this exemption due to the manufacturer exceeding the criteria in subparagraphs (g)(5)(A) or (g)(5)(B) shall apply only to the manufacturer.

(6) Effective January 1, 2005 through December 31, 2006, roof coatings with a VOC content of 100 grams per liter or less that are certified under the U.S. EPA Energy Star Program shall not be subject to the VOC limit in the Table of Standards.

APPENDIX A: Averaging Compliance Option (ACO) Provision

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

$$\sum_{i=1}^{n} GiMi \leq \sum_{i=1}^{n} GiViLi$$

Where:

$\sum_{i=1}^{n} GiMi$ = Actual Emissions

$\sum_{i=1}^{n} GiViLi$ = Allowable Emissions

Gi = Total Gallons of Product (i) subject to Averaging;

Mi = Material VOC content of Product (i), as pounds per gallon; {as defined in paragraph (b)(22)}

Vi = Percent by Volume Solids and VOC in Product (i), {as defined in paragraph (b)(21)}

$$= \frac{Vm - Vw - Ves}{Vm}$$

For Non-Zero VOC Coatings:

$$= \frac{\text{Material VOC}}{\text{Coating VOC}}$$

For Zero VOC coatings:

= % solids by volume

Li = Regulatory VOC Content Limit for Product (i), as pounds per gallon; {as listed in paragraph (c)(2) Table of Standards}

The averaging is limited to coatings that are designated by the manufacturer. Any coating not designated in the ACO Program shall comply with the VOC limit in the Table of Standards. The manufacturer shall not include any quantity of coatings that it knows or should have known will not be used in the District.

In addition to the requirements specified in Section (A), a manufacturer shall not include in an ACO Program or supply, sell, offer for sale, manufacture, blend, or repackage for use within the District any architectural coating with a VOC content in excess of the maximum VOC content in effect, immediately prior to July 1, 2001 or the VOC content limits specified in the National VOC Emission Standard, whichever is less. Manufacturers that submitted an annual exemption report in 2002 for quick-dry primers, sealers and undercoaters and included those coatings in their most recent approved ACO Program, may continue to average those coatings until July 1, 2006, so long as these coatings do not exceed 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. 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.

(B) ACO Program

At least six months prior to the start of the compliance period, manufacturers shall submit an ACO Program, which is subject to all the provisions of Rule 221 – Plans and Rule 306 – Plan Fees, to the Executive Officer. Averaging may not be implemented until the ACO Program is approved in writing by the Executive Officer.

Within 45 days of submittal of an ACO Program, the Executive Officer shall approve, disapprove or deem the ACO Program incomplete. The ACO Program applicant and the Executive Officer may agree to an extension of time for the Executive Officer to take action on the ACO Program.

(C) General Requirements

The ACO Program shall include all necessary information for the Executive Officer to make a determination as to whether the manufacturer may comply with the averaging requirements over the specified compliance period in an enforceable manner. Such information shall include, but is not limited to, the following:

1. An identification of the contact persons, telephone numbers, and name of the manufacturer who is submitting the ACO Program.

2. An identification of each coating that has been selected by the manufacturer for inclusion in this ACO Program that exceeds the applicable VOC limit in the Table of Standards, their VOC content specified in units of both grams of VOC per liter of coating, and grams of VOC per liter of material and the designation of the coating category.
3. A detailed demonstration showing that the projected actual emissions will not exceed the allowable emissions for a single compliance period that the ACO Program will be in effect. In addition, the demonstration shall include VOC content information for each coating that is below the compliance limit in the Table of Standards. The demonstration shall use the equation specified in paragraph (A) of this Appendix for projecting the actual emissions and allowable emissions during each compliance period. The demonstration shall also include all VOC content levels and projected volume to be sold and distributed, as applicable, within the District for each coating listed in the ACO Program during each compliance period. The requested data can be summarized in a matrix form.
4. A specification of the compliance period(s) and applicable reporting dates. The length of the compliance period shall not be more than one year nor less than six months.
5. An identification and description of specific records to be used to calculate emissions and track coating volume for the ACO Program and subsequent reporting. This shall include a detailed explanation as to how the records are to be used to demonstrate compliance with the averaging requirements of the ACO Program. Such records or electronic versions (if hardcopy originals are not generated) shall be made available to the Executive Officer upon request. These records shall include records from each of the following categories:
   (a) product formulation records (including both coating and material VOCs):
      (1) lab reports [including percent weight of non-volatiles, water, and exempts (if applicable); density of the coating; and raw laboratory data] of test methods conducted as specified in paragraph (e)(1) of the rule or
      (2) product formulation data, including physical properties analyses, as applicable, with a VOC calculation demonstration; and

(b) production records consisting of batch tickets including the date of manufacture, batch weight and volume; and

(c) distribution records:

(1) customer lists or store distribution lists or both (as applicable) and

(2) shipping manifests or bills of lading or both (as applicable); and

(d) sales records consisting of point of sale receipts or invoices to local distributors or both, as applicable.

If the manufacturer requests to demonstrate compliance with the ACO Program by using records other than those specifically listed above, those records must be approved by the U.S. EPA, CARB, and the Executive Officer before an ACO Program can be approved. The Executive Officer may request additional records, as necessary, as a condition of approving the ACO Program or to verify compliance.

6. A statement, signed by a responsible party for the manufacturer, certifying that all information submitted is true and correct, and that records will be made available to the Executive Officer upon request.

(D) Reporting Requirements

1. For every single compliance period, the manufacturer shall submit to the Executive Officer a mid-term report listing all coatings subject to averaging during the first half of the compliance period, detailed analysis of the actual and allowable emissions at the end of the mid-term, and if actual emissions exceed allowable emissions an explanation as to how the manufacturer intends to achieve compliance by the end of the compliance period. The report shall be signed by the responsible party for the manufacturer, attesting that all information submitted is true and correct. The mid-term report shall be submitted within 45 days after the midway date of the compliance period. A manufacturer may request, in writing, an extension of up to 15 days for submittal of the mid-term report.

2. Within 60 days after the end of the compliance period or upon termination of the ACO Program, whichever is sooner, the manufacturer shall submit to the Executive Officer a final report, providing a detailed demonstration of the balance between the actual and allowable emissions for the compliance period, an update of any identification and description of

specific records used by the manufacturer to verify compliance with the averaging requirement, and any other information requested by the Executive Officer to determine whether the manufacturer complied with the averaging requirements over the specified compliance period. The report shall be signed by the responsible party for the manufacturer, attesting that all information submitted is true and correct, and that records will be made available to the Executive Officer upon request. A manufacturer may request, in writing, an extension of up to 30 days for submittal of the final report.

(E) Renewal of an ACO Program

An ACO Program automatically expires at the end of the compliance period. The manufacturer may request a renewal of the ACO Program by submitting a renewal request that shall include an updated ACO Program, meeting all applicable ACO Program requirements. The renewal request will be considered conditionally approved until the Executive Officer makes a final decision to deny or approve the renewal request based on a determination of whether the manufacturer is likely to comply with the averaging requirements. The Executive Officer shall base such determination on all available information, including but not limited to, the mid-term and final reports of the preceding compliance period. The Executive Officer shall make a decision to deny or approve a renewal request no later than 45 days from the date of the final report submittal, unless the manufacturer and the Executive Officer agree to an extension of time for the Executive Officer to take action on the renewal request.

(F) Modification of an ACO Program

A manufacturer may request a modification of the ACO Program at any time prior to the end of the compliance period. The Executive Officer shall take action to approve or disapprove the modification request no longer than 45 days from the date of its submittal. No modification of the compliance period shall be allowed. An ACO Program need not be modified to specify additional coatings to be averaged that are below the applicable VOC limits.

(G) Termination of an ACO Program

1. A manufacturer may terminate its ACO Program at any time by filing a written notification to the Executive Officer. The filing date shall be

considered the effective date of the termination, and all other provisions of this rule including the VOC limits shall immediately thereafter apply. The manufacturer shall also submit a final report 60 days after the termination date. Any exceedance of the actual emissions over the allowable emissions over the period that the ACO Program was in effect shall constitute a separate violation for each day of the entire compliance period.

2. The Executive Officer may terminate an ACO Program if any of the following circumstances occur:
   (a) The manufacturer violates the requirements of the approved ACO Program, and at the end of the compliance period, the actual emissions exceed the allowable emissions.
   (b) The manufacturer demonstrates a recurring pattern of violations and has consistently failed to take the necessary steps to correct those violations.

(H) Change in VOC Limits

If the VOC limits of a coating listed in the ACO Program are amended such that its effective date is less than one year from the date of adoption, the affected manufacturer may base its averaging on the prior limits of that coating until the end of the compliance period immediately following the date of adoption.

(I) Labeling

Each container of any coating that is included in an ACO Program, and that exceeds the applicable VOC limit in the Table of Standards shall display the following statement: "This product is subject to the averaging provisions of SCAQMD Rule 1113". A symbol specified by the Executive Officer may be used as a substitute.

(J) Violations

The exceedance of the allowable emissions, as defined in Appendix A, Section (A), at the end of any compliance period shall constitute a separate violation for each coating product line that is over the VOC limit specified in the Table of Standards for each day of the compliance period. However, any violation of the requirements of the ACO Provision of this rule, which the violator can

demonstrate, to the Executive Officer, did not cause or allow the emission of an air contaminant and was not the result of negligent or knowing activity may be considered a minor violation (pursuant to District Rule 112).

(K) Sell-Through Provision

A coating that is included in an approved ACO Program that does not comply with the specified limit in the Table of Standards may be sold, supplied, offered for sale, or applied for up to three years after the end of the compliance period specified in the approved ACO Program. This section of Appendix A does not apply to any coating that does not display on the container either the statement: "This product is subject to architectural coatings averaging provisions of the SCAQMD Rule 1113" or a designated symbol specified by the Executive Officer of the SCAQMD.

A T T A C H M E N T G

STAFF REPORT

FOR PROPOSED AMENDED RULE 1113 – ARCHITECTURAL COATINGS

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

FINAL STAFF REPORT FOR PROPOSED AMENDED RULE 1113 – ARCHITECTURAL COATINGS

Dated: June 2, 2006

Deputy Executive Officer
Planning, Rule Development, and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development, and Area Sources
Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager
VOC Rule Development
Larry M. Bowen, P.E.

Author:	Dan Russell	Air Quality Specialist
Reviewed by:	Lee Lockie	Director Area Sources
	Frances Keeler	Senior Deputy District Counsel
	Barbara Baird	Principal Deputy District Counsel
	Naveen Berry	Program Supervisor
	Ed Muehlbacher	Program Supervisor
Contributors	David De Boer	Senior Staff Specialist
	Robert Carson	Air Quality Inspector II

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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CYNTHIA VERDUGO-PERALTA
Governor's Appointee

DENNIS YATES
Council Member, City of Chino
Cities Representative, Cities of San Bernardino County

EXECUTIVE OFFICER:

BARRY R. WALLERSTEIN, D.Env.

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ACRONYMS USED IN THIS REPORT

AQMD	South Coast Air Quality Management District
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
g/l	Grams per Liter
IM	Industrial Maintenance
MWD	Metropolitan Water District
NOx	Oxides of Nitrogen
NPCA	National Paint and Coatings Association
OEHHA	Office of Environmental Health Hazard Assessment
PAR	Proposed Amended Rule
PCBTF	Parachlorobenzotrifluoride
SCAP	Southern California Alliance of Publicly Owned Treatment Works
SCM	Suggested Control Measure
TBAc	Tertiary-Butyl Acetate
tpd	Tons per day
tpy	Tons per year
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

Rule 1113 - Architectural Coatings was originally adopted by the AQMD on September 2, 1977, to regulate the VOC emissions from the application of architectural coatings, and has since undergone numerous amendments. Future VOC limits for many coating categories are to take effect on July 1 of 2006, 2007 and 2008. The AQMDs 2003 Air Quality Management Plan concluded that major reductions in criteria pollutant emissions and precursor emissions, such as oxides of nitrogen and ~~precursor pollutants, such as~~ VOCs, are necessary to attain the state and national ambient air quality standards for ozone, and coarse and fine particulate matter (PM_{10} and $PM_{2.5}$).

The current rule contains a requirement for staff to conduct a technology assessment prior to implementation of the lower limits. As a result of the comprehensive technology assessment, summarized in the 2005 Annual Status Report on Rule 1113 – Architectural Coatings[1], staff has developed the PAR 1113 to implement the recommendations from the report. Staff has considered public comment on the annual report as well as concerns bought to staffs attention after numerous consultation meetings with individual architectural coating manufacturers and NPCA, in preparing the recommendation for amendments to Rule 1113.

The proposed amendments will allow the coating manufacturers to:

- use TBAc as an exempt solvent in IM coatings (including zinc-rich primers),
- have a new high gloss subcategory of the nonflat category with a VOC limit of 150 g/l,
- comply with an interim limit for quick-dry enamels of 150 g/l,
- postpone by one year the final limit of 50 g/l for both the high gloss nonflat and quick-dry enamels (quick-dry enamels are high gloss nonflat coatings that dry quicker), and
- postpone the final limit of 100 g/l one year for specialty primers and establish a new interim limit of 250 g/l.

In addition, the proposed amendments will:

- modify some definitions for clarity including clear floor coatings where there may be overlap issues with different coating categories with different VOC limits;
- lower the VOC limit for the following three coating categories: concrete-curing compounds (except for those used for roadways and bridges), dry-fog coatings, and traffic coatings. These categories, as well as the category bond breakers, were identified by NPCA as future and potential candidates for cost-effective reductions that could be used to offset VOC emissions forgone due to the delay in implementation of the nonflat high gloss, quick-dry enamel and specialty primer categories. Staff's subsequent technology assessment confirmed the feasibility of the proposed lower limits with exception of the bond breakers;
- eliminate the fire-retardant category requiring these coatings to be subject to the VOC content limit of the coating category for which they are manufactured (i.e., primer, sealer, flat, nonflat);
- allow fire-retardant coatings and metallic pigmented coatings to be averaged; and

[1] Presented to the Governing Board on January 6 and accepted February 3, 2006

- make some administrative changes to: allow a one year sell-through provision for small containers, labeling requirements, annual reports, test methods and technology assessments.

The proposed amendments will result in approximately 0.8 tpd of emission reductions postponed for one year and 0.7 tpd additional emission reductions to become effective in July 2007. The cost-effectiveness of the emission reductions are estimated at $4,882 per ton.

During the final stages of staff's technology assessment and the rule development process, staff was engaged in intensive discussions with representatives of the architectural coating industry and the NPCA relative to the state of technology. During the process NPCA submitted several proposals to staff to amend Rule 1113 that seeked to increase and delay the VOC limits for many coating categories in the rule, which would result in emission reductions forgone from 13 tpd to 4.7 tpd and delay over 2 tpd. NPCAs most recent proposal described in more detail in this report would result in emissions permanently forgone of at least 4.7 tpd of VOC and in addition delay 2.03 tpd. Staff is not supportive of this proposal in part because of the significant adverse emission impacts but also due to the feasibility of compliance with current limits based on staff's technology assessment verifying compliant performing products that are already marketed in all coating categories included in NPCAs proposal with the exception of those few categories included in staff's proposal where additional transition time is warranted.

The proposed amendments to Rule 1113 ~~will~~ have been reviewed pursuant to CEQA and a Draft Environmental Assessment has been prepared for consideration with the adoption of PAR 1113. A socioeconomic assessment ~~is being~~has been prepared and ~~will be~~was available 30 days prior to the AQMD Governing Board Public Hearing.

BACKGROUND

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

The 2003 Air Quality Management Plan shows the VOC emissions from the use of architectural coatings in 1997 at 50.9 tpd on an Annual Average Inventory, and 60 tpd on the Summer Planning Inventory. The emissions for 2006 and 2010 are projected at 32.7 tpd and 24 tpd respectively on the Annual Average Inventory, and at 38.5 tpd and 28.3 tpd on the Summer Planning Inventory. The latest CARB architectural coating survey for year 2000 sales shows more than 50 tons per day of VOCs are attributed to the application of architectural coatings in the AQMD based on demographics.

VOC emissions cause the formation of ozone, $PM_{2.5}$ (particulate matter less than 2.5 microns in size) and PM_{10} (particulate matter less than 10 microns in size); three pollutants for which the

South Coast Air Basin exceeds the state and national ambient air quality standards. They are the most serious regional air quality problem within this air Basin and the most difficult to reduce to healthful levels.

VOCs react photochemically with NOx to form ozone. Ozone is a strong oxidizer that irritates the human respiratory system and damages plant life and property. VOCs also react in the atmosphere to form $PM_{2.5}$ and PM_{10}, pollutants that adversely affect human health and limit visibility. Because these small particulates penetrate into the deepest regions of the lung, they affect pulmonary function and have been linked to an increased number of deaths.

Rule 1113 was first adopted in 1977, and has since undergone numerous amendments. When Rule 1113 was amended on November 8, 1996 it included an averaging compliance option (ACO) for complying with coating VOC limits. Under an ACO, manufacturers are allowed to average their emissions over a compliance period not to exceed one year provided they demonstrate their actual cumulative emissions from the averaged coatings are less than or equal to the cumulative emissions that would have been allowed under the VOC limits specified in the Table of Standards. That version of Rule 1113 offered the averaging option for the flat coating category only. Further amendments to Rule 1113 on May 14, 1999 (vacated) and subsequent re-adoption on December 6, 2002, and on December 5, 2003, added numerous other coating categories to provide manufacturers additional compliance flexibility with the future VOC limits specified in the Table of Standards. The 2004 amendments addressed U.S. EPA concerns regarding the approvability of the ACO for the State Implementation Plan and the administration of the ACO Program.

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

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

During the course of Rule 1113 implementation, the AQMD Governing Board approved a work plan that required staff to submit annual status reports summarizing issues and activities regarding the implementation of the rule. In addition, the rule required technology assessments for specific coating categories. In preparing the annual status reports, staff has received input from the Technical Advisory Committee made up of individuals from manufacturing companies including NPCA members, CARB, a consulting and engineering firm, a painting contractor and several members from academia. The 2005 Annual Status Report and Technology Assessment completed to date indicate that the paint manufacturers have made significant progress toward developing future compliant products in practically all categories, which perform equally to their higher-VOC counterparts.

In 2005 at Chairman Dr. William Burke's request, the AQMD Governing Board established an Ad hoc Committee for the purpose of providing an open forum to discuss key regulatory issues relative to the coatings industry and improving communication between the AQMD and the architectural coating industry to resolve current and future regulatory issues in a non-litigious manner. Staff met with NPCA and member manufacturers more than 10 times including some all day meetings as well as many teleconferences. During the discussions, NPCA initially acknowledged the air quality challenges of the region and expressed their desire to submit an alternate proposal that would be emissions neutral. However, none of the proposals submitted came even close to meeting emissions neutrality. The NPCA proposals expanded the number of coating categories, maintained current limits and deleted future effective limits for those categories and advanced the future limit for a portion of the flat coating category. Proposals ranged in emissions foregone from 4.7 tpd to 13 tpd, with a delay of 2.03 tpd. The most recent proposal sent to staff in the form of a Draft Consent Judgment would eliminate the July 1, 2006 effective dates for many categories, foregoing 4.74 tpd, and delaying July 1, 2006 effective dates for a few categories with emission of 2.03 tpd for one year. Staff is not supportive of this proposal in part due to the significant impacts associated with it, but also due to the feasibility of the upcoming VOC limits as demonstrated and verified by staff's technology assessment described below. This alternate NPCA proposal is discussed under the section *NPCA Proposal and Emission Impacts* of this report.

Staff also met and teleconferenced on a one-to-one basis with individual manufacturing companies more than 20 times.

TECHNOLOGY ASSESSMENT

Rule 1113 requires staff to conduct technology assessments for future VOC limits. The latest technology assessment was conducted during 2004 and 2005 for the following categories: clear wood finishes; IM coatings; nonflat coatings; primers, sealers and undercoaters; quick-dry enamels; quick-dry primers, sealers and undercoaters; rust preventative coatings; exterior stains; waterproofing sealers including concrete/masonry sealers. Many of these categories had undergone previous technology assessments for their interim limits. Beginning in 2004 staff also contracted with the University of Missouri-Rolla (UMR) to perform further technology assessments for these same categories. Technology assessments for floor coatings have been conducted successfully in the past (KTA Tator 2001 testing) and were not included in the UMR study.

In addition, the rule requires staff to consider any applicable future CARB architectural coating surveys. The most recent CARB Survey data available to staff is the 2001 Survey for 2000 architectural coating sales and emissions.

After the technology assessment a report to the AQMD Governing Board is required on the appropriateness of the future VOC limits. Staff has presented Annual Status Reports for architectural coatings to the AQMD Governing Board in 2000, 2001, 2002, 2003, 2004 and 2006. The latest Annual Status Report may be obtained from the AQMD at the following web address:
http://www.aqmd.gov/rules/support.html#Rule%201113%20Annual%20Status%20Report

Each Annual Status Report shows an increase in available compliant products for each coating category. More detailed discussions can be read in the full versions of these documents.

TBAc

U.S. EPA has delisted TBAc but indicated that the states and local districts must analyze any toxic impacts from the use of TBAc. In October 2005, CARB exempted TBAc in the Suggested Control Measure for Automotive Coatings. Staff does not require chronic toxicity testing for compounds exempted from the definition of VOC by U.S. EPA. However, staff does attempt to compile as much toxicity, global warming, stratospheric ozone depleting potential, etc., information as is currently available in the CEQA document that is typically prepared when exempting a compound from the definition of VOC. In performing the background research for TBAc, AQMD staff concluded that there is limited toxicity data available on TBAc and no chronic toxicity has been conducted on the chemical. For this reason the health risk analysis prepared for PAR 1113 in the Draft EA used tert-butyl alcohol (TBA), which has been shown to induce tumors in laboratory animals, as a surrogate for TBAc because of the metabolic conversion of TBAc to TBA. The health risk analysis was prepared for AQMD staff using standard health risk protocol, health risk values provided by OEHHA staff and parameters used by CARB to estimate risk from TBAc. Estimated risk factors for TBA provided by OEHHA staff members were used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAc. It should be noted that these surrogate risk factors developed by OEHHA staff have not been formally approved by the Scientific Review Panel yet, but have been peer reviewed. However, they reflect the best available information from OEHHA at this time, and these factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAc used to formulate IM coatings. A representative for the manufacturer of TBAc has stated that the company has commissioned a 90-day sub-chronic study that will be peer reviewed "by at least five toxicology experts selected by an independent third party." This study may provide useful sub-chronic effects information that will be evaluated for use in further health risk analyses. Staff has recommended to the TBAc manufacturer representative that a long-term study be completed in addition to the sub-chronic study. By limiting the exemption for TBAc to IM coatings, the AQMD recognizes the potential cancer and acute risk exposure due to the use of TBAc but limits such risk below AQMDs significant risk threshold while providing the coating manufacturers with flexibility in formulating products compliant with the future IM coatings limits in PAR 1113. Staff will continue to evaluate additional information relative to TBAc's toxicity as it becomes available and reevaluate its position as necessary.

Technology Discussions by Category

Clear Wood Finishes

The rule defines clear wood finishes as products applied to wood substrates to provide a transparent or translucent solid film. Several resin systems are available including acrylic, polyurethane, alkyd, and various copolymers or modifiers including but not limited to latex, polycarbonate, polyethylene, and urea. Many cure types are also available as one-component air-dried pre-catalyzed, and two-component post-catalyzed. Different cure types are necessary to assure proper durability for specific applications, whether they are for interior, exterior or for flooring use. Numerous manufacturers have developed clear wood finishes that perform as well

as the solvent-based varnishes and nitrocellulose topcoats in terms of appearance and durability. Appendix A of the most recent Annual Status Report shows more than 100 products that have a lower VOC content than the future limit. The 2001 CARB Architectural Coatings Survey (Survey) shows 20% of the products and 36% of the sales in compliance with 275 g/l. The UMR study supports the 275 g/l limit for this category. An analysis of product data sheets supplied by various manufacturers supports staff's conclusions that the future limit of 275 g/l VOC and much lower is currently achievable. Additionally, staff continues to visit sites where future compliant products in this category have been applied showing excellent performance, even when subjected to harsh conditions (high traffic) such as manufacturing areas. The availability of numerous compliant low VOC products in the clear wood finish categories, confirms staff's previous conclusion that the small container (one quart or less) exemption, which is due to expire on July 1, 2006, is no longer warranted.

Floor Coatings

The rule defines this category as opaque coatings that are formulated for or applied to flooring; including but not limited to decks, porches, gymnasiums, and bowling alleys, but do not include Industrial Maintenance Coatings. Clear wood floor coatings belong to the clear wood finish category, but clear floor coatings for other substrates such as concrete are not included in the definition of floors, and since they do not belong to a specific category the coatings would default to the 250 g/l limit. There are many products with overlapping functionalities such as clear wood finishes, stains or waterproofing sealers that may be applied to the same substrate that is positioned both horizontally and vertically such as walls, floors or ceilings. Whether a particular product falls under the floor definition or some other coating definition depends on how the product is labeled.

For clarification, staff is proposing to amend the definition of floors to include clear coatings formulated for or applied to concrete flooring" and add the words "represented in part for use on flooring" to the most restrictive provision of the rule. Therefore if the manufacturer labels a coating as a "clear floor coating for concrete" the coating will have to comply with the VOC limit for floor coatings. However, if the manufacturer states on the label or in the literature, for a coating such as a waterproofing sealer or waterproofing concrete/masonry sealer that the product may be applied to floors, then the coating may meet the VOC limit for that category.

For the last several years, staff has observed and monitored the application and durability of clear and opaque, two component epoxy and polyurethane floor coatings below 50 g/l used for residential, commercial and industrial applications. Some of these products are also offered for sale in local warehouse stores for the do-it-yourself market. In March of 2001, the AQMD awarded a contract to KTA-Tator, Inc. for the study of various coatings. The evaluation reviewed performance characteristics of 31 products in four architectural coating categories that included floor coatings. The best performing coating was a two-component floor coating with a VOC content well below the 50 g/l limit. AQMD staff concluded that the overall results substantiate current and future limits. The 2001 CARB Survey shows 19% of the products and 49% of the sales in compliance with the future VOC limit of 50 g/l and lists the following resins for use in formulating floor coatings: acrylic, acrylic copolymer, cellulosic, epoxy, polyvinyl acetate, vinyl acrylic copolymer, and others. Appendix A of the Annual Status Report lists 20 coatings that meet the future limit in the floor category of 50 g/l VOC. An analysis of technical

data sheets and material safety data sheets supplied by various manufacturers supports staff's conclusions that the future limit of 50 g/l VOC is currently achievable.

IM Coatings

The rule defines this category as coatings including primers, sealers, undercoaters, intermediate coatings and topcoats, formulated for or applied to substrates, including floors, which are exposed to at least one of five extreme environmental conditions. The IM coating category continues to be part of every study conducted by the AQMD and is considered to be the most challenging. Results of past studies indicate that coatings meeting the future limit of 100 g/l are currently available for the IM coating category. Staff continues to obtain additional information on IM coatings from technical data sheets and material safety data sheets analysis. Included in that analysis are over 280 IM Coatings (more than triple the number reported in the 2003 Annual Status Report to the AQMD Governing Board) that are well below the July 1, 2006 100 g/l VOC limit. The UMR technology assessment tested 3 IM coating systems and the results support reducing the IM category to 100 g/l.

Various public service agencies have completed testing of low-VOC products in recent years and have found compliant products with acceptable performance. For example, SCAP conducted its own independent evaluation of IM coatings. SCAP is a non-profit corporation organized to help ensure that regulations affecting Publicly Owned Treatment Works are reasonable and in the publics best interest. Their testing of IM coatings was conducted to identify low-VOC coating systems suitable for wastewater treatment and conveyance facilities. Participants in this study included the Los Angeles County Sanitation District, the Orange County Sanitation District, the Eastern Municipal Water District, Las Virgenes Municipal Water District and the City of Los Angeles.

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

MWD initiated its own independent evaluation which is ongoing to test new products that meet their very stringent internal standards for performance and that also meet the future VOC limit of 100 g/l. As mentioned in previous annual reports, a committee was formed in September 1999 comprised of representatives from the Los Angeles Department of Water and Power, the Department of Water Resources, the California Department of Transportation, and the MWD of Southern California. The committee, referred to as the "Essential Public Service Agencies", was initially tasked with identifying and testing low-VOC products and continues with the program today, through MWDs leadership.

Typical IM coatings are expected to have a 7 year longevity, whereas under their more stringent criteria, MWD desires an IM coating to last at least 15 years. MWDs list of approved IM coatings that meet their stringent standards is utilized by numerous public agencies. The testing to date indicates that:

- Available low-VOC IM **immersion** coatings meeting the 2006 limits, conform to their stringent standards, and

- They continue to look for IM coating **atmospheric** products that also meet their stringent criteria.

To allow a higher VOC limit for these very limited applications would require the establishment of numerous subcategories of IM coatings, as the uses range from chemical immersion, exterior exposure heavy equipment coating, floors, etc., which is difficult to delineate and enforce. While there are several low-VOC atmospheric products that meet the performance standards of many end users, there are not too many products that meet MWDs most rigorous standards of 15 to 20 years. However, recently MWD has completed testing of some atmospheric IM coatings formulated with exempt solvents, including TBAc that meet their rigorous performance needs. TBAc has been recently delisted by U.S. EPA from their VOC definition and many coating manufacturers are seeking AQMD to follow suit. CARB has prepared an environmental impact assessment for TBAc but has not formally proposed or adopted any regulations that have changed the definition of VOC to exempt TBAc. However, in October 2005, CARB exempted TBAc for the Suggested Control Measure for Automotive Coatings. AQMD staff agrees that TBAc has low photochemical reactivity and understands that TBAc is a desirable solvent from the formulator's standpoint. Many IM coating manufacturers are seeking delisting of TBAc for use in IM coatings. At the present time there appears to be no other exempt solvent available to manufacture compliant IM atmospheric coatings with exceptionally long life performance. As with other projects evaluating the health impacts from air toxics, AQMD staff relied upon OEHHA/CARB to develop heath risk values, associated parameters and procedures. Staff's analysis utilizing toxicity information available relative to TBAc indicates the potential health impacts from this solvent under limited use are low. Therefore, staff is recommending a limited exemption for use in certain IM coating and zinc-rich primer applications which can be reformulated with TBAc to meet the lower VOC content limit. Staff did not propose an exemption for TBAc use in high temperature IM coatings since their VOC limit remains at 420 g/l.

Anti-graffiti IM Coatings

Anti-graffiti coatings are a subset of the IM coatings and are generally divided into sacrificial or non-sacrificial coatings. Sacrificial coatings are usually water based modified wax emulsions while non-sacrificial coatings are usually based on acrylic and polyurethane resins. Sacrificial coatings are removed from the substrate along with the graffiti. Anti-graffiti coatings are primarily non-penetrating forming a film to protect the substrate to prevent penetration of spray paint, marking pens, chemical attacks, crayons, etc. Most of the anti-graffiti coatings require the substrate to be sealed, usually with penetrating sealers, prior to application to prevent moisture from being trapped inside. During meetings with manufacturers comments were made that anti-graffiti coatings at 100 g/l or less VOC can not be produced that are penetrating and breathable. Staff has identified both types of anti-graffiti coatings at 100 g/l or less that are breathable allowing water vapor transmission. The specific coatings are: Monochem Permashield Non-Sacrificial and Permashield Sacrificial coatings, Genesis Coatings Graffiti Melt sacrificial coating, Spectra-Tone Paint Corp.'s Grafix sacrificial coating, Wearlon Plastic Maritime Corp.'s Wearlon 711 non-sacrificial coating and Rainguard's Vandl-Guard non-sacrificial coatings and Rainguard's VandlTop sacrificial coating.

Nonflat Coatings

The rule defines this category as registering a gloss of 5 or greater on a 60-degree meter and a gloss of 15 or greater on an 85-degree meter. The rule does not delineate various gloss ranges into distinct categories such as high, medium or low gloss.

There have been comments received from some manufacturers that a high gloss category should be developed in Rule 1113, similar to the 2000 CARB SCM for Architectural Coatings. In the SCM, high gloss coatings are those that register a gloss of 70 or above on a 60-degree meter and are allowed a higher VOC limit of 250 g/l. Although Appendix A of the Annual Status Report lists several high gloss coatings that are currently available and are below the 50 g/l limit that will be in effect in July 2006, several coating manufacturers commented to staff that the expected performance for certain key characteristics such as dirt pickup, may not be acceptable to the consumer. This issue, which is most likely due to the softer resin technology used for 50 g/l products in the high gloss nonflat and the companion quick-dry enamel category, was brought to staff's attention within the past year. As a result, this technology assessment focused on more carefully evaluating these criteria. Subsequent discussions with other manufacturers, however, indicated that with the latest resin and additive technologies, they were able to overcome the dirt pick up issue. Discussions with raw material suppliers also reinforced the point of view that new resins that were recently made commercially available to the market will address these issues. Based on the state of technology, it appears that it is reasonable to expect that all manufacturers will be able to soon produce good performing products.

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

In spite of the increase in the availability of coatings in this category below 50 g/l, the rule still incorporates alternative compliance options, such as the averaging provision and an allowable three-year sell-through provision for coating manufacturers that allow manufacturers to continue marketing higher VOC products after the compliance date. However, since staff's research to date has found a limited number of low-VOC products meeting the definition of high gloss, and in light of recent UMR test results with respect to the surrogate dirt pick up tests, AQMD staff is supportive of creating a new category specifically for nonflat high gloss effective July 1, 2006 with a VOC of 150 g/l, reducing to 50 g/l VOC by July 1, 2007. This additional time would allow manufacturers to utilize the latest resin technologies into this formulation. In addition, this would also include giving the same time extension and VOC limit of 150 g/l for the companion category of quick-dry enamels (discussed below) which are also high gloss.

Quick-Dry Enamels (QDE)

A subcategory of nonflats, QDEs have gloss values greater than 70 on a 60º meter and should be capable of achieving set-to-touch in at least two hours, dry-hard in at least eight hours and be tack-free in at least four hours. AQMD staff recognizes that the same problems associated with dirt pickup for nonflat high gloss coatings exist with the QDEs, and is recommending the same interim limit and final compliance date.

Primers, Sealers, and Undercoaters (PSU) and Quick-Dry PSU

The rule defines primers, sealers and undercoaters separately as well as quick-dry PSUs. Primers are defined as coatings applied to a surface to provide a firm bond between the substrate and subsequent coats. A sealer is defined as coatings applied to either block materials from penetrating into or leaching out of a substrate, to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by material in the substrate. Undercoaters are coatings formulated for or applied to substrates to provide a smooth surface for subsequent coats. Quick-dry PSUs are required to dry-to-touch in one-half hour and can be recoated in two hours. An analysis of currently available PSUs clearly shows that the future VOC limit of 100 g/l by July 1, 2006 is attainable today. The 2001 CARB Survey shows that for PSUs 31% of the products and 33% of the sales comply with the 100 g/l limit. The Survey shows that even 2% of quick-dry PSU products and 2% of the sales meet the 100 g/l limit. More than 100 coatings have been identified, through technical data sheets, material safety data sheets and on site inspections that are well below the future 100 g/l VOC. The UMR study supports the 100 g/l limit as well. Those coatings are applicable to a wide variety of substrates and provide physical coating characteristics including stain blocking, sandability, adhesion to substrate and topcoat, which meet or exceed the performance standards typically expected of products from industry and consumers. Although not specifically called a quick dry product, most standard PSUs meet the definition of a quick dry coating and consequently are included in the staffs' analysis as a primer, sealer or undercoater. This is well supported by various technology assessments, including the NTS, KTA-Tator, and UMR studies. Some manufacturers have stated to staff that they will not have any problems meeting the 100 g/l limit for these categories.

Rust Preventative Coatings

The rule defines this category as being formulated for use in preventing the corrosion of metal surfaces in residential and commercial situations. CARB surveys continue to show an increase in the number of rust preventative coatings for sale at VOC levels that meet the future limit of 100 g/l. However, this new category in the 2001 CARB Survey showed a limited number of products, which is expected to grow significantly in the next CARB architectural survey. The 2003 CARB annual report shows an increase in sales of 582% over the sales reported in the 2001 CARB Survey for this category. Staff evaluation indicates that compliant coatings with low-VOC are currently available. These are single component, direct-to-metal (DTM) coatings that provide corrosion resistance for interior and exterior metal surfaces. The 2001 CARB Survey shows that 19% of the products are in compliance with the 100 g/l limit. Appendix A of the current Annual Status Report lists 28 DTM rust preventative coatings that meet the future VOC limit and are currently available from various manufacturers. The UMR study tested rust preventative coating systems, comprised of a primer and topcoat, which supports the 100 g/l limit. Additionally, numerous products labeled as non-flats, and not specifically listed as rust-

preventative coatings, have anti-corrosive characteristics that make them suitable for application and use for the prevention of rust on metal surfaces, as indicated in manufacturer product literature. An example of a zero-VOC rust preventative coating is a product made by Sierra Performance (Rust-Oleum) labeled Metalmax™ DTM Acrylic Urethane Enamel. During a random field visit to a Macy's Department Store construction site in Rancho Cugamonga, AQMD staff encountered the specification and application of a rust preventative coating manufactured by ICI Devoe. The coating is called ICI Devflex 4020PF and contains 91 g/l VOC. An analysis of the technical assessment supports staff's conclusion that the future limit of 100 g/l VOC is currently achievable.

Specialty Primers

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

Stains (Exterior)

The rule defines this category as opaque or semi-transparent coatings which are formulated to change the color but not conceal the grain pattern or texture. The 2001 CARB Survey shows 10% of the products and 11% of the sales complying with the 100 g/l limit. The 2005 Annual Status Report, Appendix A lists 30 exterior stains that have a VOC content of 100 g/l or less. The UMR study conducted accelerated exposure testing in ultra violet (UV) and condensation devices simulating the coatings ability to resist deterioration of its physical properties caused by exposure to light, heat, and water (ASTM D4587). The aluminum panels were subjected to UV and condensation cycles alternating every four hours. Every 200 hours the panels are evaluated for gloss and color change over a total time of 1000 hours. Other tests performed were: scrub resistance, ASTM D2486; stain resistance, ASTM D4828 modified; adhesion, ASTM D3359; Taber Abrasion, ASTM D4060; and surface tension, ASTM D1331. The exterior stains that were tested were: Cabot, Decking Stain #7400 clear; Silverton, Rhinoguard Wood Defense Deck & Siding Honey Finish; e3 Coating, Envirolast XT Wood Stain & Seal; and Fuhr Zero VOC Exterior Deck Stain & Finish Clear #5900. The results support the 100 g/l limit for exterior stains even though manufacturers have additional time for developing and testing their products until July 1, 2007.

Waterproofing Sealers (WPS)
Waterproofing Concrete Masonry Sealers (WPCMS)

The rule defines these categories separately. Waterproofing sealers are coatings which are formulated for the primary purpose of preventing penetration of porous substrates by water. Waterproofing concrete/masonry sealers are clear or pigmented sealers that are formulated for sealing to provide resistance against water, alkalis, acids, ultraviolet light, and staining. Appendix A of the current Annual Status Report lists over 70 coatings that are less than 100 g/l VOC meeting the July 1, 2006 limits for the WPS and WPCMS categories. During meetings with manufacturers comments were made that some substrates, such as travertine and natural stone, do not have the chemistry to react with some types of waterproofing concrete/masonry sealers and those coatings for these substrates were impossible to produce at a VOC content of 100 g/l. Staff reviewed the technical data sheets for waterproofing concrete/masonry sealers with a VOC content of 100 g/l or less and found nine coatings recommended for use on natural stone, granite, marble, slate, travertine, limestone, and sandstone as well as concrete, exposed aggregate concrete, brick, stucco, block, and clay tile. The nine products are Rainguard Plugger Water Repellent and Sealer, Duro Shine Invisi-Guard Impregnating Sealant, National Chemical Laboratories Surface Barrier Fluoropolymer Impregnator, Endur-O-Seal EOS NsT Sealer, Behr Concrete & Masonry Waterproofer No. 980, Degussa Thoroclear Special, Monopole Aquaseal Formula 2000, GE Sealants VIP 1510 Water Repellant, and Andek Polaseal M-A. These products are either film forming or penetrants with all of them breathable allowing vapor transmission or having a perm rating greater than one. The UMR study also supports the 100 g/l limit for this category. The specific tests run on the waterproofing concrete/masonry sealers were: alkali, acid and stain resistance, ASTM D1308; prohesion test, ASTM G85, Annex A5; chloride ion screening, CHLOR Test; efflorescence, ASTM D1736 and water vapor transmission, ASTM D1653. The 2001 CARB Survey shows that 25% of the waterproofing sealer products and 20% of their sales meet the 100 g/l limit. The same survey shows 44% of the waterproofing concrete/masonry sealer products and 38% of their sales meet the 100 g/l limit. A more thorough analysis of the technology for this category can be obtained from the 2003 Staff Report for the December 3, 2003 amended Rule 1113. Also, many of those same coatings listed are utilized in vertical and horizontal floor applications with VOCs that easily meet the future limit in the floor category of 50 g/l VOC.

Coating Categories Proposed for VOC Limit Reduction

Bond Breakers

Bond breakers are coatings applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the substrate over which it is poured. The primary use for this type of coating is in site-cast tilt-up concrete construction. Different types of resins are used in the formulations such as Oleoresinous binders, paraffin wax, polybutene and other polymer emulsions, acrylics and hydrocarbon. Most are chemically active meaning that they bond with the calcium in the fresh cement paste. The VOC limit for this category is currently 350 g/l and was proposed to be reduced to 100 g/l effective July 1, 2007. However, staff met with manufacturers of these coatings and learned that bond breakers manufactured at or below 100 g/l most always contain waxes and interfere with subsequent topcoats. In preparation for the topcoat, applicators may have been required to use solvents high in VOC content to remove the wax. Therefore, staff will continue to monitor this coating category both for an increase in usage

and technological developments that may allow a lower VOC limit in the future. Emission reductions from lowering this category from the current 350 g/l to the proposed 100 g/l limit were calculated to be 0.02 tpd based on the 2001 CARB Survey. At this time staff will recommend that this category remain at the current VOC limit of 350 g/l.

Concrete-Curing Compounds

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

Staff originally had proposed to reduce the VOC limit for this category to 100 g/l. The California Department of Transportation (Caltrans) however, which is one of the principal users and specifiers of concrete-curing compounds expressed concerns regarding the feasibility of the proposed limit. Their primary issue was that concrete-curing compounds that they specify must meet Caltrans Standard Specification 90-7.01B which requires the compounds to conform to ASTM C309 and water loss, in conformance with the requirements of California Test 534, which shall not be more than 0.15-kg/m^2 in 24 hours. The concrete-curing compounds that meet these requirements for roadways and bridges are not currently manufactured at 100 g/l or below. The lower-VOC compounds based on silicate salts are chemically reactive in concrete rather than film forming and therefore, do not meet ASTM C309. These compounds form a hardened surface and under traffic conditions tend to spall from the bulk of the pavement and create hazards. The fluorosilicate products are similar. The proposed VOC limit of 100 g/l is suitable however, for all other curing compounds that Caltrans uses that conform to the requirements of ASTM C309, Class A used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

Staff also met with manufacturers of concrete-curing compounds and other than the concerns raised by Caltrans, the manufacturers said the proposed limit of 100 g/l is viable for industrial use, such as tilt-up construction, sidewalks, curbs, etc. In addition staff contacted the Tilt-up Concrete Association (TCA) which agreed that the 100 g/l limit performed at an acceptable level and in fact, the lower-VOC compounds were better for recoating.

Therefore, staff is proposing to modify the definition for concrete-curing compounds to separate those compounds used for roadways and bridges (does not include curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas) by specifying that they meet ASTM Designation C309, Class B and meet a loss of water standard of less than 0.15-kg/m^2 in 24 hours as determined by Caltrans, California Test 534. These concrete-curing compounds will continue to have a VOC content of 350 g/l and all other concrete-curing compounds will be required to meet the proposed VOC limit of 100 g/l, effective July 1, 2007. Appendix A of this report lists products that meet the proposed 100 g/l VOC limit. The emission reductions gained from this

category are 0.04 tpd. Staff will continue the technology assessment to determine the availability of low-VOC compounds for roadways and bridges for the future.

Dry-Fog Coatings

Dry-fog (dry-fall) coatings are applied by spray application only so that the overspray droplets dry before falling on floors and other surfaces. Overspray generated during atomization of a protective coating or paint can collect on adjacent surfaces or fall, potentially damaging surfaces not intended to be coated, and resulting in extensive clean-up procedures. Dry-fog coatings were developed to reduce the amount of clean-up effort necessary, particularly when spraying overhead surfaces like ceilings inside plants or other facilities. With dry-fog coatings, the overspray releases all of its solvents (dries) as it falls through the air, such that it is dry when it contacts the surface(s) below. This minimizes the need for installation of protective coverings and allows the contractor to literally sweep-up or vacuum the overspray from these surfaces once the application is complete. The VOC limit for this category is currently 400 g/l. Appendix A of this report lists products that meet the proposed 100 g/l VOC limit. Resins used in manufacturing dry-fog coatings include acrylic, acrylic copolymer, alkyd amines epoxy, vinyl toluene, and vinyl acrylic copolymer. Waterborne acrylic dry-fog coatings are an environmentally acceptable alternative to traditional solvent-based ceiling coatings. They emit a very low odor during application, and have a low flash point. Waterborne acrylic dry-fog coatings are especially well suited for spaces with pre-cast concrete or steel beam ceilings. They can save time and make application easier in an occupied space.

After staff contacted and met with manufacturers of dry-fog coatings, the main issues discussed were potential slower dry times associated with low-VOC coatings especially during high humidity conditions and adherence of the coating to dirty surfaces. It was generally agreed that low-VOC dry-fog coatings might require more substrate preparation than a solventborne coating. Staff had initially proposed lowering the VOC content for dry-fog coatings to 100 g/l and after discussions with and input from industry has revised the proposal, with manufacturer support, to allow coatings in this category to meet 150 g/l (effective July 1, 2007) to address the dry time. The emission reductions gained are 0.35 tpd.

Fire-Retardant Coatings

Fire-retardant coatings retard ignition and flame spread. The coating has to be fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The coating must be tested in accordance with ASTM Test Method E-89 or listed by Underwriter's Laboratories, Inc. as a fire-retardant coating with a flame spread index of less than 25. Staff has identified several low-VOC fire-retardant coatings with comparable performance to their higher VOC counterpart. Additionally, staff was contacted by several coating manufacturers expressing concern regarding the abuse of this category due to significantly high VOC limits. Their concern was confirmed by AQMD compliance staff through a recent enforcement action.

To determine if the fire-retardant low-VOC products performed as well as high-VOC products, AQMD contracted with SGS U.S. Testing Company, Inc. to perform ASTM Test Method E-84 –

Standard Test Method for Surface Burning Characteristics of Building Materials on four fire-retardant coating systems. The substrate chosen for the tests was a ⅝ inch fire rated gypsum board. The coatings were applied according to the manufacturer's recommendations including primer coats if specified as well as coverage rates. The four fire-retardant systems tested were: a) Dunn Edwards Aristoglo Interior Fire Retardant Alkyd Semi-Gloss Enamel 74 and Super U-365 Interior Fire Retardant Alkyd Enamel Undercoater E 22-1V; b) Benjamin Moore 220 Latex Fire-Retardant Coatings and Regal FirstCoat 216 Premium Primer; c) Pittsburgh Paints Speedhide Interior Fire Retardant Flat Latex (no primer coat recommended); and d) TPR[2] Non-Flammable Paint IP Series Paint and TPR[2] Heatshedder Insulative/Non-Flammable HS Series Coatings. The Dunn-Edwards and TPR[2] fire-retardant coatings are non-intumescent coatings and the Benjamin Moore and Pittsburgh Paint fire-retardant coatings are intumescent coatings. Intumescent coatings generally consist of a primer for adherence, the intumescent base coat, and some type of decorative topcoat to serve as a protective barrier. When exposed to fire, the intumescent base coat expands, forming a thick layer of foam that protects the substrate by thermally insulating it and shielding it from the heat. Intumescent fire resistive coatings are designed to expand up to 15 to 30 times during a fire. In addition, most intumescent coatings generate an ash-like or char layer during their expansion process. As the fire exposure continues, the ash coating erodes exposing the remaining intumescent coating. The technical data sheets list the VOC content for Dunn-Edwards, both topcoat and primer coat, to be less than 350 g/l; the Benjamin Moore topcoat at zero and the primer coat at 100 g/l or less; the Pittsburgh coating at 32.4 g/l; and the TPR[2] coatings at zero g/l. All the coating systems were placed in the ceiling position for the 10 minute test. Since the nature of the substrate may significantly affect the performance of the fire-retardant coating, an indication of the performance of a fire-retardant coating can be determined by comparing the surface flammability of the coated substrate with that of the uncoated, specific substrate which was completed during the testing. In summary the two non-intumescent coatings had a flame spread of 5 and a smoke density of 5 compared to the intumescent coatings with a flame spread of zero and a smoke density of 20 to 25 with all four coatings performing equally well illustrating that all of the low-VOC products performed equally well to the standard high-VOC product whether they are intumescent or non-intumescent coatings.

The VOC limits for this category are currently divided into clear coatings at 650 g/l and pigmented coatings at 350 g/l. Most fire-retardant coatings are either flat or nonflat coatings and staff initially proposed lowering the VOC limit for this category to 50 g/l to coincide with the flat and nonflat VOC limit. However, fire-retardant coatings could also be manufactured to meet the definition of other coating categories. Therefore, staff is proposing to eliminate this category on January 1, 2007 and allow these coatings to be manufactured to meet any coating definition with the applicable VOC limit. It is not the intent of this proposal to allow fire-retardant coatings to default to the general VOC limit of 250 g/l as provided in paragraph (c)(1) of Rule 1113.

Traffic Coatings

Traffic coatings are applied to public streets, highways, and other surfaces such as curbs, berms, driveways, and parking lots. Resins include acrylic, acrylic copolymer, alkyd, oleoresin, vinyl toluene, and vinyl acrylic copolymer. The 2001 CARB Survey shows traffic coatings at or below 100 g/l to make up 32% of the sales and 48% of the products sold. Appendix A of this report lists products that meet the proposed 100 g/l VOC limit. Staff contacted Caltrans and all

the traffic coatings they use are at or below 100 g/l. Staff has not received any comments regarding this proposal. The VOC limit for this category is currently 150 g/l and is proposed to be reduced to 100 g/l effective July 1, 2007.

Market Penetration

Except for the fire-retardant coatings, the coating categories proposed for lower VOC limits were derived from a list of coatings that was originally submitted to staff by NPCA as tentative candidates for further reduction during Ad hoc subcommittee meetings. Staff reviewed these categories based upon availability and their potential for emission reductions after a comprehensive technology assessment. Staff evaluated the results of the 2001 CARB Architectural Coating Surveys for sales volume, emission inventories, and market penetration for those coatings meeting the proposed limits, and will evaluate the CARB 2004 Survey, should it become available before rule adoption. A preliminary evaluation of the emission inventory and available VOC technology for these categories strongly indicates potential significant cost-effective emission reductions.

Staff compiled Table 1 below, showing the market penetration of coatings already compliant with the proposed VOC limits, based on the data from the 2001 CARB Survey. Since the survey was taken in 2000, additional low VOC products that have been developed and marketed are not reflected in these results. Therefore the market penetration percentages listed in the table for the low-VOC products are probably higher today. This was evident when staff compiled Appendix A and several low-VOC products were found in addition to those listed in the 2001 CARB Survey for the categories proposed for lower VOC limits. Table 1 also lists the number of manufacturers and products for each VOC segment (at or below the proposed limit and above) for each coating category. The market penetration was calculated based on sales volumes listed in the 2001 CARB Survey for all coatings in each category, excluding quart containers or less and low-solids products.

Table 1
California Market Penetration

VOC Range (g/l)	# of Manufacturers	# of Products	Percent of Products	Sales Volume (gallons)	% of Sales Volume	Current Limit	Proposed Limit
Concrete Curing Compounds*							
0-100	10	41	38%	335,591	48%	350	100
>100	16	67	62%	356,694	52%		
Dry-Fog Coatings							
0-150	8	36	40%	154,288	34%	400	150
>150	9	53	60%	305,468	66%		
Traffic Coatings							
0-100	20	129	48%	1,080,400	32%	150	100
>100	18	141	52%	2,258,367	68%		

* Includes all concrete-curing compounds including those for roadways and bridges

PROPOSED AMENDMENT

AQMD Staff Proposal

Consistent with the findings of its technology assessment, staff has determined that manufacturer testing of some reformulated coatings is warranted to facilitate transition to the new limits for a few categories. Staff has expanded its original list to also include specialty primers due to compelling information presented by manufacturers, during the rule development process. The coating categories listed in Table 1 warranted further consideration for lower VOC limits, since they have some of the highest VOC limits of the remaining coating categories and lower VOC products are available.

Based on this approach and data discussed above, staff proposes amending Rule 1113 as follows:

- Modify the definition of concrete-curing compounds by adding the sentence "Concrete-curing compounds manufactured and used for roadways (does not include curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas) are those concrete-curing compounds that meet ASTM Designation C309, Class B, and meet a loss of water standard of less than 0.15-kg/m2 in 24 hours as determined by the Caltrans, California Test 534.
- For clarification, staff is proposing to amend the definition of floors to include clear coatings formulated for or applied to concrete flooring" and add the words "represented in part for use on flooring" to the most restrictive provision of the rule. This clarification is necessary to keep the intent of the original definition which was meant to include both opaque and clear coatings. Also, staff is proposing to delete "gymnasiums, and bowling alleys," from the definition of floor coatings, since clear wood finishes are usually applied to these types of floors.
- Add to the definition of clear wood finishes the words "including floors, decks and porches."
- Modify the nonflat definition to specify that they are coatings that are not defined under any other definition in this rule and meet the required gloss according to ASTM Test Method D523.
- Add a new definition for nonflat high gloss by separating this category from the general nonflat category and setting an interim VOC limit of 150 g/l which is the current VOC limit. Then extending the future 50 g/l VOC limit effective date from July 1, 2006 to July 1, 2007. Include in the definition that nonflat high gloss coatings are required to register a gloss of 70 or above on a 60 degree meter according to ASTM Test Method D523.
- Clarify the definition of quick-dry enamels to state that they are nonflat high gloss coatings.
- Modify the definition of shellacs to clarify that the resinous secretions come from an "insect" rather than a beetle. Drop the words "thinned with alcohol." Add the words "providing a quick-drying, solid, protective film for priming and sealing stains and odors, and for wood finishing."
- Modify the definition of VOC to exclude TBAc when used in formulating IM coatings including zinc-rich primers.

- Amend the requirements in paragraph (c)(2) to allow the use of anti-graffiti IM coatings for residential, commercial, or institutional facility use.
- Clarify that all clear wood finishes regardless of their chemistry are to meet the 275 g/l limit by adding "275" to the Table of Standards. Staff has been requested to clarify the VOC limit for those waterborne clear wood finishes that do not meet the strict definitions of varnish, sanding sealers or lacquer.
- Add a new category to the Table of Standards for concrete-curing compounds for roadways and bridges with the current VOC limit of 350 g/l to separate these compounds from all other types of concrete-curing compounds that are proposed to have a lower VOC limit of 100 g/l effective July 1, 2007.
- Lower the VOC limit for dry-fog coatings from 400 g/l to 150 g/l effective July 1, 2007.
- Add an interim VOC limit for quick-dry enamels of 150 g/l effective July 1, 2006 and delay the 50 g/l limit until July 1, 2007 to coincide with the new nonflat high gloss VOC limits.
- Lower the VOC limit for traffic coatings from 150 g/l to 100 g/l effective July 1, 2007.
- Add a footnote to the Table of Standards that the fire-retardant coating category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.
- Include a one year sell-through provision for small containers of one quart or less that are not exempt under subparagraph (g)(1)(A).
- Include fire-retardant coatings with a maximum VOC content of 650 g/l for clear coatings and 350 g/l for pigmented coatings and metallic pigmented coatings with a maximum VOC content of 500 g/l to the rule provisions allowing coatings to be included in averaging plans effective July 1, 2006, to provide additional flexibility to manufacturers.
- Delete the labeling requirements for brushing lacquers since they now have the same VOC limit as all clear wood finishes.
- Add a labeling requirement for concrete-curing compounds manufactured and used for roadways and bridges to include the statement "FOR ROADWAYS AND BRIDGES ONLY (Not for Use on Curbs and Gutters, Sidewalks, Islands, Driveways and Other Miscellaneous Concrete Areas)" that shall be prominently displayed effective July 1, 2007.
- Remove the requirement to submit an annual report to the Executive Officer for clear brushing lacquers and rust preventative coatings since the VOC limits are reduced and tracking the sales volume and emission data can be obtained from the CARB surveys.
- Include a requirement for manufacturers of shellacs to submit an annual report to the Executive Officer by April 1 of each calendar year.
- Update administrative requirements such as test methods, technology assessments and acronyms.
- Modify Appendix A of the rule to allow manufacturers to include small containers of varnishes and sanding sealers with a maximum VOC content of 450 g/l in their averaging

program, provided the manufacturer has submitted the appropriate small container annual reports.

Changes to the Table of Standards are shown below.

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

COATING	Current Limit*	Effective Date	
		7/1/06	7/1/07
Concrete-Curing Compounds	350		100
Concrete-Curing Compounds For Roadways and Bridges	350		
Dry-Fog Coatings	400		150
Fire Retardant Coatings***			
Clear	650		
Pigmented	350		
Nonflat High Gloss	150		50
Quick-Dry Enamels	250	~~50~~150	50
Specialty Primers	350	~~100~~250	100
Traffic Coatings	150		100

*** The Fire-Retardant Coating Category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.

NPCA PROPOSAL AND EMISSION IMPACTS

During the past several months, NPCA submitted several proposals to amend Rule 1113. NPCAs last proposal was offered to staff in the form of a consent judgment on March 3, 2006. The following are the recommendations extracted from the Draft Consent Judgment to amend Rule 1113 and their emission impact. Additional NPCA issues are discussed in the comments and responses section of this report.

1. Maintain the existing VOC limits for the following coating categories:
   - (a) Maintain 250 g/l for IM coatings and delay implementation of the 100 g/l VOC limit until July 1, 2007 to allow identification and break out of subcategories requiring VOC limits higher than 100 g/l;
   - (b) Maintain 400 g/l for rust preventative coatings and delay implementation of the 100 g/l VOC limit until July 1, 2007 to allow additional performance testing;
   - (c) Maintain 250 g/l VOC limit for exterior stains;
   - (d) Maintain 250 g/l VOC limit for waterproofing sealers;
   - (e) Maintain 400 g/l VOC limit for waterproofing concrete/masonry sealers;
   - (f) Maintain unlimited VOC limit for small container clear wood finishes (varnishes-clear and semi-transparent, sanding sealers, and lacquers including pigmented lacquers); and
   - (g) Maintain 350 g/l VOC limit for specialty primers.

2. Adopt "Interior" and "Exterior" categories for the following coatings, and the following VOC limits, effective July 1, 2006:

   (a) Non-Flat Coatings (Interior 50 g/l, Exterior 150 g/l, High Gloss 150 g/l);

   (b) Primers, Sealers & Undercoaters (Interior 100 g/l, Exterior 200 g/l);

   (c) Quick Dry Primers, Sealer & Undercoaters (Interior 100 g/l; Exterior 200 g/l);

   (d) Quick Dry Enamels (Interior 150 g/l; Exterior 250 g/l);

   (e) Stains (Interior 250 g/l; Exterior 250 g/l); and

   (f) Floor Coatings (Interior 50 g/l; Exterior 100 g/l).

3. Adopt "Interior" and "Exterior" categories for the flat coatings with the following VOC limits and effective dates:

   (a) Interior flat coatings 50 g/l effective July 1, 2007 and

   (b) Exterior flat coatings 100 g/l (no change in the current limit).

Table 2 summarizes the emission impact of the NPCA proposal. Emission data for the NPCA alternative proposal is based on the 2001 CARB Survey, updated sales volumes from 2003 annual reports submitted to CARB and AQMD making up 45% of the California population.

Table 2
Emission Impact of NPCA Alternative Proposal

Categories	AQMD Future Limit (g/l)	AQMD Effective Date	NPCA Limit (g/l)	Emission Reductions Permanently Foregone (tpd)	Emission Reductions Delayed (Gained) (tpd)	NPCA Effective Date
CWF-Small Containers[1]	275	7/1/06	Unlimited	0.91		Open
Flat, Interior[2]	50	7/1/08	50		(1.69)	7/1/2007
Flat, Exterior			100	0.93		Open
Floor, Interior	50	7/1/2006	50			7/1/2006
Floor, Exterior			100	0.02		Open
IM[3]	100	7/1/2006	250		2.44	7/1/2007
Nonflat, Interior	50	7/1/2006	50			7/1/2006
Nonflat, Exterior			150	0.64		Open
Nonflat, HG (I/E)			150	0.46		Open
PSU, Interior	100	7/1/2006	100			7/1/2006
PSU, Exterior			200	0.28		Open
QDE, Interior	50	7/1/2006	150	0.19		7/1/2006
QDE, Exterior			250	0.03		Open
QDPSU, Interior	100	7/1/2006	100			7/1/2006
QDPSU, Exterior			200	0.01		Open
Rust Preventative	100	7/1/06	400		1.28	1 yr or more
Specialty Primers	100	7/1/06	350	0.14		Open
Stains, Exterior (HS)	100	7/1/2007	250	0.57		Open
WPCMS (HS)	100	7/1/2006	400	0.25		Open
WPS (HS)	100	7/1/2006	250	0.26		Open
Net Total Emission Reductions forgone and delayed				**4.70 tpd**	**2.03**	

[1] Includes Lacquers, Sanding Sealers, and Varnish
[2] Gain for 1 year
[3] TBAc exempt for IM coatings, emissions postponed for 1 year.

Staff is not supportive of the NPCA proposal because, as concluded by staff's technology assessment summarized in previous sections of this report, compliant performing products are available and in increasing numbers practically in all categories proposed for amendment by NPCA and the significant emission reductions delayed or permanently forgone resulting from the proposal. Furthermore, NPCA has not supplied any technical data sufficient to demonstrate the contrary, that the current rule limits are unfeasible. This would not comply with the terms of a federally enforceable Consent Decree that only allows the AQMD to delay or roll-back limits if the Governing Board finds they are technically infeasible based on substantial evidence in the whole record. See Consent Decree for Coalition for Clean Air v SCAQMD, ~~based on substantial evidence in the whole record,~~ U.S. District Court for Central District of California, Case No. 97-6916HLH (SHx) entered 2/23/2000.

EMISSION INVENTORY AND EMISSION REDUCTIONS

CARB Surveys

CARB has conducted architectural coating surveys every four or five years with previous surveys conducted in 1976, 1981, 1985, 1989, 1993, 1998 and 2000. The purpose of the surveys is to gather current information on the VOC content and sales volume of architectural coatings. CARB is currently evaluating data collected in the latest survey for sales in 2004. The data from this survey is not currently available, and will be incorporated should it become available in point in time.

The surveys are used in the development of regulations or rules throughout California to reduce the VOC emissions from these products. CARB has provided technical assistance to the air pollution control districts in the form of industry surveys and research. To track the emission contributions of architectural coatings, an inventory was created that is based on the surveys. CARB has also provided regulatory and policy guidance through the development of a SCM for architectural coatings, which was first adopted in 1977, and subsequently amended in 1985, 1989, and 2000.

The 2001 CARB Survey listed all architectural coatings into 51 coating categories. These 51 categories are integrated by definition into the 42 coating categories in the Rule 1113 Table of Standards. The 2001 CARB Survey identified more than 98 million gallons of architectural coatings sold in California in 2000, with 83 percent of that volume coming from waterborne products and 17 percent from solventborne products. Statewide emissions from these coatings are approximately 40,000 tons of VOC per year or about 110 tpd as an annual average. Although waterborne products represented 83 percent of the volume, they only contributed 41 percent of these emissions, while the solventborne products representing 17 percent of the volume sold contributed 59 percent. If emissions from solventborne thinning and cleanup products are included (assumed to be one pint per gallon of solventborne coating and zero for waterborne coatings), the average annual emissions are approximately 128 tpd, with 35 percent of the emissions contributed by waterborne products and 65 percent coming from solventborne products. Information on VOC content was also collected for all 51 coating categories. Coating

sales in the AQMD are estimated based on population and represent 45 percent of those sold statewide. It is assumed that the distribution of waterborne and solventborne coatings is consistent throughout the state.

Values for VOC content summarized in the 2001 CARB Survey were determined by calculating the sales-weighted average. The VOC content values appear as VOC Actual (A-VOC) and VOC Regulatory (R-VOC). A-VOC, also know as Material VOC, is a ratio of the weight of VOCs per a given volume of coating. A-VOC is the value used exclusively to determine the emission inventory. R-VOC is a ratio of the weight of VOCs per a given volume of coating with water and exempt VOCs subtracted from both the numerator (weight) and denominator (volume) and is what appears as the VOC limit in all coating rules. The original rational behind the R-VOC value was to reflect the relationship of coverage to total solids content and to provide an equivalent basis for comparing the polluting portion of solventborne and waterborne coatings. Also, it was believed that the R-VOC approach would prohibit coating manufacturers from simply diluting a coating with water in order to meet standards specified in coating regulations.

Under a Confidentiality Agreement, AQMD has obtained the detailed data submitted by manufacturers to CARB for compilation. The AQMD has signed a confidentiality agreement with CARB agreeing to comply with the provisions of the California Public Records Act (California Government Code Section 6250 et Seq.), and specifically with Government Code Section 6254.5(a), regarding the disclosure of confidential data provided by architectural coating manufacturers in the 2001 CARB Survey, which was submitted to CARB under a claim of confidentiality. The AQMD also agreed that, as set forth in California Government Code Section 6254.5(e), the above-referenced information shall only be used for purposes that are consistent with existing law. Both the emission inventory and the emission reductions are calculated from data provided in the 2001 CARB Survey. However, the emissions inventory is calculated from total sales volume for all container sizes, whereas emission reduction calculations are based on an adjusted emission inventory calculated using an adjusted sales volume omitting quart containers or less, since they are exempt from the current provisions of Rule 1113 and for containers greater than quarts at or below the current VOC limit. The additional processing of the 2001 CARB Survey data yields numbers that may not be available from the published Summary.

Emission Inventory

The California sales volume and emission inventory in Table 3 has been taken from the 2001 CARB Survey except for specialty primers where staff used the CARB 2003 annual report sales data. The emission inventory for specialty primers was derived by using the same ratio of sales to emissions as the CARB 2001 Survey data. Both the sales volume and emission inventory include all container sizes. The emission inventory is calculated by multiplying the sales volume by the sales weighted average actual-VOC. The AQMD sales volume and emission inventory is based on demographics taken from the 2000 U.S. Census. Although the census shows the population of all of Los Angeles, Orange, Riverside and San Bernardino Counties at 46 percent of the California population, staff used a factor of 45 percent to discount the portions of the counties not within AQMD jurisdiction. The inventory includes sales for all container sizes.

Table 3
Emission Inventory for Selected Coating Categories from the 2001 CARB Survey

Coating Category	CA 2000 Sales (gallons)	CA Emissions (tpy)	AQMD 2000 Sales (gallons)	AQMD Emissions (tpy)	AQMD Emissions (tpd)
Concrete-Curing Compounds	692,419	135.4	311,589	60.93	0.17
Dry-Fog Coatings	459,756	400.3	206,890	180.14	0.49
Nonflat, High Gloss	1,926,436	1,332.1	866,896	599.45	1.64
Quick-Dry Enamels	PD[1]	909.1	PD	409.10	1.12
Specialty Primers[2]	1,918,556	571.2	863,350	257.00	0.70
Traffic Coatings	3,338,918	1,107.7	1,502,513	498.47	1.37
Totals		4,454.8		2,005.09	5.49

[1] PD is protected data, fewer than 3 companies reported sales
[2] Sales updated from CARB 2003 Annual Reports

Adjusted Emission Inventory for Calculating Emission Reductions

Staff adjusted the 2001 CARB Survey baseline inventory to account for sales of: (a) coatings below the proposed VOC limit which were excluded from the inventory, since these coatings are already compliant; (b) California coatings above the current AQMD VOC limits, which were assumed to be at the current AQMD compliance limit, and (c) by excluding small exempt container sales which are not subject to the rule requirements.

This establishes different volume fractions of VOC content, solids, and water/exempt solvents used to adjust both sales and the emission inventory. When the VOC content is reduced, it is replaced by water or exempt compounds and this typically lowers the solids content, reflecting a greater sales volume but usually an overall emission reduction. The adjusted sales volume and emission inventory are used to calculate projected sales and emission inventory at the proposed VOC limit established through technology assessment and data from the 2001 CARB Survey.

The detailed emission inventory calculations may be found in Appendix B. Table 4 summarizes the 2000 adjusted emissions inventory for both California and the AQMD based on the elements previously stated, and with the assumption that 45 percent of the state sales are within the AQMD jurisdiction.

Table 4
2000 California and AQMD Adjusted Emission Inventory

Coating Category Proposed VOC g/l	California Adjusted		AQMD Adjusted	
	Sales	Emission Inventory	Emission Inventory	
	Gallons	tpy	tpy	tpd
Concrete-Curing Compounds-100[1]	248,648	59	27	0.07
Dry-Fog Coatings-150	305,557	385	173	0.47
Nonflat, High Gloss-50	1,961,924	549	247	0.68
Quick-Dry Enamel-150	932,806	439	198	0.54
Quick-Dry Enamel-50	828,113	235	106	0.29

Coating Category Proposed VOC g/l	California Adjusted		AQMD Adjusted	
	Sales	Emission Inventory	Emission Inventory	
	Gallons	tpy	tpy	tpd
Specialty Primer-250[2]	97,132	125	56	0.15
Specialty Primers-100[2]	99,595	94	42	0.12
Traffic coatings-100	2,249,225	839	377	1.03
Totals		**2,725**	**1,226**	**3.36**

[1] To adjust the sales volume and emissions for concrete-curing compounds for roadways and bridges, staff has removed the solvent based and waterbased products at 270 g/l and above from the state inventory.

Emission Reductions For Coating Categories Proposed For Amendment

The emission reductions are calculated by subtracting the projected emission inventory from the adjusted emission inventory.

The proposed amendments will achieve an overall VOC emission reduction of 0.81 tpd from concrete-curing compounds, dry-fog coatings, and traffic coatings beginning July 1, 2007. The VOC emission reductions postponed for one year will be from the nonflat high gloss category - 0.48 tpd, from the quick-dry enamel category - 0.20 tpd, and from the specialty primer category – 0.08 tpd. The postponed VOC emission reductions will be regained beginning July 1, 2007. Table 5 summarizes the AQMD VOC emission reductions from PAR Rule 1113.

Table 5
Summary of AQMD Emission Reductions

Coating Category	Proposed VOC Limit (g/l)	Emissions Reductions Postponed for one year (tpd)	Additional Emission Reductions (tpd) July 1, 2007
Concrete-Curing Compounds	100		0.04
Dry-Fog Coatings	100		0.35
Nonflat, High Gloss Coatings*	50	0.48	
Quick-Dry Enamel*	150/50	0.20	
Specialty Primers*	250/100	0.08**	
Traffic Coatings	100		0.29
Total		**0.77**	**0.69**

* The emission reductions from these categories have been accounted for in prior rule amendments.
** The emissions are based on sales volume from CARB 2003 annual reports.

COST AND COST-EFFECTIVENESS

The data compiled in Appendix A, which summarizes technical data of the many products already being manufactured and sold in today's consumer market for the categories proposed for amendment clearly demonstrate that the proposed VOC limits are not technology forcing, but technically feasible and cost-effective. In order to obtain relevant pricing to determine cost-effectiveness of the proposed amendments, staff contacted architectural coating manufacturers to obtain the cost per gallon for products that comply with the current VOC limits, as well as the

proposed VOC limits. Appendix A shows the average retail cost per gallon obtained from the manufacturers or distributors.

All sales volumes are reflected as adjusted 2001 CARB Survey values based on current AQMD VOC limits. Furthermore, these adjusted volumes are translated into future gallons as a ratio between the solids content of the current adjusted inventory and the future solids content. This cost is then multiplied by the number of gallons sold.

The annual cost increase is derived as the difference between the projected cost of future coatings and the cost of the current coatings. Since the emission inventory is stated in terms of daily emissions or tpd, the emission reduction for all the coating categories is converted to a yearly figure by multiplying by 365 operating days per year. The cost-effectiveness in dollars per ton is calculated by dividing the annual cost increase by emission reductions in tpy and is represented by the following equation. Table 6 itemizes these costs.

$$\textit{Cost-Effectiveness} = \frac{\textit{Annual Cost Increase}}{\textit{Emission Reductions in tpy}}$$

Table 6
Cost Based on the Current Sales Price

	Current Rule Cost			Future Cost		
Coating Categories with Proposed VOC Limit	**Average Per Gallon[1]**	**AQMD 2000 Sales[2] (gallons)**	**Dollars**	**Average Per Gallon[3]**	**AQMD Projected Sales [4] (gallons)**	**Dollars**
Concrete-Curing Compounds - 100 g/l	$11.22	111,811	$1,254,519	$6.18	102,088	$631,089
Dry-Fog Coatings - 150 g/l	$28.12	137,501	$3,865,841	$20.84	179,013	$3,729,989
Fire-Retardant Coatings[5] – 50 g/l	$44.56	7,771	$346,276	$50.01	7,810	$390,578
Traffic Coatings - 100 g/l	$15.82	1,012,151	$16,012,229	$17.98	998,981	$17,958,557
Totals		1,269,234	$21,478,865		1,287,892	$22,710,213

[1] Average cost per gallon for products listed in Appendix A, above the proposed VOC limit.
[2] AQMD adjusted 2000 sales volume in Appendix B, based on current VOC limit.
[3] Average cost per gallon for products listed in Appendix A, at or below the proposed VOC limit.
[4] AQMD projected sales volume in Appendix B, based on the proposed VOC limit.
[5] Since Fire-Retardant Coatings are proposed to be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated, the cost-effectiveness analysis assumes worst case that all fire-retardant coatings will have a future VOC limit of 50 g/l. This cost is as determined in the socioeconomic assessment.

Annual Cost Increase = $22,710,213 – $21,478,865 = $1,231,349
Emission Reductions = 0.6910 tpd * 365 days per year = 252 tpy

$$\textbf{Cost-Effectiveness} = \frac{\textbf{\$1,231,349}}{\textbf{252 tpy}} = \textbf{\$4,882 per ton VOC reduced}$$

The cost-effectiveness without fire-retardant coatings is $4,740 per ton of VOC reduced with emission reductions of 250 tpy. These figure were used in calculating the incremental cost-effectiveness for this report, excluding fire-retardant coatings. The fire-retardant coatings are

excluded because they will be subsumed by the coating category for which they are formulated and therefore, there is no alternative control available.

INCREMENTAL COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for a proposed regulation to at least one other control option that would achieve the emission reduction objective. Incremental cost-effectiveness is defined as the difference between the costs of two potential control options, divided by the difference in emission reductions between those control options.

Compliance with the proposed amendments to Rule 1113 is achieved through lowering the VOC content of the coatings. Since only this single control option exists for architectural coatings, it is not possible to calculate incremental cost-effectiveness for different control options for the proposed amendments to Rule 1113. Nevertheless, to provide additional information, staff has provided the incremental cost-effectiveness value for a less stringent proposal excluding fire-retardant coatings. Assuming VOC reductions of 0.43 tpd from less stringent VOC limits for concrete-curing compounds (excluding those used for roadways and bridges), dry-fog coatings and traffic coatings, the incremental cost-effectiveness is estimated at $11,440 per ton.

Table 7
Cost Based on Optional Proposal

Coating Categories with Alternative Proposed VOC Limits	Current Cost			Future Cost for Optional Proposed VOC Limits		
	Average Cost Per Gallon[1]	AQMD 2000 Sales Volume[2] (Gal)	Dollars	Average Cost Per Gallon[3]	AQMD Projected Sales Volume[4] (Gal)	Dollars
Concrete-Curing Compounds 150 g/l	$11.52	93,965	$1,082,306	$6.47	122,670	$793,062
Dry-Fog Coatings - 250 g/l	$28.12	132,933	$3,737,411	$20.84	168,690	$3,514,904
Traffic Coatings - 125 g/l	$17.55	1,009,199	$17,706,901	$17.55	1,045,067	$18,336,223
Totals		1,236,097	$22,526,618		1,336,427	$22,644,189

[1] Average cost per gallon for products listed in Appendix A, above the proposed VOC limit.
[2] AQMD adjusted 2000 sales volume in Appendix B, based on current VOC limit.
[3] Average cost per gallon for products listed in Appendix A, at or below the proposed VOC limit.
[4] AQMD projected sales volume in Appendix B, based on the optional proposed VOC limit.

Annual Cost Increase = $22,644,189 - $22,526,618 = $117,571
Emission Reductions = 0.43 tpd * 365 days per year = 157 tpy

$$\textbf{Cost-Effectiveness} = \frac{\textbf{\$117,571}}{\textbf{157 tpy}} = \textbf{\$749 per ton VOC reduced}$$

Incremental Cost-Effectiveness Formula

$$\text{Incremental Cost-Effectiveness (\$/ton of VOC reduced)} = \frac{\text{Annual Cost Increase of Proposal (\$)} - \text{Annual Cost Increase of Optional Proposal (\$)}}{\text{Emission Reduction of Proposal(tpy)} - \text{Emission Reduction of Optional Proposal (tpy)}}$$

$$\textbf{Incremental Cost-effectiveness} = \frac{\textbf{\$1,187,047} - \textbf{\$117,571}}{\textbf{250 tpy} - \textbf{157 tpy}} = \textbf{\$11,440 per ton of VOC reduced}$$

SOCIOECONOMIC ASSESSMENT

A socioeconomic analysis of the amendments to Rule 1113 will be performed. The socioeconomic impacts associated with the CEQA alternatives (if any) will also be analyzed. The socioeconomic report will be released no later than 30 days prior to the AQMD Governing Board hearing.

COMPARATIVE ANALYSIS OF ARCHITECTURAL COATING RULES

The following analysis compares Rule 1113 with the U.S. EPA Architectural Coatings rule. The comparison includes proposed changes to Rule 1113 where applicable.

	Rule 1113 – Architectural Coatings	**40 CFR, Subpart D – National Volatile Organic Compound Emission Standards for Architectural Coatings**
Applicability	Any person, who supplies, sells, offers for sale, or manufactures architectural coatings to be field applied to stationary structures or their appurtenances, and to mobile homes, pavements or curbs as well as any person who applies or solicits the application of architectural coatings in the District.	Each architectural coating manufactured on or after September 13, 1999 for sale or distribution in the U.S., except architectural coatings registered under the Federal Insecticide, Fungicide, and Rodenticide Act manufactured on or after March 13, 2000 for sale or distribution in the U.S.
Definition Modifications	Clear Wood Finishes include floor coatings. Concrete-curing compounds for roadways and bridges required to meet standard specifications. Floor Coatings – to include clear coatings for concrete. Nonflat High Gloss – register 70 or above on a 60 degree meter. Shellac definition includes uses. Volatile Organic Compound – excludes TBAc as a VOC for IM coatings.	Floor Coatings – means an opaque coating. Nonflat Coatings – includes all sheens. Shellac definition includes use for stain blocking. Volatile Organic Compound – excludes TBAc while pursuing additional toxicity testing.
VOC Content Limits	250 g/l default or VOC limits specified in the Table of Standards on listed effective dates.	VOC content not to exceed applicable limit in Table 1 to Subpart D.

	Rule 1113 – Architectural Coatings	40 CFR, Subpart D – National Volatile Organic Compound Emission Standards for Architectural Coatings
Coatings Proposed for lower VOC limits in AQMD	Concrete-Curing Compounds – 100 (excludes those for roadways and bridges) Dry-Fog Coatings – 150 Traffic Coatings - 100	Concrete-Curing Compounds – 350 Dry-Fog Coatings – 400 Traffic Coatings - 150
Most Restrictive VOC Limit	Lowest VOC limit applies if a coating label or literature implies that the coating may fall into two or more categories.	Lowest VOC limit applies if a coating label or literature implies that the coating may fall into two or more categories. 17 exemptions.
Sell-Through Provision	If manufactured prior to effective date of applicable VOC limit in Table, 3-year sell-through including application.	None
Compliance Options	An annual averaging program that allows coatings to be sold with a VOC content greater than the applicable limit, that are offset with a greater volume of sales with a VOC content below the applicable limit. Emissions must be at or below levels as if all sales were compliant. Appendix A - Requirements for Averaging Provision.	Exceedance fees for manufacturers of coatings above the applicable VOC limit. Tonnage exemption if VOC contained in coatings selected for exemption is equal to or less than 10 tpy. No Averaging Provision Requirements.
Container Labeling Requirements	Date of Manufacture or code that displays the date of manufacture. Thinning recommendations, does not include thinning with water. Coating VOC content as supplied and after manufacturers recommended thinning. Coating VOC content and Material VOC content for low-solids coatings. Special labeling for quick-dry primers, sealers and undercoaters, quick-dry enamels, rust preventative coatings and specialty primers. Proposed labeling for concrete-curing compounds	Date of Manufacture or code that displays the date of manufacture. Thinning recommendations, does not include thinning with water. Coating VOC content as supplied and after manufacturers recommended thinning. Material VOC content for low-solids coatings. Special labeling for IM coatings and recycled coatings.
Reporting Requirements:	Averaging Compliance Option recordkeeping and reporting. Annual reports for sales in gallons of recycled coatings and specialty primers. Recycled paint manufacturers must submit a letter certifying they are manufacturers of recycled coatings.	Recycled coatings records. Exceedance fee records. Tonnage exemption records. Initial notification report from each manufacturer and importer of any architectural coating.
Test Methods	Determination of VOC content: U.S. EPA Reference Test Method 24 and for exempt compounds by AQMD Method 303 or AQMD Method 304. Acid Content of Coatings: ASTM Test Method D 1613-85. Metal Content of Coatings: AQMD Method 311. Flame Spread Index: ASTM Test Method E 84-99.	Determination of VOC content: U.S. EPA Reference Test Method 24 (Method 24 prevails). Formulation data or any other reasonable means for predicting that the coating has been formulated as intended (e.g., quality assurance checks, recordkeeping. Alternative Methods: The Administrator may approve, on a case-by-case basis, a manufacturer's or importer's

	Rule 1113 – Architectural Coatings	40 CFR, Subpart D – National Volatile Organic Compound Emission Standards for Architectural Coatings
Test Methods (continued)	Drying Times and Tack–Free Time: ASTM Test Method D 1640 and ASTM Test Method D 1640 (Mechanical Test Method) respectively. Gloss Determination: ASTM Test Method D 523. Compounds for Curing Concrete ASTM Designation C309, Class B Water Retention Efficiency California Test 534 Equivalent Test Methods: Other test methods determined to be equivalent by the staffs of the District, the CARB, and the U.S. EPA, and approved in writing by the District Executive Officer may also be used.	use of an alternative method in lieu of Method 24 for determining the VOC content of coatings if the alternative method is demonstrated to the Administrator's satisfaction to provide results that are acceptable for purposes of determining compliance with this subpart.
Technology Assessments	For future VOC limit for flat coatings	None
Exemptions	Containers of one quart or less. Clear wood finish quart container exemption will be phased out in 2006. Coatings manufactured for sale outside AQMD jurisdiction. Emulsion type bituminous pavement sealers. Aerosol coating products. High altitude use of stains/lacquers above 4,000 feet. Thinning to avoid blushing with humidity above 70% and temperature below 65 degrees F at certain times of the year and with a maximum VOC content if the coating contains acetone. Extended VOC limits for Small Businesses meeting specific criteria. Research and development test specimens.	A coating that is manufactured for sale or distribution to architectural coating markets outside the United States; such a coating must not be sold or distributed within the United States as an architectural coating. A coating manufactured prior to September 13, 1999. A coating that is sold in a non-refillable aerosol container. A coating that is collected and redistributed at a paint exchange. A coating that is sold in a container with a volume of one liter or less.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE

Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the hearing. The draft findings are as follows:

Necessity - The AQMD Governing Board has determined that a need exists to amend Rule 1113 - Architectural Coatings to achieve VOC emission reductions to meet the federal and state ambient air quality standard for ozone, to provide additional transition time with respect to a limited number of coating categories and to clarify rule language.

Authority - The AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, and 41508.

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

Consistency - The AQMD Governing Board has determined that PAR 1113 - Architectural Coatings, is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, federal or state regulations.

Non-Duplication - The AQMD Governing Board has determined that the proposed amendments to Rule 1113 do not impose the same requirement as any existing state or federal regulation, and the proposed amendments are necessary and proper to execute the powers and duties granted to, and imposed upon, the AQMD.

Reference - In adopting these amendments, the AQMD Governing Board references the following statutes which the AQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001 (rules to achieve ambient air quality standards), 40440(a) (rules to carry out the Air Quality Management Plan), and 40440(c) (cost-effectiveness), 40725 through 40728 and Federal Clean Air Act Sections 171 et sq., 181 et seq., and 116.

COMMENTS AND RESPONSES

During the rule making process, both oral and written questions, comments, and suggestions were received and reviewed by staff and are summarized in this section. After the review, staff revised the proposed amendments to reflect many of the comments and suggestions. If comments regarding the same topic were received from different individuals, staff summarized the topic into one comment and response.

EPA sent a rule review comment letter on the Proposed Amended Rule 1113, work shopped on January 26, 2006 and did not have any comments based on their preliminary review.

CARB sent a comment letter on Proposed Amended Rule 1113 and the Preliminary Draft Staff Report. AQMD Staff has addressed issues related to the 2001 CARB Survey data.

Comment: An exception was taken to the comment in the CEQA Initial Study Review stating that recent survey data and tests have demonstrated there are sufficient compliant coatings available on the market in all coating categories that will meet the VOC limits of Rule 1113 without the use of TBAc. The facts do not support that. A few architectural firms and trade association comments about varnishes and lacquers appears to imply that other coating categories require the use of TBAc as well as the IM category. One trade association commented that AQMD Staff stated that it is not as concerned with the health affects of TBAc as previously because it has been shown that the earlier risk assessment had overstated the risk. Requests were made to consider TBAc as an exempt solvent for all architectural coating

categories especially clear wood finishes, clear floor coatings, rust preventative coatings and chlorinated rubber swimming pool coatings.

Response: *One trade association has requested that TBAc be exempt for lacquers and varnishes, in addition to the IM Coatings. As discussed in the Technology Assessment section of this report, as well as the 2003 Staff Report and several Annual Status Reports, staff's evaluation of the current clear wood finish technology has identified numerous products, including lacquers and varnishes that are below the 275 g/l VOC limit formulated without TBAc. The AQMDs technical assessment, specifically the recently completed UMR study, indicate that the waterborne products that are formulated without TBAc perform equally or even better for certain key coating characteristics. However, staff does not agree with the comment that staff is "no longer concerned with the health affects of TBAc." Staff's statements were based on its risk assessment for use in IM Coatings, where applicators typically use Personal Protective Equipment (PPE) including respirators, and the distance to sensitive receptors is sufficient to mitigate the acute risks. However, this risk assessment does not apply to all the categories in the rule, especially coatings used in residential or commercial environments, where applicators do not use respirators and distance to sensitive receptors is typically limited. Furthermore, the technology assessment shows a need for TBAc in IM Coatings for extremely long durability, but does not indicate a need for other coating categories. In performing the background research for TBAc, AQMD staff concluded that there is limited toxicity data available on TBAc and no chronic toxicity has been conducted on the chemical. For this reason the health risk analysis prepared for PAR 1113 in the Draft EA used tert-butyl alcohol (TBA), which has been shown to induce tumors in laboratory animals, as a surrogate for TBAc because of the metabolic conversion of TBAc to TBA. The health risk analysis was prepared for AQMD staff using standard health risk protocol, health risk values provided by OEHHA staff and parameters used by CARB to estimate risk from TBAc. As with other projects evaluating the health impacts from air toxics, AQMD staff relied upon OEHHA/CARB to develop heath risk values, associated parameters and procedures. Staff also analyzed CARB documents that assert the benefits of ozone reduction from the use of TBAc. Staff will continue to monitor the additional toxicity studies conducted by the manufacturer of TBAc, Lyondell, and will re-evaluate expanding the exemption to other categories after OEHHAs review of those pending studies.*

During the Public Workshop one manufacturer specifically requested that TBAc be allowed for use in floor coatings, rust preventative coatings and chlorinated rubber swimming pool coatings. After meeting with staff and reviewing alternative methods of compliance, the manufacturer sent staff a letter stating that they are no longer seeking an exemption for TBAc for these categories. Their clear industrial floor coatings will meet the 100 g/l limit, the rust preventative coatings can be relabeled and sold as IM coatings for which staff has proposed exempting TBAc, and the sale of non-chlorinated rubber-based compliant swimming pool coatings have gradually increased making an exemption for TBAc no longer necessary.

Lastly, the proposed exemption of TBAc for IM Coatings was discussed over five months ago, and the AQMD Governing Board adopted a similar partial exemption for TBAc in

Rule 1151 – Automotive Refinishing Coatings last fall. Furthermore, IM Coatings formulated with TBAc were first tested by MWD three years ago. Additionally, raw material and additive suppliers have informed staff that they can provide resins and additives (e.g., Rheology Modifiers, Anti-Foaming in TBAc) if there is sufficient demand from the coating manufacturers. However, if some manufacturers are still not ready to commercialize IM coatings with TBAc, they can continue to market their compliant waterborne IM coatings, which perform well for most IM uses, as well as take advantage of alternative compliance options in Rule 1113, including the Averaging Compliance Option and the Sell-Through Provision.

Comment: There is sufficient evidence to conclude that TBAc has low overall acute toxicity. The AQMD should contact OEHHA/CARB regarding their suggested relative exposure level (REL) as it appears that it should be higher than 10,000 $\mu g/m^3$ and more likely on the order of 55,000 $\mu g/m^3$. It is unlikely that using either REL will indicate that TBAc poses a short-term health risk in any architectural coating category affected by Rule 1113. If AQMD staff is concerned about a potential long-term risk based on occupational use of a few coating categories, we urge staff to use OEHHAs very conservative unit risk factor (URF) to estimate this risk under a reasonable use scenario for that coating category. Given the very conservative exposure assumptions used in Rule 1151, it is unlikely that the speculative chronic risk for TBAc would rise above the CEQA level of concern in any Rule 1113 coating category.

Response: *AQMD staff relies on conclusions and potency factors generated by OEHHA for our health risk assessments. The Draft Environmental Assessment (EA) analyzes the potential acute toxicity using a scenario of painting a large storage tank with IM coatings formulated with TBAc using information from a facility operator. The analysis of this scenario concluded the impacts would not be significant. There exists a potential cancer risk from TBAc reformulated in IM coatings applied at facilities that continuously paint throughout the year resulting in long-term exposure to downwind sensitive receptors. Such facilities include sewage treatment plants, refineries, and water/power facilities. Although a company may apply IM coatings around the facility throughout the year, the location within the site will vary and, thus, the distance to the downwind sensitive receptor changes for each application. Using information from facility operators, the potential carcinogenic and non-carcinogenic acute risk from using IM coatings formulated with TBAc at these three types of facilities was determined to be less than the AQMDs significant threshold for cancer risk. It is conceded that a similar analysis with respect to allowing TBAc in other coating categories may also arrive at chronic and acute risks that are less than AQMDs significant thresholds.*

Nevertheless, AQMDs goal is to minimize toxic impacts to the extent possible. And since compliant, well performing products that rely on alternative chemistries without the potential impacts associated with TBAc's toxicity exist, staff believes the most responsible approach is limiting TBAc's exemption only to those critical categories where there are no alternatives and the public and applicators are not exposed to undue risk. Once additional information regarding TBAc's toxicity becomes available, staff will be prepared to reconsider its current position.

Comment: The lack of chronic exposure testing for TBAc should not be used as an argument for not exempting TBAc in the other architectural coating categories. Those concerns are totally irrelevant where only acute exposure exits. The acute toxicity of TBAc does not warrant the proposed limitation to the IM category only. It would appear that waterborne technology is being forced which may not be legitimate. If that is the intent then waterborne technology must be scrutinized to the same degree for toxicological and environmental impacts as TBAc.

Response: *The proposed amendments limit the use of TBAc to IM coatings and the toxics analysis in the Draft EA examines both cancer and non-cancer health effects from IM coatings, which could be reformulated with TBAc to meet the lower VOC content limit. There is little available information on the toxicity of TBAc, but there is some toxicity information available on one of its metabolites, tert butyl alcohol (TBA). Estimated risk factors for TBA provided by OEHHA staff members was used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAc. It should be noted that these surrogate risk factors developed by OEHHA staff have not been formally approved by the Scientific Review Panel yet. However, they reflect the best available information from OEHHA at this time. Using conservative assumptions, these factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAc used under the proposed project.*

The AQMDs technical assessment, including the evaluation conducted by MWD and UMR, indicate that the waterborne products that are formulated without TBAC perform equally or even better for certain key coating characteristics for most categories of the rule, except for some IM uses where exceptionally long durability is needed to protect public infrastructure. Therefore, staff has identified the need for TBAc for IM Coatings, and will continue to monitor the additional toxicity studies conducted by Lyondell, and will re-evaluate expanding the exemption to other categories after OEHHAs review of those pending studies.

The response to the previous comment is incorporated in terms of TBAc toxicity.

Comment: Despite claims that low-VOC water based coatings are available for most architectural coating categories, many are still predominantly solvent-borne. There are many reasons for this, including faster and more reproducible dry times, lower cost, improved durability and overall performance. Architectural coating categories are shown in Table 1, ranked according to the percentage of solvent borne coatings. Over half (25/44) of the categories are above 80% solvent borne and 70% are majority solvent borne. This is not a coincidence. If cost-effective water-based coatings that meet performance requirements in these categories could be formulated, producers would make them and people would buy them. Even in categories that are predominantly water-based categories such as Traffic Markings, compliant solvent-based coatings must remain available because water-based coatings do not dry fast enough in cold and humid conditions. Many of these coating categories will soon be subject to lower VOC content limits. It is, therefore, urgent that TBAc be exempted in all architectural coating categories, unless ARB staff can demonstrate that there is a potential health risk under a realistic use scenario.

Response: *Rule 1113 does not specify the type of solvent that a manufacturer must use in formulating their coatings. The rule does specify that the coating category meet a VOC content limit by a certain date. Staff has conducted numerous technology assessments that have shown waterborne coating performance characteristics to be equivalent and in some cases better than the performance characteristics of the solventborne coatings. Staff is not sure which Table 1 the commentator is referencing. Regarding traffic marking coatings, as stated in the technology section of this report, all traffic marking coatings used by Caltrans are less than 100 g/l. The alternative compliance options, such as the Averaging Provision, allow the manufacturers to retain the sale of certain coatings for niche applications that are above the compliance limit.*

Comment: It has come to our attention that, if TBAc is not exempted in concrete cure and seal coatings, some paint manufacturers will use methylene chloride (MC), a Toxic Air Contaminant (TAC) and probable human carcinogen, to comply with the proposed VOC content limits in PAR 1113. CARBs 2001 Architectural Coatings Survey shows that several TAC solvents are used in architectural coatings, and the recent survey update from CARB confirms that tetrachloroethylene (perc) and MC are used in: Bituminous Roof Coatings, Bituminous Roof Primers, Clear Brushing Lacquers, Recycled Coatings, Rust Preventative Coatings, and, Specialty Primers, Sealers, and Undercoaters. PAR 1113 does not prohibit or limit the use of TACs in architectural coatings because, as AQMD states in the NOP of a Draft Environmental Assessment for PAR 1113, non-occupational use of these solvents does not pose a significant health risk to users or the general population: "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."

Even using a hypothetical worst-case scenario, TBAc is less potentially hazardous than either perc or methylene chloride. The net effect of limiting the exemption of TBAc will be to increase the use of these more hazardous VOC-exempt TACs and the continued use of highly reactive but inexpensive VOCs such as toluene and xylene.

Once again, the AQMD is proposing to give up real and substantial reductions in ozone and TAC emissions because of inflated concerns about TBAc's chronic toxicity. This is especially puzzling since the AQMD acknowledges that these chronic effects are irrelevant to short term risk assessment. Clearly, limiting the exemption of TBAc is not health protective in this case and will cause an increase in exposures to more harmful solvents and ozone. To the extent that Rule 1113 allows the use of exempt TACs that are known to be more hazardous than TBAc, the AQMD must exempt TBAc in these coating categories as well or provide a clear rationale for not exempting it based on a demonstrated public health risk. Either chronic toxicity concerns are relevant to short term risk assessment or they are not. They cannot be relevant for TBAc only and they must be demonstrated.

Lyondell Chemical objects to this proposed arbitrary exclusion of the VOC exemption for TBAc from architectural coatings. We request that TBAc be exempted in all categories where the use of more hazardous TACs is allowed.

Response: *Perc, MC and even TBAc can currently be used in coating formulations but the commentator's opinion regarding the use of perc and MC in future formulations is speculative and unknown. Staff has not observed the trend of using more hazardous products to formulate coatings as the VOC limit is reduced for other coating categories. The potential hazardous impacts will be dependent on the amount of perc, MC or TBAc used in the formulation, the location of application, the personal protection equipment, etc., and, thus, the impacts are not definitive.*

Based on the potential, but unknown toxicity of TBAc, the proposed limited exemption of TBAc is more health protective compared to the complete exemption while providing the coating manufacturers with flexibility in formulating compliant products with the future limits of PAR 1113 for IM coatings. IM coatings have exceptionally long durability, typically require personal protection equipment during application, and some are required to adhere to stringent MWD criteria. With regard to expanding the exemption to other coatings, according to 2001 CARB survey results as listed in Table 2 of the 2005 Annual Status report, some coatings have already recorded high sales data of coatings complying with the lower future VOC content limit. For example, 36 percent of the clear wood finishes had already achieved the future lower VOC content limit. Further, applicators of other coating categories do not typically wear personal protection equipment worn by professionals who apply IM coatings. Staff is opposed to allowing TBAc use in residential and commercial applications until final conclusions regarding the toxicity of TBAc have been reached.

Comment: TBAc should not be allowed for use in any architectural coating category. TBAc forms a metabolite called tert-butyl alcohol (TBA) which is a carcinogen. Based on the cancer potency factor developed by the Office of Environmental Health Hazard Assessment (OEHHA) and the worker exposure levels set by Cal/OSHA of 200 parts per million, the Hazard Evaluation Systems and Information Service calculated that a worker who used TBAc at the worker exposure level would face a risk of 70,000 in a million. Because TBAc is a carcinogen, it should not be exempted for any purpose. The staff report proposes an exemption of TBAc for IM coatings yet indicates that there are over 280 products already that meet the July 1, 2006 VOC limit. The staff report indicates that there is a problem formulating atmospheric IM coatings at 100 g/l. A suggestion would be to not allow TBAc use in IM coatings, but extend the 250 g/l limit for just atmospheric IM coatings. TBAc should not be exempt in any rule until the manufacturer is required to conducts chronic toxicity tests. After OEHHA evaluates the toxicity tests, then the AQMD can decide whether or not to exempt TBAc.

Response: *The commentator states that the exemption of TBAc from the VOC definition is not needed to achieve the VOC content limits in PAR 1113 because waterborne coatings are available for use. While this is true for a number of IM coatings, staff recognizes that there is a lack of sufficient atmospheric IM coatings available that meet MWDs most rigorous standards. However, MWD has completed testing of some atmospheric IM coatings formulated with TBAc, which yielded performance characteristics that met even MWDs most rigorous standards. Many IM coating manufacturers have requested that the AQMD delist TBAc for use in coatings critical to the support of the public infrastructure. At the present time there appears to*

be no other exempt solvent available to manufacture compliant IM atmospheric coatings with exceptionally long life performance.

To allow a higher VOC limit for these very limited applications would require the establishment of numerous subcategories of IM coatings, as the uses range from chemical immersion, exterior exposure heavy equipment coating, floors, etc., which is difficult to delineate and enforce. Further, while the challenges with atmospheric coatings use have been determined, there might be subcategories of immersion and other uses of the coatings that may also need to use TBAc for exceptionally long life performance. However, since TBAc is sold at high cost, there is no financial incentive for a compliant coating not using TBAc to reformulate with TBAc.

Although staff does not require chronic toxicity testing for compounds exempted from the definition of VOC by U.S. EPA and CARB, staff does attempt to compile as much toxicity, global warming, stratospheric ozone depleting potential, etc., information as is currently available in the CEQA document that is typically prepared when exempting a compound from the definition of VOC. In the case of TBAc, there is little available information on the toxicity of TBAc, but there is some toxicity information available on one of its metabolites, TBA. While there are studies that indicate tumors in rats and mice when exposed to high concentrations of TBA, TBA has not been classified as a human carcinogen yet. Estimated risk factors for TBA provided by OEHHA staff members were used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAc. It should be noted that these surrogate risk factors developed by OEHHA staff have not been formally approved by the Scientific Review Panel yet, but have been peer reviewed. However, they reflect the best available information from OEHHA at this time, and these factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAc used to formulate IM coatings. In analyzing TBAc's impacts staff also considered CARB documents that assert TBAc's ozone reduction benefits. Staff's very conservative analysis from the use of TBAc based products only, indicates that the potential chronic cancer risk and acute risk is below the AQMDs significant risk threshold. Staff does not recommend expanding the exemption for TBAc to other categories because alternative compliant products that do not pose the added potential risk exist. By limiting the exemption for TBAc to IM coatings, the AQMD recognizes and limits the potential cancer risk exposure due to the use of TBAc while providing the coating manufacturers with flexibility in formulating products compliant with the future IM coatings limits in PAR 1113. Staff will continue to evaluate additional information relative to TBAc's toxicity as it becomes available and reevaluate its position as necessary.

Comment: There has been some speculation that if TBAc is broadly exempted for use in Rule 1113 coatings that TBAc-based coatings will replace latex paints and solvent emissions would increase. Instead, TBAc will be used predominantly to replace other solvents in solvent-based coatings where water-based coatings and other exempt solvents do not provide acceptable performance or cost. TBAc is an effective solvent for a variety of coating resins and is a pound-per-pound replacement for most other solvents. Although TBAc has a strong odor, it is less objectionable than that of solvents such as PCBTF and not as strong as others. TBAc will not be

a "cure-all" for all 100 g/l IM coatings. It evaporates relatively quickly and is not a universal replacement solvent for all current usages.

Response: *As indicated in the staff report, based on the 2001 CARB survey, 83% of the total volume of architectural coatings sold in 2000 was waterborne. This is clearly an indication of waterborne technology that has commercial acceptance. Manufacturers will not abandon their waterborne products for solvent-based products that use TBAc. Furthermore, PAR 1113 exempts TBAc from the definition of VOC for IM coatings only. Since this category of coatings is largely solvent based, it is expected that TBAc could be used as a "drop-in" solvent. By limiting TBAc formulations to the IM coating category, it is expected that substituting TBAc formulations for waterborne coatings will also be limited. If TBAc is classified exempt as a VOC, then the replacement of PCBTF with TBAc would not change the solvent emissions since both would be considered exempt solvents and PCBTF can be used today. However, the 2005 Status Report for Rule 1113 presented to the Governing Board in 2006 did not identify PCBTF as a potential replacement solvent for IM coatings. PCBTF is currently exempt under Rule 102 so an exemption for PCBTF is not part of the CEQA proposed project. In a TBAc odor analysis conducted for AQMD Rule 1151, the concentration of TBAc from replacing conventional solvents with TBAc was less than the TBAc odor threshold. The Draft EA project for PAR 1113 has also analyzed the potential odor impact, which concluded that no significant additional odor impacts are expected to result from implementing the proposed amendments.*

Comment: The preliminary draft staff report may be misleading regarding MWDs tests with coatings containing TBAc as a solvent. The coatings that were tested were at 250 g/l.

Response: *The coatings that were tested with TBAc as a solvent were between 120 g/l and 264 g/l depending upon whether the VOC content of TBAc was included or excluded from the formulation data to determine the total VOC content. MWD has been actively seeking "under 100 g/l" atmospheric exposure coating systems utilizing exempt solvents. Numerous manufactures have indicated that they are developing exempt solvent architectural coating systems, and two manufacturers have recently shipped their compliant products using exempt solvents to be evaluated by MWD, with numerous others that are actively developing IM coatings using TBAc.*

Comment: Products are produced at very low-VOCs, they are primarily two-component systems and would be considered zero-VOC if calculated. Under Method 24 the low molecular weight species come off at 110 degrees centigrade test temperature. We cannot use these low molecular weight products in the averaging option of the rule because Method 24 gives a much high VOC content. We request that AQMD look for alternatives to Method 24.

Response: *Method 24 is the approved test method to determine compliance. Staff is aware that the test method is more challenging with low-VOC samples. However, because staff was unable to reproduce many of the problematic results associated with high-solids coatings, one possible approach to this question is to investigate the effect of various analytical parameters on method performance. Staff is working with the U.S. EPA, CARB, and industry to improve Method 24 or develop replacements to Method 24.*

Work is currently proceeding at Cal Poly San Luis Obispo to develop a possible alternative test method for low-VOC coatings using ASTM Method D 6886. AQMD Laboratory Staff are conducting concurrent analysis of low-VOC products using Method 24 and the Gas Chromatography/Mass Spectrometry method.

Since the rule allows manufacturers to use formulation data to calculate the VOC content displayed on the labels of coatings, staff would recommend that manufacturers analyze the VOC content of their coatings using Method 24 and if they observe a large discrepancy between the formulation data and the Method 24 analysis, they confidentially notify AQMD staff providing formulation data and the noted discrepancy in VOC results.

For compliance purposes, staff will use Method 24 to analyze coatings and if the labeled VOC is quite different from the analysis, staff will request formulation data from the manufacturer. Because less discrepancy is expected between the Method 24 material VOC content and formulation data, primarily due to the possible error rate in water measurements, the Method 24 material VOC content of the coating will then be compared to the formulation data material VOC content and any large discrepancy will be used as an indicator for further analysis and enforcement action, if warranted..

Comment: Changing the definition of floor coatings to include clear coatings is confusing because of the provision in the rule stating that if a coating falls into two categories the lower VOC requirement applies. I may have a clear sealer, clear waterproofing sealer or clear wood preservative for floors and under the proposed amendment the coatings would have to meet the 50 g/l VOC limit when it was intended to place the coating in the higher VOC category.

Response: *If the label or any literature implies that a coating can fall into two separate categories, the coating must comply with the lowest VOC content. Staff agrees with the commentator that a clear sealer as well as other categories labeled for and applied to a floor would be required to meet the lower VOC content. After receiving comments and discussing the issue of overlapping categories with industry, staff is proposing to amend the definition of floors to include clear coatings formulated for or applied to concrete flooring" and add the words "represented in part for use on flooring" to the most restrictive provision of the rule. Therefore if the manufacturer labels a coating as a "clear floor coating for concrete" the coating will have to comply with the VOC limit for floor coatings. However, if the manufacturer states on the label or in the literature, for a coating such as a waterproofing sealer or waterproofing concrete/masonry sealer that the product may be applied to floors, then the coating may meet the VOC limit for that category.*

Comment: The cost analysis in the Preliminary Draft Staff Report does not include the cost for reformulation to those manufacturers that do not have products or need to formulate a product with specific needs that meet the proposed VOC limits.

Response: *The Staff Report includes information on the cost-effectiveness of the proposed reductions. In deriving the cost-effectiveness staff relies on comparing the cost of coatings complying with the future limits and those complying with the current limits.*

All the coatings Listed in Appendix A that meet the future VOC limits are currently for sale and available. Staff obtained the retail cost per gallon from either the manufacturer or distributor. Based on discussions with manufacturers, staff assumes the retail cost of the reformulated products includes the research and development costs incurred by the product manufacturer. Staff has received no information on the actual research and development costs from the manufacturers, despite staffs repetitive requests during this, as well as previous amendments. In defense of such input staff's approach for cost-effectiveness is a reasonable alternative to estimating costs.

Comment: The small container exemption for clear wood finishes should be allowed to continue.

Response: *Staff evaluated clear wood finishes and the use and sale of small containers for this category during the 2003 amendments to Rule 1113 as well during the 2005 technology assessment. Staff's conclusion can be read in both the 2003 Staff Report and the 2005 Annual Status Report. In short, staff concluded that, for clear wood finishes, including lacquers, eliminating the exemption for quart containers or less was feasible based on the technology assessment that indicates numerous adequate substitute products with low-VOC contents are available and in use today. Staff also concluded that this change had the potential for significant emission reductions. The 2001 CARB Survey data shows a relatively large percentage of those coatings sold in quart containers or less exceeds current VOC limits. Since the proposed VOC limit of 275 g/l for clear wood finishes allows the use of a number of low-VOC technologies, an exemption for sales in small containers for this coating category is no longer warranted.*

Comment: As a market leader in the U.S for waterborne technology of clear topcoats used in the hardwood flooring industry, we support the reduction of the VOC limit for the clear wood finish category from 350 g/l to 275 g/l. There has been continued concern expressed by some manufacturers and industry trade organizations as to the durability and aesthetic qualities of waterborne products. Currently, on an annual basis well over 300 million square feet are coated on a worldwide basis with two of our products and in the U.S. this represents over 125 million square feet of flooring finished with these products. Both products are waterborne urethane varnishes used in residential and commercial applications. This volume of flooring would not continue to be finished, year after year, with products that were not performing from the perspective of both durability and aesthetics. The recent Hardwood Floors magazine "Resource Book" for 2006 (the National Wood Flooring Association trade publication) lists 61 manufacturers making waterborne products in the U.S. (compared to 55 in 2004). This compares with 50 companies producing oil modified finishes, 25 making moisture cure, and 14 producing acid-cure (conversion varnish) finishes. Waterborne technology is currently more expensive and is more difficult to produce, yet clearly there are benefits economically to do so as evidenced by the increasing number of waterborne manufacturers.

We also support the elimination of the quart exemption for this category even though we produce these products in these containers and will lose sales as a result. Our product offerings in these small containers are primarily out of necessity from a competitive standpoint.

Response: *Staff appreciates the comment and continued support for amendments to this category. The reduction in VOC content for some of the clear wood finishes, in particular, lacquers (including pigmented lacquers) was first proposed and amended in 1996, and subsequently followed by amendments to Rule 1113 for sanding sealers and varnishes, as well as for all coatings in this category. The 2003 amendments were possible due to the efforts of those manufacturers leading the way with waterborne technologies which have proven to out perform their higher-VOC counterpart.*

Comment: The environmental benefits of water-based coatings have not been demonstrated. Although the VOC content appears low when compared to solvent-based paints on a pound per gallon of paint basis, it is less so when compared on pounds of VOC per pound of solids because the solids content of water-based paints is typically lower. This basis for comparing paints is more appropriate because it takes into account the amount of VOC emitted to apply the same amount of paint solids. It is understood that current VOC policy for architectural coatings is not based on photochemical reactivity.

Response: Staff has analyzed in detail the solids content of waterborne and solvent-based coatings, and analyzes any potential increase in the volume of coatings needed to provide a comparison for constant solids. In most cases, the solids content for waterborne coatings is similar to their solvent-based counterparts, but staff has found that in some cases waterborne coatings (e.g., 2-Component Waterborne Urethanes) have higher solids than a similar solvent-based formulation, and in other cases, the solvent-based coatings have higher solids. In all these cases, the environmental benefits are always analyzed based on an adjustment to volume to account for the solids in the coatings. Different types of solvents have different degrees of "reactivity," which is the ability to accelerate the formation of ground-level ozone. The use of reactivity as a regulatory tool has been debated at the local, state, and national level for over 20 years. Dr. William Carter, one of the principal researchers of reactivities of various VOC species, identified the state of science with respect to VOC reactivity and described areas where additional work is needed in order to reduce the uncertainty associated with different approaches to assessing reactivity. According to CARB, a number of studies have found that relative reactivities have much smaller uncertainties than absolute reactivities. CARB has implemented a limited reactivity-based rule and the U.S.EPA has also issued a guidance to have states evaluate reactivity-based approaches. CARB is finalizing their new survey which will include revised speciation data and will evaluate the feasibility of reactivity-based approach as part of their next SCM. However, based on the 2001 survey, mass-based VOC control approach was deemed effective for most categories and shows a lower sales weighted average maximum incremental reactivity value for low-VOC coatings. The commentator is correct that the AQMD does not have a VOC policy based on reactivity, but will continue to work with CARB and U.S. EPA staff on a potential reactivity-based approach.

Comment: Manufacturers and the trade association for architectural coating manufacturers support the proposed amendments to create the new category “nonflat high gloss and to maintain the current VOC content limit of 150 g/l for both nonflat high gloss coatings and quick-dry enamels for a period of one year. We also support the proposal to exempt TBAc as a VOC for all IM coatings. A major concern with Rule 1113 is the timeframe IM products have been given

to meet the extremely low-VOC limit of 100 g/l. The least complex coating, flat coatings, have an eight year period before they need to be reformulated to a 50% reduction. The more complex coatings, i.e. non-flats, primers, floor coatings, and the like have had less than four years to reach a 50 – 70% reduction in VOC content. Amazingly, the most complex coatings, IM coatings have to be reformulated to a 75% VOC reduction in less than three years! IM coatings protect the infrastructures within the district from corrosion and deterioration. IM coatings also protect the community by maintaining the integrity of storage vessels containing infectious waste water, poisonous gases, and highly flammable liquids. These products are exposed to high temperatures, caustic and acidic chemicals, heavy abrasions, variable substrates, and a host of severe environmental conditions, yet they are being required to meet the 100 g/l VOC content limit. On the other hand, swimming pool maintenance coatings used to prevent water leaks can continue to contain VOCs up to 340 g/l.

> ***Response:*** *Staff appreciates your support for the proposed amendments. A brief history on the development of the VOC limits for the coatings in the IM category shows that the 420 g/l VOC limit was first adopted by the AQMD Governing Board in 1996 and then amended in 1999 to set an interim limit of 250 g/l effective January 1, 2004 and a final limit of 100 g/l on July 1, 2006. IM coating manufacturers should have been aware of the timeframe for at least 7 years, since this time frame for reformulation was obtained from the manufacturers. Staff's technology assessment of IM coatings has been ongoing since 1999 and has been explained in several Annual Status Reports including the 2005 Annual Status Report. Staff's latest technology assessment identified hundreds of compliant products. After evaluating the technology assessments staff has concluded that the effective date for the 100 g/l VOC limit should remain as scheduled. In addition, even for the most demanding performance characteristics such as products with exceptional durability, raw material and additive suppliers have already developed products that can be formulated with TBAc. Manufacturers of IM coatings have indicated that they are able to receive the TBAc formulated raw materials and are already starting to provide samples to their large customers. For manufacturers that are still formulating compliant products and are not ready to market, several alternative compliance options are available for the transition period, including the Averaging Compliance Option and Sell-Through Provision. Lastly, large users or manufacturers can apply for variances, if deemed necessary. Results of past studies indicate that coatings meeting the future limit of 100 g/l are currently available except for those atmospheric coatings that are required to meet an exceptionally long life performance for public agencies. Therefore, staff is recommending a limited exemption for TBAc use in IM coatings and zinc-rich primer applications.*

Comment: In the Rule 1113 Annual Report and elsewhere AQMD cites NPCA as suggesting lowering the VOC limits for several coating categories of low-volume specialty coatings (bond breakers, concrete-curing compounds, dry-fog coatings, fire-retardant coatings and traffic coatings. This is misreading NPCAs position. It is true that NPCA mentioned several options that might be considered for further additional reductions but also subdividing the IM category and the limit-to-limit over compliance concept. All of these were raised only as possibilities that would have to be discussed further. Despite their being raised only as possibilities by NPCA, AQMD Staff has indicated that NPCA "suggested" the feasibility of the lower limits for the coating categories mentioned, which is incorrect.

Response: *It is not the AQMDs intention to misconstrue the position of NPCA with regard to lowering the VOC limits for several coating categories. The rule proposals are based on information exchanged during the rule development process. At the July 8, 2005 Ad Hoc Committee Meeting with AQMD Governing Board and Los Angeles County Supervisor Michael Antonovich, Councilwoman Jan Perry, NPCA President Andy Doyle agreed, in response to a question from AQMD Executive Officer Barry Wallerstein, that the industry (rule) proposal would be "emissions neutral." This dialogue was noted in both the July 8, 2005, meeting minute notes as well as in the Annual Status Report on Rule 1113 submitted to the AQMD Governing Board on February 3, 2006. Thus, it appeared that both the AQMD and NPCA recognize the extreme air quality needs of the region by suggesting rule proposals that would achieve the same overall VOC emission reductions while providing the industry flexibility to meet future limits. Subsequently, at both the August 10, 2005, and September 14, 2005, subcommittee meetings, the NPCA proposed subdividing coating categories into interior and exterior applications and keeping the compliance dates for the interiors at the current final VOC content limit with the exception of the interior flats final VOC content limit which was proposed to become effective from one to one and one-half years earlier. The exteriors would presumably be allowed to stay at a higher VOC content limit creating permanent forgone emission reductions. Implementation and enforcement concerns have been raised with regard to properly classifying interior and exterior coatings so this suggestion has not been included as part of the current proposed amendments to Rule 1113. At those same meetings, NPCA suggested additional reductions by lowering the VOC content limit for bond breakers, concrete curing compounds, dry fog coatings, and traffic coatings. Based on staff's assessment this was a feasible proposal for most categories. This is also a proposal that will reduce emissions. Thus, the AQMD has included this suggestion as part of the proposed project, and has conducted a thorough assessment of the proposed limits, and has garnered support from manufacturers and users. As a result of staff's technology assessment, staff modified NPCAs original suggestion to reflect the state of technology. The VOC limit for bond breakers is currently 350 g/l and was proposed to be reduced to 100 g/l effective July 1, 2007. However, staff met with manufacturers of these coatings and learned that bond breakers manufactured at or below 100 g/l most always contain waxes and interfere with subsequent topcoats. In preparation for the topcoat, applicators may have been required to use solvents high in VOC content to remove the wax. Therefore, staff will continue to monitor this coating category both for an increase in usage and technological developments that may allow a lower VOC limit in the future. After discussions with manufacturers, Caltrans, and the Tilt-up Concrete Association; concrete-curing compounds have been split into two groups with those used for roadways and bridges retaining the current VOC limit and all other concrete-curing compounds required to meet a VOC content limit of 100 g/l. Staff had initially proposed lowering the VOC content for dry-fog coatings to 100 g/l and after discussions with industry has revised the proposal, with manufacturer support, to allow coatings in this category to meet 150 g/l (effective July 1, 2007) to address the dry time. Staff's revised proposal will result in cost-effective emission reductions of approximately 0.69 tpd.*

Comment: The AQMD Staff recognizes that two of the 2006 technology forcing limits are not technologically feasible - the limits for the non-flat coatings and quick dry enamels. It nonetheless first requires that other 2006 technology forcing limits be lowered below their 2006

technology forcing limits before these two limits can be raised to ensure that there will be no diminution in the over all VOC emissions reductions that were hoped for from the 2006 technology forcing limits.

Such an approach directly contradicts the nature of the technology forcing limits and the purpose of the technology reviews established by the Board in adopting them. While technology may advance for some coatings to allow reductions in some limits to compensate for raising others, nothing guarantees this. The technology reviews mandated by the Board were intended to acknowledge when a technology forcing limit in deed could not be met and this was to be done without requiring that technology forcing limits of other coatings be arbitrarily lowered.

To maintain the emissions neutral goal, AQMD Staff has proposed to cut limits in other coatings categories without checking if these limit reductions are technically feasible. In short, Staff has taken the mandate of the Board and Ad Hoc Committee (to realistically evaluate the technological feasibility of coatings limits before they become effective) to mean only if it suits its existing expectations for overall emission reductions.

> ***Response:*** *As long as there are commercially available coatings that meet the lower VOC content limits, the proposed rule amendment to lower the VOC content limit does not constitute "technology forcing." However, AQMD recognizes that transitioning for these lower VOC limits maybe more challenging in certain categories than others. Specifically, staff recognizes the challenge for non-flat coatings and quick dry enamels to comply with the 50 g/l by July 1, 2006, which is why the proposed rule extends the compliance date one year to provide manufacturers of non-flat coatings and quick dry enamels one additional year to take advantage of the latest resin technologies and formulate to the lower VOC content limit. These findings were based on discussions with manufacturers as a part of the ongoing technical assessment. However, staff also found raw materials introduced into the marketplace that mitigate the issues of dirt pickup but concluded that some manufacturers may need additional time to reformulate with these new resins. At the same time, AQMD staff recognizes, based on information provided by NPCA and several coating manufacturers that the VOC content limit of other coating categories can be feasibly lowered from their current required limits. After the NPCA first identified potential coating categories with lower VOC coatings, staff researched and found that many coatings with VOC content limits below the proposed limits are currently available on the market. The Staff Report for PAR 1113 shows that the lower VOC limits for the affected coating categories are a "potential cost-effective means of offsetting the VOC emissions foregone due to the delay in implementation." This observation does not directly contradict the nature of technology forcing limits since the staff conducted a comprehensive technology assessment, which demonstrated that coatings meeting the future VOC limits were commercially available. Moreover, these limits are not considered technology-forcing since compliant coatings are available. NPCA suggested certain categories for evaluation. Staff conducted a preliminary evaluation of the emission inventory and available VOC technology for these three categories which strongly indicates potential significant cost-effective emission reductions. See the response immediately above with regard to achieving an "emission neutral" proposal.*

Comment: The trade association for architectural coating manufacturers believes that it would be highly useful to subdivide a number of the coatings categories into their "exterior" and "interior" uses. The worry AQMD Staff has expressed over the materials being misapplied (exterior coating being used for interior application) we believe is misplaced. Consumers of the coatings have been able to draw distinctions between the two uses long before there were regulations in place and will continue to do so because exterior coatings do not lend themselves to interior applications. This is one instruction on the can that long practice has demonstrated to be religiously followed by end users.

> ***Response:*** *Staff does believe that subdividing the suggested coatings which include the following categories flats, nonflats, primers, sealers, undercoaters, quick-dry enamels, and floor coatings into interior and exterior, with each having a different VOC limit, would be difficult to enforce during application of the coatings. Contrary to the commentator's statement that consumers make a clear distinction between interior and exterior coatings, many of the coatings are manufactured and labeled for dual use. This might suggest to consumers that it is okay to use interior or exterior coatings for either application. State Implementation Plan approval by CARB and U.S. EPA require that emission reductions from the implementation of rule amendments be real, permanent, quantifiable and enforceable. Dividing these categories into interior and exterior would raise significant obstacles to the enforceability of the rule, placing much of the anticipated emission reductions in jeopardy.*

Comment: AQMDs approach in defining most coating types in Rule 1113 in use-based terms is appropriate and recommends extending that approach to include shellacs. As the definition now stands, shellac is one of the few that rely only on the properties of the substance and not al all on its uses.

> ***Response:*** *Staff agrees with the commentator and has modified the definition of shellacs to include its use as a quick-dry, solid, protective film for priming and sealing stains and odors, and for wood finishing.*

Comment: As a manufacturer of coatings in the specialty primer category and not having been able to develop a usable primer at the 100 g/l VOC level which can seal fire and smoke damage, as well as severe water-soluble stains, we respectfully request extending the effective date of 100 g/l for this category. Company staff has evaluated the three-year sell-through and averaging provisions of the rule and neither will work. The technology is moving in the right direction to a lower VOC content and is most likely achievable within the next two years. We have provided AQMD Staff with samples of the coatings listed in the 2005 Annual Status Report, Appendix A to compare their ability to hide water-soluble stains. Our company has been working for a number of years to develop a primer that meets all of the application requirements of this category and contain less than 100 g/l VOC. We have teamed up with a major university to develop new coating formulations to meet the 100 g/l limit; we are working closely with all major suppliers of alkyd resins to achieve alkyd resin miscibility in water; and we are experimenting with exempt solvents. We prefer to have the AQMD staff extend the 350 g/l limit until January 1, 2008. Alternatively, we propose an interim VOC limit of 250 g/l until January 1, 2008. We do not have any problems meeting the 100 g/l for the general primer, sealer, undercoater category.

Response: *After reviewing the available technology and several manufacturer recommendations, staff is proposing to establish an interim VOC limit of 250 g/l effective July 1, 2006 and delay the 100 g/l limit by one year for this category. This approach addresses some comments by manufacturers and allows the AQMD to retain a portion of the emission reductions, effective July 1, 2006, and delays a portion for one year.*

Comment: Rule changes can leave companies with a large number of labels with an incorrect VOC content. The rest of the label is okay. Rather than discarding these expensive labels, can the labels still be used as long as they are properly amended to provide the current compliant labeling language? In the case of a current label for a nonflat coating that stated "Product does not exceed 150 g/l VOC," another phrase would be added beside or below the old statement, "After 1/6/06, product does not exceed 50 g/l of VOC."

Response: *Staff agrees, that if a label is printed prior to a new effective date for a change in the VOC content listed in the Table of Standards in Rule 1113, that the manufacturer should be able to make up a smaller label or sticker that will completely cover the incorrect VOC content. Staff does not agree that both the incorrect VOC and the correct VOC be displayed on the label.*

Comment: Our manufacturing company produces a protective clear top coat for use over metallic pigmented paints. The clear coating when applied over metallic paints offers weathering resistance by helping to repel water, improving abrasion resistance and by blocking ultraviolet rays. These properties greatly extend the life and appearance of the metallic coatings. Since the clear coating is part of our metallic paint collection line of coatings, which are significantly under the 500 g/l allowed limit for this category, we are seeking AQMD Staff's help by requesting that metallic pigmented coatings be allowed into the averaging provision of Rule 1113.

Response: *The averaging provision in Rule 1113 allows a manufacturer to average designated coatings, over a compliance period not to exceed one year, such that their actual cumulative emissions from the averaged coatings are less than or equal to the cumulative emissions that would have been allowed under the applicable limits specified in the Table of Standards. Therefore, staff is proposing to amend the rule to allow metallic pigmented coatings to be in the averaging provision of the rule.*

Staff received the following comments after Proposed Amended Rule 1113 was noticed for public hearing.

Comment: The special one-year sell-through provision for clear wood finishes in small containers that exceed the current limit of 350 g/l that would be applicable for the three-year sell-through when the new limit goes into effect July 1, 2006, requires that the coatings be manufactured and distributed prior to the July 1, 2006 date. The manufacturer has control over the manufacture date but may have no control over the distribution chain. In addition, the provision includes maintenance of sale and distribution records including manufacture batch codes that manufacturers may not have.

Response: *Staff has amended the proposal to change the applicability for these coatings from manufacture and distribution prior to the expiration of the exemption to simply manufacture prior to the date of expiration of the exemption. In addition, the recordkeeping and reporting requirements have been amended to require the same reporting requirements for the one year sell-through that has been required of manufacturers to maintain their small container exemption. Staff has determined this amendment, proposed after the hearing was set, does not significantly change the meaning of the proposed amended rule and would not constitute significant new information pursuant to CEQA guidelines.*

Comment: Staff is proposing to separate the nonflat high gloss coatings as a subcategory of the nonflats and zinc-rich primers are a subcategory of industrial maintenances coatings, can the subcategories be averaged?

Response: *Rule 1113 specifies the coating categories that manufacturers can select for their averaging compliance plan and, as currently written, nonflat and industrial maintenance coatings may be averaged including the subcategories of high gloss nonflats and zinc-rich industrial maintenance primers. However, for clarification staff has added specific language including the nonflat high gloss and zinc-rich primer subcategories into the averaging list. Staff has determined this amendment, proposed after the hearing was set, only clarifies the proposal and does not significantly change the meaning of the proposed amended rule and would not constitute significant new information pursuant to CEQA guidelines.*

Comment: In amending the definition of shellacs to allow these coatings to be used for wood finishing, the staff proposal would allow

Response:

CONCLUSION AND RECOMMENDATION

After working with architectural coating manufacturers, resin manufacturers, the NPCA, and other interested parties to resolve their concerns, staff agrees that the revisions are necessary and recommend adoption of the proposed amendments to Rule 1113.

REFERENCES

2001 Architectural Coatings Survey, Final Report, CARB, October, 2003.

Technical data sheets and material safety data sheets provided by Architectural Coating Manufacturers.

Annual Status Reports on Rule 1113 – Architectural Coatings. AQMD, December 2003 and January 2006.

Architectural & Industrial Maintenance Coatings Technology Assessment #P2004-24, University of Missouri-Rolla (UMR), 2005.

Final report for AQMD project, "Environmental Chamber Studies of VOC Species in Architectural Coatings and Mobile Source Emissions," dated July 5, 2005.

A P P E N D I X A

LIST OF AVAILABLE PRODUCTS

APPENDIX A — CONCRETE-CURING COMPOUNDS

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time to recoat	Cost $/gal
Products with a VOC content between the current and proposed limits (350-101 g/l)								
Conspec D.O.T. Resin Cure	E	262	N/A	200	Designed for use on exterior commercial projects, such as highways, residential paving, airport runways, dams, parking lots.	Water emulsified, resin based liquid membrane forming curing compound for freshly poured concrete, ready to use, easy to spray.		
Conspec D.O.T. Resin Cure White	E	262	N/A	200	Designed for use on exterior commercial projects, such as highways, residential paving, airport runways, dams, parking lots.	Water emulsified, resin based liquid membrane forming curing compound for freshly poured concrete, ready to use, easy to spray. Ready to use, white when applied.		
Conspec W.B. Resin Cure 0-348-7351	I/E	270	N/A	200	Suitable where solvent based curing compounds are not desirable or allowable. May be applied on interior, exterior, horizontal, vertical, fresh or aged surfaces.	Water emulsified, all resin based liquid membrane forming curing comound for freshly poured concrete. Ready to use, white when applied.		
Degussa Kure 1315 transparent, water-based acrylic curing, sealing, and dustproofing compound	I/E	139	N/A	200-400	Freshly placed and finished concrete, aged concrete floors, terrazzo, brick.	Transparent water-based blend of acrylic polymers used to cure, seal and dustproof, abrasion resistant.	3 hr touch 1 yr shelf	$10
Degussa Kure-N-Seal waterborne transparent acrylic curing, sealing, and dustproofing compound	I/E	311	N/A	200-400	Use on freshly placed and finished concrete, aged concrete and masonry, brick floors, terrazzo.	Transparent, sprayable, acrylic-based polymer solution that cures, seals and dustproofs freshly placed or aged concrete in a single operation.	4 hr touch 1 yr shelf	$7
Degussa Kure-N-Seal W transparent acrylic water-based curing, sealing, and dustproofing compound	I/E	146	N/A	200-400	Freshly placed and finished concrete, aged concrete.	Transparent, acrylic-based polymer solution that cures, seals and dustproofs. Use it on both freshly placed and finished concrete and aged concrete floors.	4 hr touch 1 yr shelf	$9
Degussa Kure-N-Seal WB acrylic, and transparent curing, sealing, and dustproofing compound	I/E	311	16	200-600	Freshly placed and finished concrete; aged concrete floors, brick floor; terrazzo	Efficiency retains moisture for freshly placed concrete; ensures proper strength development; minimizes shrinkage cracking; makes surfaces easier to clean and maintain; provides extended wear; withstands pedestrian traffic; can be tiled or carpeted over; helps ensure even coverage; meets EPA regulations and is environmentally responsible.	4 hr recoat 7 day cure 1 yr shelf	$5
Fox Industries Engineered Products FX-14 WB Concrete Curing Compound	E	230	N/A	200	Water based emulsion that forms a moisture retentive membrane on freshly placed concrete.	Available in clear or white pigmented version and is ready to use. Water based, voc compliant, non-combustible, controls water loss, prevents micro-cracking, easy cleanup.	3 hr recoat	$8
L&M Construction Chemicals, Inc. L&M Cure R, Cure R-2 Aqueous Silicate Solution	E	325	N/A	200-400	Recommended for exterior pavements.	Water-based, dissipating resin curing compound, fast drying, ready-to-use.	2 hr touch	
Nox-Crete Cure & Seal 100-300 E	E	125	N/A	200-400	Applied to freshly placed and finished concrete surfaces.	Economical, water based acrylic copolymer resin type curing and sealing compound	30-60 min tack-free 1-2 hr recoat 1 yr shelf	

APPENDIX A CONCRETE-CURING COMPOUNDS

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Nox-Crete Cure & Seal 1200 E	E	350	N/A	100	Applied to freshly placed and finished concrete surfaces.	Results in a transparent, architectural grade, water based, methyl methacrylate acrylic concrete curing and sealing compound, high gloss coating with good oxidation resistance, minimizes concrete crazing and cracking.	1-2 hr tack-free 1 yr shelf	
Scofield Cureseal-W Gloss	I/E	250	N/A	300	Designed for curing and sealing colored or uncolored concrete and finishing new or existing, interior or exterior concrete flatwork.	Clear curing compound and sealer for freshly placed colored or uncolored concrete flatwork and a durable finish for protecting colored, uncolored, or multicolored concrete hardscapes and floors.	1 yr shelf	$26
Scofield Cureseal-W Semi Gloss	I/E	250	N/A	300	Designed for curing and sealing colored or uncolored concrete and finishing new or existing, interior or exterior concrete flatwork.	Environmentally compatible, clear curing compound and sealer.	1 yr shelf	$25
Sei Chemical Products GCC-31S Water-Based Cure	I/E	350	N/A	200	Used on both interior and exterior, vertical and horizontal concrete surfaces.	Water-base concrete curing compound is formulated from hydrocarbon resins, produces an impermeable film which optimizes water retention, ready-to-use, minimizes thermal cracking, dusting and other defects.	1.5 hr touch	
Sei Chemical Products GCC-2250 Bridge Deck Cure	E	350	N/A	200	Fresh concrete, clean and free of foreign matter, moist but free of standing water.	Ready-to-use concrete curing compounds are high solids, white pigmented, polyalphamethylstryene-based, provides a tough, smooth, uniform film with excellent adhesion to the fresh concrete surface.	4 hr touch	
Vexcon Chemicals, Inc. Certi-Vex Envio Cure 100-500-1000	I/E	278	N/A	200	Ideal for use on all interior and exterior concrete where an economical non-permanent cure, meeting ASTM C-309 Type 1 or 1D, Class A&B and AASHTO M-148 is needed.	Provides for complete development of concretes wear resistance and strength properties, low moisture transmission rates, quick drying, prevents efflorescence, dusting and spalling.	25 min touch 70 min tack-free	$6
Vexcon Chemicals, Inc. Certi-Vex Envio Cure Asphalt	E	240	N/A	200-300	Ideal for use on fresh concrete that will be subsequently coated with bituminous mastic compounds, as well as to seal patching work on asphalt and to rejuvenate and seal existing asphalt.	When used as a concrete cure, provides for complete development of concrete's wear resistance and strength properties, low moisture rate, quick drying, also used as a sealer.		$9
Vexcon Chemicals, Inc. Certi-Vex Envio Cure Clear-1315 VOC	E	285	N/A	100-200	Ideal for use where top performance on concrete is desired.	Premium curing compound, based on Polyalpha Methylstyrene technology designed to meet the toughest performance and testing requirements. The product is non-settling, easy to use, quick drying and resists moisture.	1 yr shelf	$13
Vexcon Chemicals, Inc. Certi-Vex Envio Cure White 100-500-1000	E	278	N/A	200	The product is ideal for use on projects where a wax based product would be used only for cost reasons.	Provides for complete development of concretes wear resistance and strength properties, low moisture transmission rates, quick drying, prevents efflorescence, dusting and spalling.	1 yr shelf	$6

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Vexcon Chemicals, Inc. Certi-Vex Envio Cure White 1315 VOC	E	278	N/A	100-200	Designed to meet the toughest performance and testing requirements. Ideal for use where top performance on is needed.	Premium white pigmented curing compound, based on Polyalpha Methylstyrene technology, non-settling, easy to use, quick drying, resists moisture loss.	1 yr shelf	$13
Vexcon Chemicals, Inc. Certi-Vex Envio RC 1000	I/E	334	46	350	Ideal for use on all interior and exterior concrete where an economical non-permanent cure, meeting ASTM C-309 Type 1 or 1D, Class A&B and AASHTO M-148 and CRD-C 300.	Solvent base voc resin-base dissipating cure, cold weather curing compound, quick drying, prevents efflorescence, dusting and spalling.	30 min touch	$10

N/A= Not Available

Products with VOC content equal to or less than the proposed limit (100g/l)								
ChemMasters, EZ Strip Cure	I/E	0	N/A	200	Horizontal or vertical concrete structures	Film forming, easily removed. Meets ASTM C309, Type 1, Class A	N/A	$4
ChemMasters, Polyseal WB Acrylic	I/E	82	25	300-600	Formed concrete walls, in-place concrete, colored concrete, protects concrete surfaces against deicing chemicals, fertilizers, salts, grease, oil, alkalis, mild acids and detergents.	Film forming, easily removed. Meets ASTM C309, Type 1, Class A	2 hr hard film 8 hr light traffic 7 day cure	$10
ChemMasters, Safe-Cure & Seal EPX, Clear or pigmented WB Epoxy, 2	I/E	5 to 24	31 to 45	200	Horizontal or vertical concrete structures	Cures, seals and primes, does not need to be removed, excellent resistance to chloride ion penetration, moisture vapor transmission, improvement in wear and chemical resistance over acrylics, exceptional tensile and shear bond strengths for improved durability. Meets ASTM C309, Type I or II, Class A or B	6-8 hr dry 30 min pot life 24-72 hr recoat	$5
ChemMasters, Safe-Cure 1000, Wax Emulsion, WB White Pigmented	E	30	23	200	Any concrete including pavement, curbing, sidewalks, driveways, parking lots, medium barriers, and mat foundations.	DOT approved, excellent moisture retention, superior spraying characteristics. Meets ASTM C309, Type II, Class A. Reflects heat.	< 4hr dry	$7
ChemMasters, Safe-Cure AS, Clear or white, WB Blend of Boiled Linseed Oil and Proprietary Components	E	5	N/A	200	Concrete pavement, bridge decks, parking structures	Excellent curing characteristics, low viscosity. Meets ASTM C309, Type II, Class B.	4 hr dry	$5
Conspec City White Cure	E	19	2	200-300	Specially designed for use on exterior commercial projects, such as highways, residential paving, airport runways, concrete lined canals, dams, parking lots, engineering projects and as specified.	White pigmented water-based wax concrete curing compound formulated to retain moisture in freshly poured concrete, selected white pigments reflect the heat of the sun, keeping the concrete surface cooler, reduces shrinkage. Meets ASTM C309, Type II, Class A.		
Conspec Conspec #21	E	0	10	200-500	Formulated for curing and dustproofing freshly cast concrete. Recommended for use on exterior concrete surfaces where the natural appearance of the concrete is to be preserved and weather resistance improved.	A multi-use penetrating concrete curing compound, enhances the abrasion, impact and chemical resistance of concrete, water-soluble, odorless, non-flammable, contains silicates.		

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time to recoat	Cost $/gal
Conspec D.O.T. Cure W.W.	E	54	N/A	200-300	Specially designed for use on exterior commercial projects, such as highways, residential paving, airport runways, concrete lined canals, dams, parking lots, engineering projects and as specified.	Reduces shrinkage, retains moisture to reduce "plastic shrinkage cracks", accelerates strength gain, strength of concrete continues to increase as long as moisture is present for hydration of cement, improves durability.		
Conspec F.A.A. Cure W.W.	E	42	4	200-300	Specially designed for use on exterior commercial projects, such as highways, residential paving, airport runways, concrete lined canals, dams, parking lots, engineering projects and as specified.	Reduces shrinkage, retains moisture to reduce "plastic shrinkage cracks", accelerates strength gain, strength of concrete continues to increase as long as moisture is present for hydration of cement, improves durability. Meets ASTM C309, Type II, Class A.		
Dayton Superior Crete-Cure Concentrate (J-12)	I/E	0	38	200-600	Concentrated material for simultaneous curing, hardening and dustproofing of interior and exterior, horizontal and vertical surfaces of both freshly finished and older concrete floors and walls.	Provides a chemical hardened surface with increased resistance to water, chemically hardened surface with increased resistance to water, chemical and oil absorption, concentrate solution of sodium orthosilicate with dye.	1 yr shelf	$10
Degussa Kure-N-Harden Hardening, sealing, and dustproofing compound	I/E	0	N/A	150-200	Applications include concrete floors and pavements, curing of fresh concrete, renovation of aged concrete, industrial, processing, and brewing plants, educational, medical, and nursing facilities, utility, public and multi-residential buildings.	Protects floors during construction, easy application, quick drying, water-based, aid for curing new concrete, concrete hardener, improved abrasion resistance, silicate based	30-60 min touch 1 yr shelf	$8
Degussa Masterkure 200W High-solids, high-efficiency, VOC free curing compound for concrete	I/E	0	N/A	300-400	Applications include curing floor toppings and dry-shake hardeners, where curing compounds must later be removed, where solvent vapors must be avoided, where government regulations limit VOC discharge, where moisture-retention requirements are necessary.	Ensures high curing efficiency, provides increased wear resistance, non-yellowing, allows concrete to attain full strength potential, longer-lasting concrete floors and slabs, suitable for indoor or outdoor use. WB polymer and wax-emulsion. Meets moisture retention requirements of ASTM C309, Type 1.	1 yr shelf	$7
Degussa Sonosil Curing aid, hardening and dustproofing compound for concrete	I/E	0	N/A	300-500	Applications include floors, walls, decks, docks, ramps. Freshly placed concrete, newly cured bare concrete and aged concrete.	Residue free, available with fugitive red dye, soil and grease easily removed, water soluble, easy to apply, quick drying. Sodium silicate based	30-60 min touch 1 yr shelf	$5
Edoco 1125 Silicate Hardener & Sealer	E	0	10	200-500	Formulated for curing and dustproofing freshly cast concrete. Recommended for use on exterior concrete surfaces where the natural appearance of the concrete is to be preserved and weather resistance improved.	A multi-use concrete curing compound, enhances the abrasion, impact and chemical resistance of concrete, water-soluble, odorless, non-flammable.		$3
Edoco Burke City White	E	19	2	200-300	Specially designed for use on exterior commercial projects, such as highways, residential paving, airport runways, concrete lined canals, dams, parking lots, engineering projects and as specified.	Reduces shrinkage, retains moisture to reduce "plastic shrinkage cracks", accelerates strength gain, strength of concrete continues to increase as long as moisture is present for hydration of cement, improves durability. Meets ASTM C309, Type II, Class A		$4

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time to recoat	Cost $/gal
Edoco Burke Wax Emulsion Clear	E	23	1	200-300	Specially designed for use on exterior commercial projects, such as highways, residential paving, airport runways, concrete lined canals, dams, parking lots, engineering projects and as specified.	Reduces shrinkage, retains moisture to reduce "plastic shrinkage cracks", accelerates strength gain, strength of concrete continues to increase as long as moisture is present for hydration of cement, improves durability. Meets ASTM C309, Type 1, Class A		$4
Edoco Burke Wax Emulsion White	E	42	4	200-300	Specially designed for use on exterior commercial projects, such as highways, residential paving, airport runways, concrete lined canals, dams, parking lots, engineering projects and as specified.	Reduces shrinkage, retains moisture to reduce "plastic shrinkage cracks", accelerates strength gain, strength of concrete continues to increase as long as moisture is present for hydration of cement, improves durability. Meets ASTM C309, Type II, Class A		$3
Euclid Chemical Company, The Kurez Vox White Pigmented VOC Compliant, Solvent Free Curing Compound	E	0	N/A	200-300	Primary applications include exterior paving, walls, columns, jersey barriers, residential concrete, sidewalks, curbs, gutters, bridge decks, parapet walls, commercial concrete.	Forms an efficient moisture barrier for optimum curing of concrete, helps harden concrete through the promotion of proper cement hydration, suitable replacement for solvent based cures where fumes are objectionable. Meets ASTM C309, Type 2, Class A & B.	1 hr touch	$7
L&M Construction Chemicals, Inc. L&M Cure Aqueous Silicate Solution	E	0	N/A	200-300	Recommended for areas where non-residual performance is critical and later toppings and sealers are desirable and scheduled.	VOC compliant, ready-to-use, non residual concrete curing agent that penetrates surfaces to cure the concrete from within. Water-based, clear, odor free. Contains silicates.	4 hr touch	$25
L&M Construction Chemicals, Inc. L&M Cure W and L&M Cure W-2 WB Petroleum Wax - Emulsion Solution	E	95	N/A	200	Used only on surfaces in areas where subsequent coatings or toppings are not planned. State highways, DOT's, city and county roads, bridge decks, dams, and curb and gutter work.	VOC compliant, ready-to-use, membrane forming, emulsified wax concrete curing agent that cures the concrete by forming a barrier against moisture loss without staining concrete surfaces. Cure W meets ASTM C309, Type 1 and 1D, Class A and Cure W2 meets ASTM C309, Type 2, Class A.	4 hr touch	$4
Nox-Crete Bro-cure	E	0	N/A	350-450	Use on concrete surfaces that are to receive further treatment and where water curing, burlap or polyethylene are not viable alternatives.	Chemically reacts with new and old concrete to cure, harden and dustproof without changing the normal concrete surface texture. Silicate based.	1 yr shelf	
Symons City White	E	19	1	200	Should be applied to newly placed concrete as soon as the surface water has dissipated and the concrete has been finished. On Vertical concrete surfaces, should be applied immediately after formwork has been removed.	Water-based, white-pigmented curing compound for newly placed concrete surfaces, produces a membrane film that promotes thorough concrete hydration and strength development. Meets ASTM C309, Type 2, Class A.	2 hr touch 1 yr shelf	$3
Symons CRD White	E	42	5	200	Should be applied to newly placed concrete as soon as the surface water has dissipated and the concrete has been finished. On Vertical concrete surfaces, should be applied immediately after formwork has been removed.	Water-based, white-pigmented curing compound for newly placed concrete surfaces, produces a membrane film that promotes thorough concrete hydration and strength development. Meets ASTM C309, Type 2, Class A.	2 hr touch 1 yr shelf	$7

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Symons Spec-Cure C309	E	42	2	200	Should be applied to newly placed concrete as soon as the surface water has dissipated and the concrete has been finished. On Vertical concrete surfaces, should be applied immediately after formwork has been removed.	Clear, water-based curing compound for newly placed concrete surfaces, meets ASTM-C-309, formulation of paraffin/resin that produces a moisture resistant membrane film on concrete surfaces to assure hydration of the cement. Meets ASTM C309, Type 1 or 1D, Class A.	2 hr touch 1 yr shelf	$4
TK products (Sierra Corp), TK-L368 Clear Emulsion Linseed Oil	E	4	52	200	Fresh concrete surfaces	Protects coating, protects concrete from deicing chemical and freeze/thaw cycles. Meets ASTM C309, Type 1, Class A.	N/A	
W.R. Meadows 1100-Clear Series	I/E	90	15	200	Formulated from hydrocarbon resins and may be used on interior, exterior, vertical and horizontal concrete surfaces.	Resin-base, water-base, ready-to-use, improves resistance to abrasion and corrosive action of salts and chemicals, minimizes excessive shrinkage. Meets ASTM C309, Type 2, Class A & B.	1.5 hr touch	$7
W.R. Meadows 1600-White Series	E	80	25	200	Ideal for applicaton on exterior, horizontal surfaces such as highways, airports, street and curb paving.	Water-base white pigmented concrete curing compounds are wax-base dispersions, with selected white pigments. Meets ASTM C309, Type 2, Class A.	2 hr touch	$3
W.R. Meadows VOCOMP-20	I/E	66	9	300	For interior and exterior, vertical and horizontal concrete surfaces. Ideal for application on commercial and industrial floors, sidewalks, basement and garage floors, multi-level parking decks, patios, driveway and parking areas.	Ready-to-use, non-yellowing, water-base compound that cures and/or seals concrete in one quick and easy application, minimizes hair-checking, premature cracking, dusting and spalling, dries quickly on new concrete to a durable, clear sheen finish that protects and enhances the natural appearance of concrete. Meets ASTM C309, Type 1, Class B.	N/A	$3

N/A= Not Available

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Products with a VOC content between the current and proposed limits (400-101 g/l)								
Highland International Engineered Paint, 45C Series High Performance Dry-Fall Exterior Universal Primer	E	400	42	672	45C combination of rust inhibitors makes it a good choice for painting large plants, trailers, equipment, and vehicles.	High performance exterior universal primer, fast drying.	5 min touch 10 min tack free 1 yr shelf	$24
Highland International Engineered Paint, 475C Series High Performance Exterior Dry-Fall 2K Epoxy Primer	E	400	50	800	May be applied over tightly bonded rust or mill scale and offers outstanding chemical, water, weathering, and corrosion protection.	High performance exterior epoxy primer, two component, surface tolerant, fast drying.	30 min tack free 2-3 hr dry 5-7 day cure 1 yr shelf	$30
Highland International Engineered Paint, 485C Series High Performance Exterior Dry-Fall 2K Epoxy Primer	E	400	50	784	May be applied over tightly bonded rust or mill scale and offers outstanding chemical, water, weathering, and corrosion protection.	High performance exterior epoxy "Direct-to-Metal" surface tolerant, high solids, two component, drying.	30 min recoat 30 min tack free 5-7 day cure 1 yr shelf	$34
Highland International Engineered Paint, 65C Series High Performance Exterior Dry-Fall Modified Acrylic Topcoat	E	400	42	672	65C has outstanding gloss and weathering properties making it an excellent choice for painting large plants, trailers, equipment, and vehicles.	High performance exterior modified acrylic topcoat, fast drying.	15 min tack free 20 min recoat 1 yr shelf	$26
Highland International Engineered Paint, 68 Series High Performance Exterior Dry-Fall 2-K Aliphatic Acrylic Urethane	E	400	54	864	Overspray is designed to dry to powder 10-20 feet from the point of application allowing painting operations to continue without the worry of overspray damage to nearby vehicles or equipment.	High performance two-component aliphatic acrylic urethane topcoat, ultimate gloss retention, durability and corrosion protection.	1 hr tack free 6-8 hr dry 5-7 day cure 1 yr shelf	$43
Sherwin Williams, Industrial & Marine Coatings 3.02 Waterborne Acrylic Dry Fall Dryfall flat brilliant white/black B48W60 and B48BW1	I	380	40	128-214	Designed for use on ceilings and overhead surfaces of commercial and institutional buildings, textile mills, warehouses, production facilities, gymnasiums, or wherever a maximum light reflection finish is required	Increase lighting efficiency, promotes safety and improved production output through better lighting, less eye strain and higher light reflectance; humidity resistance, fume discoloration resistance and long-term durability all serve to reduce maintenance costs	10 min touch 4 hr recoat 1 yr shelf	$12

N/A= Not Available

Products with a VOC content equal to or less than the proposed limit (100 g/L)								
Benjamin Moore, M53 Sweep-Up Spray Latex Flat	I	37	40	320	Recommended for interior ceilings or walls, where high hiding, less expensive	Overspray settles as dry powder, minimal surface prep, superior hiding, one coat application, low VOC, retains whiteness, low odor.	30 min touch 1 hr recoat	$19
Benjamin Moore, M53S Sweep-Up Spray Latex Semi-Gloss	I	40	35	280	Recommended for industrial ceilings or walls, areas where wet overspray could not be tolerated, may be used on galvanized metal.	Overspray settles as dry powder, minimal surface prep, superior hiding, one coat application, low VOC, retains whiteness, low odor.	30 min touch 1 hr recoat	$19

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Benjamin Moore, M53-80 Sweep-Up Spray Latex Flat Black	I	23	42	340	Recommended for industrial ceilings or walls, areas where wet overspray could not be tolerated.	Overspray settles as dry powder, minimal surface prep, superior hiding, one coat application, low VOC, retains whiteness, low odor.	30 min touch 1 hr recoat	$15
Cloverdale Paint, 05135 Latex Dryfall Semi Gloss	I	80	40	215-320	Intended for wood ceilings, Q-decks, primed metal joists or other new construction work where a very fast drying, high hiding coating is required.	Water-based pure acrylic latex for use on ceilings of commercial or industrial buildings. Has excellent light reflectance, contains a flash rust inhibitor and adheres well to most surfaces.	15 min tack free 2 hr recoat	
Cloverdale Paint, 05153 Latex Dryfall Eggshell	I	80	40	215-320	Intended for wood ceilings, Q-decks, primed metal joists or other new construction work where a very fast drying, high hiding coating is required. Used in commercial and industrial buildings	Water-based eggshell is a pure acrylic latex. Excellent light reflectance and adheres very well to most surfaces.	15 min tack free 2 hr recoat	
Columbia Paint & Coatings, 02-700 Latex Flat Dry Fall	I/E	46	35	225-275	Suggested for use on interior and exterior surfaces including ceilings, walls, and properly prepared galvanized and structural steel surfaces in industrial, commercial and institutional buildings and warehouses.	Low odor, flash rust resistant and water-based for easy cleanup, dries to a high-reflective flat finish.	15-20 min touch 2 hr recoat	$10
Columbia Paint & Coatings, 02-702 Latex Semi-Gloss Dry Fall	I	23	38	250	Suggested for use on interior surfaces including ceilings, walls, and properly prepared galvanized and structural steel surfaces in industrial, commercial and institutional buildings and warehouses.	Very low odor, flash rust resistant and water-based for easy cleanup. Dries to a high-reflective semi-gloss finish.	20-30 min touch 2 hr recoat	$12
Columbia Paint & Coatings, 02-705 Latex Eggshell Dry Fall	I	17	38	250	Suggested for use on interior surfaces including ceilings, walls, and properly prepared galvanized and structural steel surfaces in industrial, commercial and institutional buildings and warehouses.	Very low odor, flash rust resistant and water-based for easy cleanup. Dries to a high-reflective eggshell finish.	20-30 min touch 2 hr recoat	$11
Diamond Vogel Paints, MV-Cote 300 Latex Flat Dri-Mist MV-Series	I	19	30	488	Formulated for use on primed interior structural steel ceilings in commercial or industrial maintenance environments.	Fast dry, flat white latex designed for use on interior surfaces where the overspray or fall out must be dry before it reaches the floor	2 hr touch 1 hr recoat	$10
Diamond Vogel Paints, V-Cote 303 Latex Dry-Mist Semi-Gloss MV-1520	I	1	34	545	Formulated for use on primed interior structural steel ceilings in commercial or industrial maintenance environments.	A fast dry, semi-gloss white latex designed for use on interior surfaces where the overspray, or fall out, must be dry before it reaches the floor.	2 hr touch 1 hr recoat	$13

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Dunn Edwards Paints, W6078 Aquafall Latex Dry Fall Low Sheen	I	50	36	250-300	Designed for interior ceilings and overhead surfaces. Ideal for commercial warehouses, factories, retail outlets, hangars, parking structures, and other facilities where overspray cannot be tolerated.	Low sheen is a quality fast drying, waterborne dry fall coating, exhibits very good adhesion.	15 min touch 2 hr recoat	$27
Dunn Edwards Paints, W6079 Aquafall Latex Dry Fall Flat	I	30	43	275-325	Designed for interior ceilings and overhead surfaces. Ideal for commercial warehouses, factories, retail outlets, hangars, parking structures, and other facilities where overspray cannot be tolerated.	Fast drying waterborne coating, good adhesion.	15 min touch 2 hr recoat	$23
Dunn Edwards Paints, W6270 Aquafall Latex Dry Fall Eggshell	I	50	36±2	225-275	Designed for interior ceilings and overhead surfaces. Ideal for commercial warehouses, factories, retail outlets, hangars, parking structures, and other facilities where overspray cannot be tolerated.	Quality, fast drying, waterborne dry fall, good adhesion.	15 min touch 2 hr recoat	$27
Duron, Inc. Interior Acrylic Latex Dry Fog 904-0005 Flat Finish White	I	10	38	300	Designed for professional airless spray application only to interior ceilings.	Quick drying, easy cleanup, low VOC, rust resistant.	30 min touch 4 hour recoat	$17
Duron, Inc. Interior Acrylic Latex Dry Fog 95-111 Flat Finish Black	I	41	30	300	Designed for professional airless spray application only to interior ceilings.	Quick drying, easy cleanup, low VOC, rust resistant.	30 min touch 4 hour recoat	$17
Duron, Inc. Interior Acrylic Latex Dry Fog 904-0000 Eggshell finish White	I	27	26	300	Designed for professional airless spray application only to interior ceilings.	Quick drying, easy cleanup, low VOC, rust resistant.	30 min touch 4 hour recoat	$20
Frazee Paint, 504 Latex Dry Fall: Interior Flat	I	49	38	100-200	Primarily used for interior ceilings, beams and joists.	Interior latex dryfall flat, high hide, light-reflective, minimal overspray.	15 min touch 2 hr recoat 7 day cure	$29
Frazee Paint, 523 Latex Dry Fall Eggshell White	I	93	33	100-200	Primarily used for interior ceilings, beams and joists.	Interior high-hiding, light reflective eggshell finish, formulated to minimize overspray.	15 min touch 2 hr recoat 7 day cure	$20
ICI Paints, 1280-1200 Spraymaster Pro Uni-Grip-WB Aquacrylic Dryfall Flat Primer & Finish	I/E	27	36	288-385	Used for interior ceilings and overhead surfaces such as those in offices, warehouses, stores, hotels, textile mills and industrial plants. May also be used in exterior overhead areas not subject to direct weathering such as covered parking garages.	Premium quality, waterborne acrylic flat dry fog interior coating, very low odor, noncombustible, excellent adhesion and resistance to flash rusting,.	15 min touch 2 hr recoat	$22

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time to recoat	Cost $/ gal.
ICI Paints, 1482-1200 Spraymaster Pro Uni-Grip-WB Aquacrylic Dryfall Eggshell Primer & Finish	I/E	26	34	272-361	Used for interior ceilings and overhead surfaces such as those in offices, warehouses, stores, hotels, textile mills and industrial plants. May also be used in exterior overhead areas not subject to direct weathering such as covered parking garages.	Premium quality, waterborne acrylic eggshell interior coating, very low odor, noncombustible, excellent adhesion and resistance to flash rusting.	15 min touch 2 hr recoat	$23
ICI Paints, 1486-1200 Spraymaster Pro Uni-Grip-WB Aquacrylic Dryfall Semi-Gloss Primer & Finish	I/E	39	40	350-450	Used for interior ceilings and overhead surfaces such as those in offices, warehouses, stores, hotels, textile mills and industrial plants. May also be used in exterior overhead areas not subject to direct weathering such as covered parking garages.	Premium quality, waterborne acrylic semi-gloss coating, low odor, noncombustible, excellent adhesion and resistance to flash rusting.	15 min touch 2 hr recoat	$28
ICI Paints (Devoe Paint), DP31801 White, DP31803 Black Multiplex - WB Waterborne Acrylic Flat Dry Fog Primer and Finish	I/E	63	35	288-385	Can be applied to most types of interior ceilings and overhead roof decking, joists, beams and ducts, including preprimed or primed steel, galvanized steel, nonferrous metals and concrete. Can also be used in exterior overhead areas not subject to direct weathering.	Waterborne acrylic dry fog coating with very low odor and a noncombustible flash point rating. Features good adhesion and resistance to flash rusting, fast dry, easy cleanup, good moisture resistance.	15 min touch 2 hr recoat 1 yr shelf	$24
ICI Paints (Devoe Paint), DP31823 Multiplex - WB Waterborne Acrylic Eggshell Dry Fog Primer and Finish	I/E	94	33	283-377	Can be applied to most types of interior ceilings and overhead roof decking, joists, beams and ducts, including preprimed or primed steel, galvanized steel, nonferrous metals and concrete. Can also be used in exterior overhead areas not subject to direct	Waterborne acrylic eggshell dry fog coating with low odor and a noncombustible flash point rating. Features good adhesion and resistance to flash rusting, fast dry, easy cleanup, good moisture resistance.	15 min touch 2 hr recoat 1 yr shelf	$26
Kelly-Moore Paints 480 Dry Fog II Flat Latex Maintenance Finish	I	‹50	31	150-250	Designed to dry fog within 18 feet for easy application and cleanup. God for tall, hard to reach ceiling, walls, framing and their various substrates. Good for commercial and industrial application.	Professional quality, interior, flat latex maintenance finish. Multiple substrate usage, good adhesion, low odor and voc, water cleanup.	1 hr touch 4 hr recoat	$23
Kelly-Moore Paints, 481 Dry Fog II Satin Latex Maintenance Finish	I	‹10	30	200-250	Designed to dry fog within 18 feet for easy application and cleanup. God for tall, hard to reach ceiling, walls, framing and their various substrates. Good for commercial and industrial application.	Professional quality, interior, satin latex maintenance finish. Multiple substrate usage, good adhesion, low odor and voc, water cleanup.	1 hr touch 4 hr recoat	$28
MAB Paints, 013-171 Master Painters Dry Fall Latex Flat	I	15	36	580	Designed for commercial and industrial ceilings.	Water based, low odor, flash rust resistant, excellent hiding, voc compliant for commercial and industrial ceilings. Overspray is dry before it settles on floors, machinery or equipment.	30 min touch 2-4 hr recoat	$16

DRY-FOG COATINGS

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time to recoat	Cost $/ gal.
MAB Paints, 017-171 Master Painters Dry Fall Latex Semi-Gloss	I	70	35	560	Designed for commercial and industrial ceilings.	Water based, low odor, flash rust resistant, excellent hiding, voc compliant for commercial and industrial ceilings. Overspray is dry before it settles on floors, machinery or equipment.	30 min touch 2-4 hr recoat	$19
McCormick Paints, 01219 Interior Waterborne Acrylic Dry Fall	I	100	36	400	For use on interior ceilings, walls and structural steel in warehouses, industrial, commercial and institutional buildings.	Water based coating designed for spray application. Reduces cleanup costs, requires minimal surface preparation, high light reflectance and low odor.	30 min touch 2 hr recoat	$20
Parker Paint, Dri Fog 2150 Acrylic Flat	I	49	35	150	Typically used for interior ceilings, upper walls and structural members..	Quick drying, high hiding coating with dry dust over spray properties, which reduces preparation and cleanup labor and material costs.	15-30 min tack free 2 hr recoat	$17
PPG High Performance Coatings, 6-713, 6-715 Series Speedhide Interior Dry-Fog Spray Paint Flat Latex	I	19	33	200-250	Ideally suited for the refinishing of large industrial or commercial ceiling or wall areas by spray painting techniques. Recommended for ceilings, masonry, metal, walls and wood.	Vinyl acrylic latex, produces a minimum amount of overspray which may be wiped or swept away with a dry cloth or brush.	15 min touch 2 hr recoat	$13
PPG High Performance Coatings, 6-714 Speedhide Interior Dry-Fog Spray Paint Semi-Gloss Latex	I	8	38	200-250	Specially formulated material suitable for spray applications on interior surfaces. Ideally suited for the refinishing of large industrial or commercial ceiling or wall areas by spray painting techniques.	Dry fall overspray allows for minimal masking and preparation, non-yellowing water borne coating, rust inhibitive formula.	15 min touch 2 hr recoat	$16
PPG High Performance Coatings, 6-724 Speedhide Super Tech WB Acrylic Dry-Fog S-G Latex	I	24	34	200-250	Ideally suited for the refinishing of large industrial or commercial ceiling or wall areas by spray painting techniques.	Premium acrylic formula for minimal yellowing and long lasting finish, better adhesion to metal surfaces than conventional dry fall coatings, flash rush resistant.	15 min touch 2 hr recoat	$18
PPG High Performance Coatings, 6-725 Speedhide Interior Super Tech WB Acrylic Dry-Fog Latex	I	20	32	200-250	Ideally suited for the refinishing of large industrial or commercial ceiling or wall areas by spray painting techniques. Recommended for ceilings, masonry, metal, walls and wood.	Premium acrylic dry fog coating, produces a minimum amount of overspray which may be wiped or swept away with a dry cloth or brush.	15 min touch 2 hr recoat	$15
Rodda Paint, 32794 Waterborne Acrylic Dry Fog	I	81	37	320	For use on interior ceilings, walls and structural members in large commercial and institutional buildings. SPECIALTY ITEM	Flat acrylic coating formula for high production spray application, dries to dust before it reaches the floor for easy cleanup with brush or broom.	30-60 min touch 2-4 hr recoat	$22

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time to recoat	Cost $/ gal.
Sherwin Williams, Industrial & Marine Coatings 3.01 Waterborne Acrylic Dry Fall B42W1, B42T1, B42W2, B42BW3	I	‹100	41	135-225	For use over prepared interior ceilings, walls, and structural steel in environments such as warehouses, industrial, commercial and institutional buildings, textile mills, manufacturing facilities, gyms,	Water based, high light reflective that falls dry in ten feet. Fallout can be swept up for easy cleanup of work area. High hiding, low odor, flash rust resistance.	30 min touch 1 hr recoat 4 hr cure	$33
Sherwin William, Industrial & Marine Coatings 3.03 Spraylastic Exterior Semi-Gloss Waterborne DryFall B42W17, B42T17	E	‹100	43	175-343	Designed for exterior use where overspray dries to a removable dust within 10 feet. Substrates include industrial, commercial and institutional buildings.	Acrylic, direct-to-metal coating, high hiding, flash rust resistant, easy cleanup, durable, high light reflectance, ten foot dry fallout.	30 min touch 1 hr recoat 36 month shelf	$56

N/A= Not Available

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq or Lineal ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time	Cost $/gal
Products with a VOC content between the current and proposed limits (150-101 g/l)								
Columbia Paint & Coatings, 17-123 Instant Dry Acrylic Latex Traffic Paint	E	118	60-62	105-135	For use on fully cured traffic bearing surfaces, bituminous cement concrete, asphalt, tar and previous painted areas off those surfaces.	100% acrylic, lead-free formulation provides excellent adhesion and long term abrasion resistance.	30-90 sec. track-free 24 month shelf	$16
Columbia Paint & Coatings, 17-125 Fast Dry Acrylic Latex Traffic Paint	E	101	54-56	105-135	For use on fully cured traffic bearing surfaces, bituminous cement concrete, asphalt, tar and previous painted areas off those surfaces.	100% acrylic, lead-free formulation provides excellent adhesion and long term abrasion resistance.	15-20 min track-free 24 month shelf	$16
Frazee Paint, 506 Traffic Paint 100% Acrylic	E	110	36-54	200-300	For use on fully cured traffic bearing surfaces such as concrete and asphalt in parking lots, curbs, airfields, industrial plants and warehouses.	Excellent adhesion and weather resistance	1-2 hr to dry	$20
Vista Paint, 6700 On-Line Traffic Marking	E	124	36	315	For use on fully cured traffic bearing surfaces such as concrete, asphalt, and previously painted surfaces for traffic marking or instructional marking on roadways, crosswalks, sidewalks, curbs, and parking lots	Remains flexible over time, durable, easy to apply, has a special sheen to enhance durability, weather resistance and resistance to dirt pick up	75 min to dry	$12

N/A= Not Available

Products with a VOC content equal to or less than the proposed limit (100 g/L)								
Benjamin Moore & Co, M58 Safety & Zone Marking Latex	I/E	79	58	320-650	Coating designed for marking traffic lanes on parking lots, parking spaces, crosswalks. Recommended for asphalt or concrete surfaces, interior or exterior.	.	30 min touch	$24
BLP Mobile Paints, BLP Latex Street Marking Paint 258 Series Acrylic Emulsion	E	67	62± 1		For industrial, commercial and residential use to mark crosswalks, stop zones, parking lots, storage zones, traffic aisles or driveways. Recommended for use on concrete, asphalt, brick or stone, It may be used as a marking paint or as a binder for "drop on" type glass beads.	Premium quality, 100% acrylic latex zone marking paint, lead, mercury and chromate free, low voc, weather resistant, fast drying.	15 min 2 hr recoat	$19
Cloverdale Paint, 70254 Latex Zone Marking Paint	E	88	58	978.4	Designed for high build applications to horizontal surfaces. Intended for use on concrete or asphalt roads, walkways, parking lots and curbs.	Latex zone marking paint is fast drying, lead and chromate-free.	15 min touch	
Diamond Vogel, UC-Series Waterborne Traffic Marking Paint	E	79	41	661	Recommended for marking and striping driveways, parking lots, sidewalks, curbs or airport runways. May be applied to either concrete or asphalt surfaces.	Lead free, slow drying, high hiding, water reducible striping paint.	45 min tack free	$13
Dunn -Edwards Paints, W 801 Vin-L-Stripe Traffic Marking Paint	E	60	62±2	370	For use on asphalt and concrete roads, curbs, parking lots, driveways, air fields and helicopter landing pads.	Premium fast drying waterborne acrylic traffic marking paint, self-priming, fast dry, excellent adhesion and demonstrates exceptional resistance to weather, rubber tired vehicles and foot traffic.	10 min touch 1 hr recoat	$31

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq or Lineal ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time	Cost $/gal
Ennis Paint Inc., 985221 52DW-HD-M-1 & 985222 52DY-HD-M-1	E	100	78		For use on new concrete. All surfaces should be dry and free of any moisture.	Lead free, high build, durable, waterborne traffic paint.	30 min touch	$10
Hallman Lindsay Paints, 472 Aqua Zone Acrylic Traffic Paint	E	45.5	54±2	270	High hiding marking paint formulated for use on asphalt, concrete and brick roadway surfaces and features excellent abrasion resistance.	Premium quality, asphalt surface will not bleed through, excellent abrasion resistance, low VOC, non-flammable, easy cleanup, high-solids formula.	6-10 min touch	$6
Iowa Paint, 9058 Meta Cryl Acrylic Traffic Marking	E	78	60.32±1	483	For use wherever safety and traffic control guidelines are needed, such as street curbs, parking lots, tennis courts, etc.	Acrylic traffic marking, durable, fast drying, one coat coverage.	10 min touch 4 hr recoat	$18
Kelly-Moore Paints, 1450 Mark Right Latex Marking Paint	E	<35	53	150-200	For marking parking lots, lanes, curbs or areas on concrete or asphalt surfaces.	Durable, abrasion resistant, flat acrylic finish, fast dry, low odor and voc.	30 min touch 2 yr shelf	$36
Kwal Paint, 5160 White Latex Striping Paint	I/E	80	59	250	Use on concrete or asphalt surfaces.	Fast drying acrylic line striping paint, durable, and good resistance to bleeding on asphalt, water reducible and water cleanup, alkali resistant.	30 min dry	$18
Kwal Paint, 5165 Yellow Latex Striping Paint	I/E	84	55	250	Use on concrete or asphalt surfaces.	Fast drying acrylic line striping paint, excellent durability and good resistance to bleeding on asphalt surfaces, water reducible and water clean up, alkali resistant.	30 min dry	$18
MAB Paints, 072 Line Zone Marking Latex Traffic Paint	I/E	100	36±2	580	Intended for use on black top, asphalt, macadam and concrete surfaces and is highly resistant to asphalt bleeding.	Vinyl acetate/acrylic latex, quick drying, lead free, voc compliant.	30-45 min dry	$18
Parker Paint, 2690 Traffic Line Acrylic Zone Marking	E	85	48	300	Typical uses include airfields, roads, parking lots, curbs and other traffic bearing surfaces such as bituminous cement, concrete, asphalt and tar.	Acrylic zone marking, ready mixed, can be used alone or combined with reflective beads.	30 min tack free 2-6 hr recoat	$29
Pervo Paint Company, Pervostripe 6000 Series	E	100		100	Designed for use as traffic marking, and parking delineation over asphalt, Portland cement and concrete pavement.	High build, fast drying, durable, ready mixed, waterborne traffic coating, superior adhesion, will not crack, remains flexible over time.	20-90 sec tack free 30 min cure 3 mo shelf	$9
Pervo Paint Company, Pervoplastic 6050 Series	E	100		50	Ideal for use on roads and highways where safety and durability are important.	Fast dry, maximum durability, maximum film build and multilayer, superior adhesion, will not crack, remains flexible.	3 mo shelf	$9
Sampson Coatings, Latex Traffic Paint 22942 White, 22943 Yellow	E	54-73	34-41	541-656	Designed for painting traffic and safety zone lines in parking lots, crosswalks, highways and for industrial applications.	High quality, quick drying formulation that exhibits excellent coverage, long term color retention, superior leveling, excellent adhesion over asphalt, pavement, brick, concrete, wood, and metal surfaces.	30 min touch 1 hr recoat	$25
Sherwin Williams, 10.01 Setfast Acrylic Latex Traffic Marking Paint TM2160, TM2161	E	‹100	50	110	Intended for use in marking parking lots, airports, and roads.	Conventional dry water based paint, fast drying, high visibility, low voc.	60 min touch 12 mo shelf	

Coating Company and Product Name	Interior Exterior	VOC content (gm/l)	Solids (% by volume)	Coverage (sq or Lineal ft/gal)	Recommended Substrate/Exposure	Coating Characteristics	Dry time	Cost $/gal
Sherwin Williams, 10.02 Setfast Latex Traffic Marking Paint TM2132; TM2133	E	‹100	52	110	Intended for use in marking parking lots, airports, and roads.	Fast drying, high visibility, abrasion resistant, low voc, water cleanup.	45 min touch 36 mo shelf	$38
Sherwin Williams, 10.03 Setfast Acrylic Waterborne Traffic Marking Paint TM226, TM227	E	‹100	56	110	For use over emulsified coat tar type compounds, where conventional traffic paints may cause the surface to crack, bleed or lift. Ideal for regular application over cured asphalt and cement and other concrete surfaces.	Setfast acrylic waterborne, low voc, water cleanup, abrasion resistant, highly visible colors, ready to use, durable.	45 min touch 12 mo shelf	
Sherwin Williams, 10.05 Hotline Fast Dry Latex Traffic Marking Paint TM2152, TM2153	E	‹100	60	110	For use in parking lots, airports, and roads. Ideal for striping when very fast dry times are required.	Fast dry, low voc, less affected by relative humidity than most latex paints.	10 min touch 12 mo shelf	
Sherwin Williams, 10.11 Setfast Low VOC Acrylic Traffic Marking Paint TM562 6, TM5635, TM5627	E	‹100	47	110	Developed for use over concrete, asphalt, brick and other surfaced areas.	Setfast low voc acrylic traffic marking paint, conventional dry acetone based paint.	5 min touch 12 mo shelf	
Spectra-Tone Paint, Industron 100% Acrylic Traffic Line Paint T6	I/E	89	42	175	For to mark traffic lines or curbs on highways, parking lots or airport runways. Used on cement, brick, bituminous and stone highways.	100% acrylic traffic line paint and curb marking paint, excellent hiding, exhibits good hold out and a uniform finish, non fading, non chalking.	15-30 min touch	
Vista Paint, 6800 On-Line Semi-Gloss Traffic Marking Paint	E	45	36	200-250	Recommended for use on curbs and instructional markings requiring a semi gloss finish. For use on most new and previously painted concrete, asphalt, masonry, roadways, parking lots, primed metal pole traffic guards and more.	100% acrylic semi gloss curb an instructional enamel that offers the finest in traffic marking paint. Excellent adhesion and highly resistant.	30 min touch 2 hr recoat	$17
Vista Paint, 6900 On-Line Fast Dry Traffic Marking Paint	E	90	60	114	Designed for use as traffic marking, legend identification work, instructional markings on roadways, sidewalks, crosswalks, curbs, parking lots. Multi-surface product suitable for application on fully cured traffic-bearing surfaces such as Portland cement concrete, asphalt, and previously painted surfaces.	Fast dry 100% acrylic, lead-free, high grade premium waterborne traffic and line marking paint, optimal adhesion and durability, weather resistant.	20-90 sec tack free	$17

N/A= Not Available

A P P E N D I X B

EMISSIONS CALCULATIONS

Concrete Curing Compounds with a VOC Limit of 150 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA 2000 Adjusted Survey Data > 100 and < 270		CA Projected Data at Proposed VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	208,812	Projected Sales Volume in Gallons per Year	272,601	Tons per year	Tons per Day
SWA VOC Material (g/l)	61	VOC Material (g/l) *WB Data*	26		
SWA VOC Coating (g/l)	201	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.10	Calcd Volume Fraction VOC	0.03		
SWA Volume Fraction Water or Exempt Solvent	0.70	Calcd Volume Fraction Water or Exempt Solvent	0.82		
SWA Volume Fraction Solids	0.20	Calcd Volume Fraction Solids	0.15		
Emissions (Tons/Year)	52.82	Emissions (Tons/Year)	29.53	23.3	0.064

CA Adjusted 2000 CARB Survey Sales	208,812
CA Adjusted Emission Inventory in tpy	53
AQMD Adjusted Sales	93,965
AQMD Adjusted Emission Inventory	24
AQMD Projected Sales	122,670
AQMD Projected Emission Inventory	13.29
Average VOC Solvent Density (g/l)	880

AQMD Total Emission Reduction **10** **0.03**

Projected sales volumes are based on volume fraction solids

To adjust the sales volume and emissions for concrete-curing compounds for roadways, bridges and bridge decks, staff has removed the solvent based and waterbased products at 270 g/l and above from the state inventory.

This is the data used in the Draft Staff Report for emissions, cost-effectiveness and incremental cost-effectiveness calculations

Concrete Curing Compounds with a VOC Limit of 100 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA 2000 Adjusted Survey Data > 100 and < 270		CA Projected Data at Proposed VOC Limit of 100		Emission Reduction	
Volume Sold in Gallons per Year	248,468	Projected Sales Volume in Gallons per Year	226,862	Tons per year	Tons per Day
SWA VOC Material (g/l)	57	VOC Material (g/l) *WB Data*	27		
SWA VOC Coating (g/l)	192	VOC Regulatory Limit (g/l)	100		
SWA Volume Fraction VOC	0.08	Calcd Volume Fraction VOC	0.03		
SWA Volume Fraction Water or Exempt Solvent	0.71	Calcd Volume Fraction Water or Exempt Solvent	0.73		
SWA Volume Fraction Solids	0.21	Calcd Volume Fraction Solids	0.23		
Emissions (Tons/Year)	58.96	Emissions (Tons/Year)	25.52	33.4	0.092

CA Adjusted 2000 CARB Survey Sales	248,468
CA Adjusted Emission Inventory in tpy	59
AQMD Adjusted Sales	111,811
AQMD Adjusted Emission Inventory	27
AQMD Projected Sales	102,088
AQMD Projected Emission Inventory	11.48
Average VOC Solvent Density (g/l)	880

AQMD Total Emission Reduction **15** **0.04**

Projected sales volumes are based on volume fraction solids

To adjust the sales volume and emissions for concrete-curing compounds for roadways, bridges and bridge decks, staff has removed the solvent based and waterbased products at 270 g/l and above from the state inventory.

This is the data used in the Draft Staff Report for emissions, cost-effectiveness and incremental cost-effectiveness calculations

OPTIONAL CONTROL STRATEGY

Dry Fog Coatings with a VOC Limit of 250 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA 2000 CARB Survey Data > 250 and ≤ 400		CA Projected Data at Proposed VOC Limit of 250		Emission Reduction	
Volume Sold in Gallons per Year	69,470	Projected Sales Volume in Gallons per Year	67,807	Tons per year	Tons per Day
SWA VOC Material (g/l)	254	SWA VOC Material (g/l) *WB Data*	159		
SWA VOC Coating (g/l)	357	VOC Regulatory Limit (g/l)	250		
SWA Volume Fraction VOC	0.33	Calcd Volume Fraction VOC	0.18		
SWA Volume Fraction Water or Exempt Solvent	0.29	Calcd Volume Fraction Water or Exempt Solvent	0.43		
SWA Volume Fraction Solids	0.38	Calcd Volume Fraction Solids	0.39		
Emissions (Tons/Year)	73.52	Emissions (Tons/Year)	44.92	28.60	0.08
			AQMD Share	12.87	0.04

Solventborne

CA 2000 CARB Survey Data > 400		CA Adjusted Survey Data at AQMD VOC Limit of 400		Emission Reduction	
Volume Sold in Gallons per Year	2,847	Adjusted Sales Volume in Gallons per Year	2,556	Tons per year	Tons per Day
SWA VOC Material (g/l)	406	SWA VOC Material (g/l) *SB Data*	392		
SWA VOC Coating (g/l)	406	VOC Regulatory Limit (g/l)	400		
SWA Volume Fraction VOC	0.52	Calcd Volume Fraction VOC	0.45		
SWA Volume Fraction Water or Exempt Solvent	0.00	Calcd Volume Fraction Water or Exempt Solvent	0.02		
SWA Volume Fraction Solids	0.48	Calcd Volume Fraction Solids	0.53		
Emissions (Tons/Year)	4.81	Emissions (Tons/Year)	4.18		
		CA Projected Data at Proposed VOC Limit of 250			
CA Adjusted 2000 CARB Survey Sales	295,406	Projected Sales Volume in Gallons per Year	4,118		
CA Adjusted Emission Inventory in tpy	383	SWA VOC Material (g/l) *WB Data*	60		
AQMD Adjusted Sales	132,933	VOC Regulatory Limit (g/l)	150		
AQMD Adjusted Emission Inventory	172	Calcd Volume Fraction VOC	0.07		
AQMD Projected Sales	168,690	Calcd Volume Fraction Water or Exempt Solvent	0.60		
AQMD Projected Emission Inventory	55	Calcd Volume Fraction Solids	0.33		
		Emissions (Tons/Year)	1.03	3.15	0.009
CA 2000 CARB Survey Data > 100 and ≤ 400		**CA Projected Data at Proposed VOC Limit of 250**			
Volume Sold in Gallons per Year	223,380	Projected Sales Volume in Gallons per Year	302,940		
SWA VOC Material (g/l)	328	SWA VOC Material (g/l) *WB Data*	60		
SWA VOC Coating (g/l)	371	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.43	Calcd Volume Fraction VOC	0.07		
SWA Volume Fraction Water or Exempt Solvent	0.12	Calcd Volume Fraction Water or Exempt Solvent	0.60		
SWA Volume Fraction Solids	0.45	Calcd Volume Fraction Solids	0.33		
Emissions (Tons/Year)	305.16	Emissions (Tons/Year)	75.74	229.43	0.63
			AQMD Share	104.66	0.29

Average VOC Solvent Density (gm/l) 880

Sales adjusted if coating VOC above current AQMD limit

AQMD Total Emission Reduction **118** **0.32**

Projected sales volumes are based on volume fraction solids

There are no WB dry fog coatings above 400 g/l listed in the 2001 Survey

This is the data used in the Draft Staff Report for emissions, cost-effectiveness and incremental cost-effectiveness calculations

Dry Fog Coatings with a VOC Limit of 150 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA 2000 CARB Survey Data > 100 and ≤ 400		CA Projected Data at Proposed VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	79,241	Projected Sales Volume in Gallons per Year	90,747	Tons per year	Tons per Day
SWA VOC Material (g/l)	228	SWA VOC Material (g/l) *WB Data*	60		
SWA VOC Coating (g/l)	334	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.28	Calcd Volume Fraction VOC	0.07		
SWA Volume Fraction Water or Exempt Solvent	0.34	Calcd Volume Fraction Water or Exempt Solvent	0.60		
SWA Volume Fraction Solids	0.38	Calcd Volume Fraction Solids	0.33		
Emissions (Tons/Year)	75.78	Emissions (Tons/Year)	22.69	53.09	0.15
			AQMD Share	23.89	0.07

Solventborne

CA 2000 CARB Survey Data > 400		CA Adjusted Survey Data at AQMD VOC Limit of 400		Emission Reduction	
Volume Sold in Gallons per Year	2,847	Adjusted Sales Volume in Gallons per Year	2,556	Tons per year	Tons per Day
SWA VOC Material (g/l)	406	SWA VOC Material (g/l) *SB Data*	392		
SWA VOC Coating (g/l)	406	VOC Regulatory Limit (g/l)	400		
SWA Volume Fraction VOC	0.52	Calcd Volume Fraction VOC	0.45		
SWA Volume Fraction Water or Exempt Solvent	0.00	Calcd Volume Fraction Water or Exempt Solvent	0.02		
SWA Volume Fraction Solids	0.48	Calcd Volume Fraction Solids	0.53		
Emissions (Tons/Year)	4.81	Emissions (Tons/Year)	4.18		
		CA Projected Data at Proposed VOC Limit of 150			
CA Adjusted 2000 CARB Survey Sales	305,177	Projected Sales Volume in Gallons per Year	4,118		
CA Adjusted Emission Inventory in tpy	385	SWA VOC Material (g/l) *WB Data*	60		
AQMD Adjusted Sales	137,330	VOC Regulatory Limit (g/l)	150		
AQMD Adjusted Emission Inventory	173	Calcd Volume Fraction VOC	0.07		
AQMD Projected Sales	179,013	Calcd Volume Fraction Water or Exempt Solvent	0.60		
AQMD Projected Emission Inventory	45	Calcd Volume Fraction Solids	0.33		
		Emissions (Tons/Year)	1.03	3.15	0.009
CA 2000 CARB Survey Data > 100 and ≤ 400		**CA Projected Data at Proposed VOC Limit of 150**			
Volume Sold in Gallons per Year	223,380	Projected Sales Volume in Gallons per Year	302,940		
SWA VOC Material (g/l)	328	SWA VOC Material (g/l) *WB Data*	60		
SWA VOC Coating (g/l)	371	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.43	Calcd Volume Fraction VOC	0.07		
SWA Volume Fraction Water or Exempt Solvent	0.12	Calcd Volume Fraction Water or Exempt Solvent	0.60		
SWA Volume Fraction Solids	0.45	Calcd Volume Fraction Solids	0.33		
Emissions (Tons/Year)	305.16	Emissions (Tons/Year)	75.74	229.43	0.63
			AQMD Share	104.66	0.29

Average VOC Solvent Density (gm/l) 880

Sales adjusted if coating VOC above current AQMD limit

AQMD Total Emission Reduction **129** **0.35**

Projected sales volumes are based on volume fraction solids

There are no WB dry fog coatings above 400 g/l listed in the 2001 Survey

This is the data used in the Draft Staff Report for emissions, cost-effectiveness and incremental cost-effectiveness calculations

Nonflat High Gloss with a VOC Limit of 50 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA 2000 CARB Survey Data > 150		CA Adjusted Survey Data at AQMD VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	1,058,851	Adjusted Sales Volume in Gallons per Year	957,317	Tons per year	Tons per Day
SWA VOC Actual (g/l)	95	SWA VOC Material (g/l) *WB Data*	68		
SWA VOC Regulatory (g/l)	215	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.09	Calcd Volume Fraction VOC	0.08		
SWA Volume Fraction Water or Exempt Solvent	0.55	Calcd Volume Fraction Water or Exempt Solvent	0.55		
SWA Volume Fraction Solids	0.34	Calcd Volume Fraction Solids	0.38		
Emissions (Tons/Year)	420.73	Emissions (Tons/Year)	271.24		
		CA Projected Data at 2006 VOC Limit of 50			
		Projected Sales Volume in Gallons per Year	679,263		
		SWA VOC Material (g/l) *WB Data*	28		
		VOC Regulatory Limit (g/l)	50		
		Calcd Volume Fraction VOC	0.03		
		Calcd Volume Fraction Water or Exempt Solvent	0.44		
		Calcd Volume Fraction Solids	0.53		
		Emissions (Tons/Year)	79.25	191.99	0.53
CA 2000 CARB Survey Data ≤ 150 and > 50		**CA Projected Data at 2006 VOC Limit of 50**			
Volume Sold in Gallons per Year	172,253	Adjusted Sales Volume in Gallons per Year	120,666		
SWA VOC Actual (g/l)	59	SWA VOC Material (g/l) *WB Data*	28		
SWA VOC Regulatory (g/l)	122	VOC Regulatory Limit (g/l)	50		
SWA Volume Fraction VOC	0.10	Calcd Volume Fraction VOC	0.03		
SWA Volume Fraction Water or Exempt Solvent	0.52	Calcd Volume Fraction Water or Exempt Solvent	0.44		
SWA Volume Fraction Solids	0.37	Calcd Volume Fraction Solids	0.53		
Emissions (Tons/Year)	42.15	Emissions (Tons/Year)	14.08	28.07	0.08
			CA	220.06	0.60
			AQMD	99.03	0.27

Nonflat High Gloss with a VOC Limit of 50 g/l Effective 7/1/07 (w/o ≤ qts)

Soventborne

CA 2000 CARB Survey Data > 150		CA Adjusted Survey Data at AQMD VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	549,150	Adjusted Sales Volume in Gallons per Year	832,354	Tons per year	Tons per Day
SWA VOC Actual (g/l)	331	SWA VOC Material (g/l) *WB Data*	68		
SWA VOC Regulatory (g/l)	334	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.43	Calcd Volume Fraction VOC	0.08		
SWA Volume Fraction Water or Exempt Solvent	0.00	Calcd Volume Fraction Water or Exempt Solvent	0.55		
SWA Volume Fraction Solids	0.57	Calcd Volume Fraction Solids	0.38		
Emissions (Tons/Year)	756.40	Emissions (Tons/Year)	235.83		
		CA Projected Data at 2006 VOC Limit of 50			
		Projected Sales Volume in Gallons per Year	592,628		
		SWA VOC Material (g/l) *WB Data*	28		
		VOC Regulatory Limit (g/l)	50		
		Calcd Volume Fraction VOC	0.03		
		Calcd Volume Fraction Water or Exempt Solvent	0.44		
		Calcd Volume Fraction Solids	0.53		
		Emissions (Tons/Year)	69.14	166.69	0.457
			AQMD	75.01	0.206

CA Adjusted 2000 CARB Survey Sales	1,961,924
CA Adjusted Emission Inventory in tpy	549
AQMD Adjusted Sales	882,866
AQMD Adjusted Emission Inventory	247
AQMD Projected Sales	626,651
AQMD Projected Emission Inventory	73
Average VOC Solvent Density (gm/l)	880

AQMD Total ER **174.04** **0.48**

Sales adjusted if coating VOC above current AQMD limit

Projected sales volumes are based on volume fraction solids

There are no SB HG nonflats between 50 and 150 g/l listed in the 2001 Survey

This is the data used for emissions calculations in the Draft Staff Report

Quick-Dry Enamel VOC Limit of 150 g/l Effective 7/1/06 (w/o ≤ qts)

Waterborne

CA 2000 CARB Survey Data > 150 and ≤ 250		CA Projected Data at Proposed VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	16,002	Projected Sales Volume in Gallons per Year	14,893	Tons per year	Tons per Day
SWA VOC Material (g/l)	109	SWA VOC Material (g/l) *Nonflat HG WB Data*	68		
SWA VOC Coating (g/l)	234	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.12	Calcd Volume Fraction VOC	0.08		
SWA Volume Fraction Water or Exempt Solvent	0.53	Calcd Volume Fraction Water or Exempt Solvent	0.55		
SWA Volume Fraction Solids	0.35	Calcd Volume Fraction Solids	0.38		
Emissions (Tons/Year)	7.28	Emissions (Tons/Year)	4.22	3.06	0.008
			AQMD Share	1.38	0.004

Solventborne

CA 2000 CARB Survey Data > 250		CA Adjusted Survey Data at AQMD VOC Limit of 250		Emission Reduction	
Volume Sold in Gallons per Year	529,021	Adjusted Sales Volume in Gallons per Year	857,710	Tons per year	Tons per Day
SWA VOC Material (g/l)	382	SWA VOC Material (g/l) *WB Data*	112		
SWA VOC Coating (g/l)	383	VOC Regulatory Limit (g/l)	250		
SWA Volume Fraction VOC	0.48	Calcd Volume Fraction VOC	0.13		
SWA Volume Fraction Water or Exempt Solvent	0.00	Calcd Volume Fraction Water or Exempt Solvent	0.55		
SWA Volume Fraction Solids	0.52	Calcd Volume Fraction Solids	0.32		
Emissions (Tons/Year)	842.48	Emissions (Tons/Year)	400.26		
		CA Projected Data at Proposed VOC Limit of 150			
CA Adjusted 2000 CARB Survey Sales	932,806	Projected Sales Volume in Gallons per Year	731,507		
CA Adjusted Emission Inventory in tpy	439	SWA VOC Material (g/l) *Nonflat HG WB Data*	68		
AQMD Adjusted Sales	419,763	VOC Regulatory Limit (g/l)	150		
AQMD Adjusted Emission Inventory	198	Calcd Volume Fraction VOC	0.08		
AQMD Projected Sales	372,651	Calcd Volume Fraction Water or Exempt Solvent	0.55		
AQMD Projected Emission Inventory	106	Calcd Volume Fraction Solids	0.38		
		Emissions (Tons/Year)	207.26	193.00	0.529
CA 2000 CARB Survey Data > 150 and ≤ 250		**CA Projected Data at Proposed VOC Limit of 150**			
Volume Sold in Gallons per Year	59,094	Projected Sales Volume in Gallons per Year	81,713		
SWA VOC Material (g/l)	128	SWA VOC Material (g/l) *Nonflat HG WB Data*	68		
SWA VOC Coating (g/l)	170	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.24	Calcd Volume Fraction VOC	0.08		
SWA Volume Fraction Water or Exempt Solvent	0.24	Calcd Volume Fraction Water or Exempt Solvent	0.55		
SWA Volume Fraction Solids	0.52	Calcd Volume Fraction Solids	0.38		
Emissions (Tons/Year)	31.52	Emissions (Tons/Year)	23.15	8.37	0.023
			CA Total	201.37	0.552
Average VOC Solvent Density (gm/l)	880		AQMD Share	90.62	0.248

Sales adjusted if coating VOC above current AQMD limit

Projected sales volumes are based on volume fraction solids

This is the data used for emissions calculations in the Draft Staff Report

AQMD Total Emission Reduction **91.99** **0.252**

Quick-Dry Enamel VOC Limit of 50 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA Projected Data at Proposed VOC Limit of 150		CA Projected Data at Proposed VOC Limit of 50		Emission Reduction	
Projected Sales Volume in Gallons per Year	14,893	Projected Sales Volume in Gallons per Year	10,604	Tons per year	Tons per Day
SWA VOC Material (g/l) *Nonflat HG WB Data*	68	SWA VOC Material (g/l) *Nonflat HG WB Data*	28		
VOC Regulatory Limit (g/l)	150	VOC Regulatory Limit (g/l)	50		
Calcd Volume Fraction VOC	0.08	Calcd Volume Fraction VOC	0.03		
Calcd Volume Fraction Water or Exempt Solvent	0.55	Calcd Volume Fraction Water or Exempt Solvent	0.44		
Calcd Volume Fraction Solids	0.38	Calcd Volume Fraction Solids	0.53		
Emissions (Tons/Year)	4.22	Emissions (Tons/Year)	1.24	2.98	0.008
			AQMD Share	1.34	0.004

Solventborne

CA Projected Data at Proposed VOC Limit of 150		CA Projected Data at Proposed VOC Limit of 50		Emission Reduction	
Projected Sales Volume in Gallons per Year	813,219	Projected Sales Volume in Gallons per Year	579,005	Tons per year	Tons per Day
SWA VOC Material (g/l) *Nonflat HG WB Data*	68	SWA VOC Material (g/l) *Nonflat HG WB Data*	28		
VOC Regulatory Limit (g/l)	150	VOC Regulatory Limit (g/l)	50		
Calcd Volume Fraction VOC	0.08	Calcd Volume Fraction VOC	0.03		
Calcd Volume Fraction Water or Exempt Solvent	0.55	Calcd Volume Fraction Water or Exempt Solvent	0.44		
Calcd Volume Fraction Solids	0.38	Calcd Volume Fraction Solids	0.53		
Emissions (Tons/Year)	230.41	Emissions (Tons/Year)	67.55	162.86	0.446
			AQMD Share	73.29	0.201

CA Adjusted 2000 CARB Survey Sales	828,113
CA Adjusted Emission Inventory in tpy	235
AQMD Adjusted Sales	372,651
AQMD Adjusted Emission Inventory	106
AQMD Projected Sales	265,324
AQMD Projected Emission Inventory	31
Average VOC Solvent Density (gm/l)	880

AQMD Total Emission Reduction **74.63** **0.204**

Sales adjusted if coating VOC above current AQMD limit

Projected sales volumes are based on volume fraction solids

There are no WB QDE between 50 and 150 g/l listed in the 2001 Survey

This is the data used for emissions calculations in the Draft Staff Report

Specialty Primers VOC Limit of 250 g/l Effective 7/1/06 (w/o ≤ qts)

Waterborne

CA 2000 CARB Survey Data > 250 and ≤ 350		CA Projected Data at Proposed VOC Limit of 250			
Volume Sold in Gallons per Year	14,826	Projected Sales Volume in Gallons per Year	13,537		
SWA VOC Material (g/l)	94	VOC Material (g/l) *WB Data*	80		
SWA VOC Coating (g/l)	318	VOC Regulatory Limit (g/l)	250		
SWA Volume Fraction VOC	0.08	Calcd Volume Fraction VOC	0.09		
SWA Volume Fraction Water or Exempt Solvent	0.71	Calcd Volume Fraction Water or Exempt Solvent	0.68		
SWA Volume Fraction Solids	0.21	Calcd Volume Fraction Solids	0.23		
Calcd Emissions (Tons/Year)	5.81	Emissions (Tons/Year)	4.51	1.295	0.004
			AQMD Share	0.583	0.002

Solventborne

CA 2000 CARB Survey Data > 350		CA Adjusted Survey Data at AQMD VOC Limit of 350		Emission Reduction	
Volume Sold in Gallons per Year	88,687	Adjusted Sales Volume in Gallons per Year	66,264	Tons per year	Tons per Day
SWA VOC Material (g/l)	421	SWA VOC Material (g/l) *WB Data*	350		
SWA VOC Coating (g/l)	421	VOC Regulatory Limit (g/l)	350		
SWA Volume Fraction VOC	0.55	Calcd Volume Fraction VOC	0.40		
SWA Volume Fraction Water or Exempt Solvent	0.00	Calcd Volume Fraction Water or Exempt Solvent	0.00		
SWA Volume Fraction Solids	0.45	Calcd Volume Fraction Solids	0.60		
Emissions (Tons/Year)	155.57	Emissions (Tons/Year)	96.64		
		CA Projected Data at Proposed VOC Limit of 250			
CA Adjusted 2000 CARB Survey Sales	95,246	Projected Sales Volume in Gallons per Year	70,016		
CA Adjusted Emission Inventory in tpy	122	VOC Material (g/l) *SB Data*	250		
AQMD Adjusted Sales	42,861	VOC Regulatory Limit (g/l)	250		
AQMD Adjusted Emission Inventory	55	Calcd Volume Fraction VOC	0.28		
AQMD Projected Sales	43,969	Calcd Volume Fraction Water or Exempt Solvent	0.00		
AQMD Projected Emission Inventory	41	Calcd Volume Fraction Solids	0.57		
		Emissions (Tons/Year)	72.93	24	0.065
CA 2000 CARB Survey Data > 100 and ≤ 350		**CA Projected Data at Proposed VOC Limit of 250**			
Volume Sold in Gallons per Year	14,156	Projected Sales Volume in Gallons per Year	14,156		
SWA VOC Material (g/l)	336	VOC Material (g/l) *WB Data*	250		
SWA VOC Coating (g/l)	336	VOC Regulatory Limit (g/l)	250		
SWA Volume Fraction VOC	0.43	Calcd Volume Fraction VOC	0.28		
SWA Volume Fraction Water or Exempt Solvent	0.00	Calcd Volume Fraction Water or Exempt Solvent	0.00		
SWA Volume Fraction Solids	0.57	Calcd Volume Fraction Solids	0.57		
Emissions (Tons/Year)	19.82	Emissions (Tons/Year)	14.75	5.1	0.01
			CA Total	30.1	0.08
Average VOC Solvent Density (g/l)	880		AQMD Share	13.5	0.04

Sales adjusted if coating VOC above current AQMD limit

Projected sales volumes are based on volume fraction solids

AQMD Total Emission Reduction **14** **0.04**

AQMD % of CARB 2003 Annual Report Sales 863,350

AQMD Estimated Emissions (tpd) from annual report 0.7

This is the data used for emissions calculations in the Draft Staff Report

Specialty Primers VOC Limit of 100 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA Projected Data at Proposed VOC Limit of 250		CA Projected Data at Proposed VOC Limit of 100			
Projected Sales Volume in Gallons per Year	13,537	Projected Sales Volume in Gallons per Year	6,486		
VOC Material (g/l) *WB Data*	80	VOC Material (g/l) *WB Data*	53		
VOC Regulatory Limit (g/l)	250	VOC Regulatory Limit (g/l)	100		
Calcd Volume Fraction VOC	0.09	Calcd Volume Fraction VOC	0.06		
Calcd Volume Fraction Water or Exempt Solvent	0.68	Calcd Volume Fraction Water or Exempt Solvent	0.47		
Calcd Volume Fraction Solids	0.23	Calcd Volume Fraction Solids	0.48		
Emissions (Tons/Year)	4.51	Emissions (Tons/Year)	1.43	3.080	0.008
			AQMD Share	1.386	0.004

Solventborne

CA Projected Data at Proposed VOC Limit of 250		CA Projected Data at Proposed VOC Limit of 100		Emission Reduction	
Volume Sold in Gallons per Year	84,172	Adjusted Sales Volume in Gallons per Year	99,954	Tons per year	Tons per Day
SWA VOC Material (g/l)	250	SWA VOC Material (g/l) *WB Data*	53		
SWA VOC Coating (g/l)	250	VOC Regulatory Limit (g/l)	100		
SWA Volume Fraction VOC	0.28	Calcd Volume Fraction VOC	0.06		
SWA Volume Fraction Water or Exempt Solvent	0.00	Calcd Volume Fraction Water or Exempt Solvent	0.47		
SWA Volume Fraction Solids	0.57	Calcd Volume Fraction Solids	0.48		
Emissions (Tons/Year)	87.68	Emissions (Tons/Year)	22.07	65.61	0.180
			AQMD Share	29.5	0.081

CA Adjusted 2000 CARB Survey Sales	97,709
CA Adjusted Emission Inventory in tpy	92
AQMD Adjusted Sales	43,969
AQMD Adjusted Emission Inventory	41
AQMD Projected Sales	47,898
AQMD Projected Emission Inventory	11
Average VOC Solvent Density (g/l)	880

AQMD Total Emission Reduction **31** **0.08**

Sales adjusted if coating VOC above current AQMD limit

Projected sales volumes are based on volume fraction solids

This is the data used for emissions calculations in the Draft Staff Report

Traffic Coatings with a VOC Limit of 125 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA 2000 CARB Survey Data > 150		CA Adjusted Survey Data at AQMD VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	25,258	Adjusted Sales Volume in Gallons per Year	26,914	Tons per year	Tons per Day
SWA VOC Material (g/l)	73	VOC Material (g/l) *WB Data*	56		
SWA VOC Coating (g/l)	179	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.07	Calcd Volume Fraction VOC	0.06		
SWA Volume Fraction Water or Exempt Solvent	0.60	Calcd Volume Fraction Water or Exempt Solvent	0.63		
SWA Volume Fraction Solids	0.33	Calcd Volume Fraction Solids	0.31		
Emissions (Tons/Year)	7.65	Emissions (Tons/Year)	6.28		
		CA Projected Data at Proposed VOC Limit of 125			
		Projected Sales Volume in Gallons per Year	15,180		
		VOC Material (g/l) *WB Data*	80		
		VOC Regulatory Limit (g/l)	125		
		Calcd Volume Fraction VOC	0.09		
		Calcd Volume Fraction Water or Exempt Solvent	0.36		
		Calcd Volume Fraction Solids	0.55		
		Emissions (Tons/Year)	3.88	2.40	0.007
CA 2000 CARB Survey Data > 100 and ≤ 150		**CA Projected Data at Proposed VOC Limit of 125**			
Volume Sold in Gallons per Year	1,794,088	Projected Sales Volume in Gallons per Year	1,895,080		
SWA VOC Material (g/l)	87	SWA VOC Material (g/l) *WB Data*	80		
SWA VOC Coating (g/l)	130	VOC Regulatory Limit (g/l)	125		
SWA Volume Fraction VOC	0.11	Calcd Volume Fraction VOC	0.09		
SWA Volume Fraction Water or Exempt Solvent	0.31	Calcd Volume Fraction Water or Exempt Solvent	0.36		
SWA Volume Fraction Solids	0.58	Calcd Volume Fraction Solids	0.55		
Emissions (Tons/Year)	648.14	Emissions (Tons/Year)	631.69	16.45	0.05
			CA Total	18.85	0.052
			AQMD Share	8.48	0.023

Solventborne

CA 2000 CARB Survey Data > 150		CA Adjusted Survey Data at AQMD VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	72,936	Adjusted Sales Volume in Gallons per Year	62,138	Tons per year	Tons per Day
SWA VOC Material (g/l)	386	VOC Material (g/l) *SB Data*	104		
SWA VOC Coating (g/l)	394	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.49	Calcd Volume Fraction VOC	0.12		
SWA Volume Fraction Water or Exempt Solvent	0.02	Calcd Volume Fraction Water or Exempt Solvent	0.31		
SWA Volume Fraction Solids	0.49	Calcd Volume Fraction Solids	0.58		
Emissions (Tons/Year)	117.44	Emissions (Tons/Year)	26.93		
		CA Projected Data at Proposed VOC Limit of 125			
CA Adjusted 2000 CARB Survey Sales	2,242,665	Projected Sales Volume in Gallons per Year	65,087		
CA Adjusted Emission Inventory in tpy	837	SWA VOC Material (g/l) *WB Data*	80		
AQMD Adjusted Sales	1,009,199	VOC Regulatory Limit (g/l)	125		
AQMD Adjusted Emission Inventory	377	Calcd Volume Fraction VOC	0.09		
AQMD Projected Sales	1,045,067	Calcd Volume Fraction Water or Exempt Solvent	0.36		
AQMD Projected Emission Inventory	348	Calcd Volume Fraction Solids	0.55		
		Emissions (Tons/Year)	21.70	5.23	0.01
CA 2000 CARB Survey Data > 100 and ≤ 150		**CA Projected Data at Proposed VOC Limit of 125**			
Volume Sold in Gallons per Year	359,525	Projected Sales Volume in Gallons per Year	347,025		
SWA VOC Material (g/l)	104	SWA VOC Material (g/l) *WB Data*	80		
SWA VOC Coating (g/l)	148	VOC Regulatory Limit (g/l)	125		
SWA Volume Fraction VOC	0.11	Calcd Volume Fraction VOC	0.09		
SWA Volume Fraction Water or Exempt Solvent	0.36	Calcd Volume Fraction Water or Exempt Solvent	0.36		
SWA Volume Fraction Solids	0.53	Calcd Volume Fraction Solids	0.55		
Emissions (Tons/Year)	155.79	Emissions (Tons/Year)	115.67	40.12	0.11
			CA Total	45.35	0.124
			AQMD Share	20.41	0.056
Average VOC Solvent Density (gm/l)	880				
Sales adjusted if coating VOC above current AQMD limit		**AQMD Total Emission Reduction**		**28.89**	**0.08**

Projected sales volumes are based on volume fraction solids

This is the data used in the Draft Staff Report for emissions, cost-effectiveness and incremental cost-effectiveness calculations

Traffic Coatings with a VOC Limit of 100 g/l Effective 7/1/07 (w/o ≤ qts)

Waterborne

CA 2000 CARB Survey Data > 150		CA Adjusted Survey Data at AQMD VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	25,258	Adjusted Sales Volume in Gallons per Year	26,914	Tons per year	Tons per Day
SWA VOC Material (g/l)	73	VOC Material (g/l) *WB Data*	56		
SWA VOC Coating (g/l)	179	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.07	Calcd Volume Fraction VOC	0.06		
SWA Volume Fraction Water or Exempt Solvent	0.60	Calcd Volume Fraction Water or Exempt Solvent	0.63		
SWA Volume Fraction Solids	0.33	Calcd Volume Fraction Solids	0.31		
Emissions (Tons/Year)	7.65	Emissions (Tons/Year)	6.28		
		CA Projected Data at Proposed VOC Limit of 100			
		Projected Sales Volume in Gallons per Year	14,467		
		SWA VOC Material (g/l) *WB Data*	65		
		VOC Regulatory Limit (g/l)	100		
		Calcd Volume Fraction VOC	0.07		
		Calcd Volume Fraction Water or Exempt Solvent	0.35		
		Calcd Volume Fraction Solids	0.58		
		Emissions (Tons/Year)	3.88	2.40	0.007
CA 2000 CARB Survey Data > 100 and ≤ 150		**CA Projected Data at Proposed VOC Limit of 100**			
Volume Sold in Gallons per Year	1,800,648	Projected Sales Volume in Gallons per Year	1,812,723		
SWA VOC Material (g/l)	87	SWA VOC Material (g/l) *WB Data*	65		
SWA VOC Coating (g/l)	130	VOC Regulatory Limit (g/l)	100		
SWA Volume Fraction VOC	0.11	Calcd Volume Fraction VOC	0.07		
SWA Volume Fraction Water or Exempt Solvent	0.31	Calcd Volume Fraction Water or Exempt Solvent	0.35		
SWA Volume Fraction Solids	0.58	Calcd Volume Fraction Solids	0.58		
Emissions (Tons/Year)	649.65	Emissions (Tons/Year)	490.95	158.70	0.43
			CA Total	161.10	0.441
			AQMD Share	72.50	0.199

Traffic Coatings with a VOC Limit of 100 g/l Effective 7/1/07 (w/o ≤ qts)

Solventborne

CA 2000 CARB Survey Data > 150		CA Adjusted Survey Data at AQMD VOC Limit of 150		Emission Reduction	
Volume Sold in Gallons per Year	72,936	Adjusted Sales Volume in Gallons per Year	62,138	Tons per year	Tons per Day
SWA VOC Material (g/l)	386	VOC Material (g/l) *SB Data*	104		
SWA VOC Coating (g/l)	394	VOC Regulatory Limit (g/l)	150		
SWA Volume Fraction VOC	0.49	Calcd Volume Fraction VOC	0.12		
SWA Volume Fraction Water or Exempt Solvent	0.02	Calcd Volume Fraction Water or Exempt Solvent	0.31		
SWA Volume Fraction Solids	0.49	Calcd Volume Fraction Solids	0.58		
Emissions (Tons/Year)	117.44	Emissions (Tons/Year)	26.93		
		CA Projected Data at Proposed VOC Limit of 100			
CA Adjusted 2000 CARB Survey Sales	2,249,225	Projected Sales Volume in Gallons per Year	62,032		
CA Adjusted Emission Inventory in tpy	839	SWA VOC Material (g/l) *WB Data*	65		
AQMD Adjusted Sales	1,012,151	VOC Regulatory Limit (g/l)	100		
AQMD Adjusted Emission Inventory	377	Calcd Volume Fraction VOC	0.07		
AQMD Projected Sales	998,981	Calcd Volume Fraction Water or Exempt Solvent	0.35		
AQMD Projected Emission Inventory	271	Calcd Volume Fraction Solids	0.58		
		Emissions (Tons/Year)	16.80	10.13	0.03
CA 2000 CARB Survey Data > 100 and ≤ 150		**CA Projected Data at Proposed VOC Limit of 100**			
Volume Sold in Gallons per Year	359,525	Projected Sales Volume in Gallons per Year	330,735		
SWA VOC Material (g/l)	104	SWA VOC Material (g/l) *WB Data*	65		
SWA VOC Coating (g/l)	148	VOC Regulatory Limit (g/l)	100		
SWA Volume Fraction VOC	0.11	Calcd Volume Fraction VOC	0.07		
SWA Volume Fraction Water or Exempt Solvent	0.36	Calcd Volume Fraction Water or Exempt Solvent	0.35		
SWA Volume Fraction Solids	0.53	Calcd Volume Fraction Solids	0.58		
Emissions (Tons/Year)	155.79	Emissions (Tons/Year)	89.57	66.22	0.18
			CA Total	76.34	0.209
			AQMD Share	34.35	0.094

Average VOC Solvent Density (gm/l) 880

Sales adjusted if coating VOC above current AQMD limit

AQMD Total Emission Reduction **106.85** **0.29**

Projected sales volumes are based on volume fraction solids

This is the data used in the Draft Staff Report for emissions, cost-effectiveness and incremental cost-effectiveness calculations

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

~~Draft~~ Final Socioeconomic Assessment For Proposed Amendments to Rule 1113–Architectural Coatings

June~~May~~ 2006

Executive Officer
Barry R. Wallerstein, D.Env.

Deputy Executive Officer
Planning, Rule Development & Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development & Area Sources
Laki T. Tisopulos, Ph.D., P.E.

Planning and Rules Manager
Larry Bowen

Author: Patricia Kwon, Air Quality Specialist

Reviewed By: Sue Lieu, Program Supervisor
Jill Whynot, Planning and Rules Manager
Frances Keeler, Senior Deputy District Counsel
Barbara Baird, Principal Deputy District Counsel

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CYNTHIA VERDUGO-PERALTA
Governor's Appointee

DENNIS YATES
Councilmember, City of Chino
Cities Representative, San Bernardino County

EXECUTIVE OFFICER:
BARRY R. WALLERSTEIN, D.Env.

EXECUTIVE SUMMARY

A socioeconomic analysis was conducted to assess the impacts of Proposed Amended Rule (PAR) 1113—Architectural Coatings and the alternatives identified in the Environmental Assessment. A summary of the analysis and findings are presented below.

Elements of Proposed Rule Amendments	The proposed amendments to Rule 1113—Architectural Coatings—will lower the VOC limit for concrete-curing compounds, dry-fog coatings, and traffic coatings; and eliminate the fire retardant coating category to allow its inclusion into the averaging program. Other amendments that would not result in negative cost impacts include allowing the use of tertiary-butyl acetate (TBAc) as an exempt solvent in industrial maintenance coatings; postponing the final VOC limits for high gloss nonflat, quick-dry enamel, and specialty primers; and establishing a new high gloss subcategory of nonflat coatings and interim limits for quick-dry enamel coatings and specialty primers. The remaining proposed amendments are administrative.
Affected Facilities and Industries	The proposed amendments to Rule 1113 would impact manufacturers and end users of architectural coatings. The manufacturers belong to the industry of Paint and Coating Manufacturing (NAICS 325510). The end users include Painting and Wall Covering Contractors (NAICS 238320) as well as consumers and homeowners working on personal home improvement projects. The number of affected facilities cannot be determined because the majority of them are not permitted by the AQMD.
Assumptions of Analysis	Compliance costs associated with the proposed amendments consist of two types of savings as well as costs from lowering the VOC limit on traffic coatings and eliminating the fire retardant coating category. There are savings from the implementation of lower VOC limits on concrete-curing compounds and dry-fog coatings as well as potential savings from the delay in implementing lower VOC limits for nonflat high-gloss coatings, quick dry enamel coatings, and specialty primers. The cost of complying with lower VOC limits was based on the average price differentials of compliant and non-compliant coatings and their usage.
Compliance Costs	The lower VOC limits on concrete-curing compounds and dry-fog coatings are projected to result in an annual savings of $0.76 million, $0.62 million for concrete-curing

	compounds and $0.14 million for dry-fog compounds, mainly due to lower prices of compliant coatings. A switch to compliant high traffic coatings would result in a cost of $1.95 million annually. The elimination of the fire retardant coating category would make these coatings subject to lower VOC limits in other coating categories (as low as 50 g/l) at an annual cost of $0.04 million. The annual net cost of these four categories is projected to be $1.23 million. Only half of the savings and cost would occur in 2007 because the compliance starts in mid-year. The average annual net cost between 2007 and 2020 for the four categories is projected to be $1.18 million.
Jobs and Other Socioeconomic Impacts*	It is estimated that an average of 48~~3~~ jobs would be forgone annually from 2007 to 2020 in the four-county region, or 0.462~~2~~% of the average annual baseline jobs from this same period. In 2007, increased expenditures on compliant coatings made by contractors are projected to result in jobs created in the industry of chemical manufacturing (NAICS 325). The construction industry (NAICS 23) where the painting contractors belong would experience, on average, six~~five~~ jobs forgone annually due to the increased cost of doing business from compliant coatings. Other industries are expected to experience minor jobs forgone as well as a result of reduction in personal income. There are very few impacts on the relative cost of production and delivered prices of affected industries.
Impacts of CEQA Alternatives*	There are three CEQA alternatives associated with the proposed amendments to Rule 1113. Alternative A is the No Project Alternative, which is the existing Rule 1113. Alternative B is the NPCA Industry Proposal which involves eliminating the implementation of lower VOC limits for 12 categories (with the exception of interior applications for certain categories) scheduled to start in July 2006, delaying the implementation of lower VOC limits for industrial maintenance and rust preventative coatings until July 2007, and moving up the lower VOC limit for interior flat coatings from 2008 to 2007. There is no cost associated with Alternative B. Savings from the permanent exemption from current rule limits were~~as~~ not quantified. Alternative C is the same as the proposed amendments, but does not include the delisting of TBAc as an exempt solvent in industrial maintenance coatings and delays a lower VOC limit for industrial maintenance coatings until July 2007. Alternative C is similar to the proposed amendments and thus has the same cost and job impacts (Savings from an additional one year delay were~~as~~ not considered). The

	proposed project and Alternative C have the highest cost and job impacts among all ~~of~~ the alternatives, with an annualized cost of $1.14 million and 48 projected average annual jobs forgone ~~of 43 jobs~~ between 2007 and 2020.

~~*The job impact assessment does not include the cost of fire retardant coatings.~~

INTRODUCTION

The proposed amendments to Rule 1113—Architectural Coatings—will lower the VOC limit for concrete-curing compounds, dry-fog coatings, and traffic coatings starting on July 1, 2007; eliminate the fire retardant coating category beginning on January 1, 2007 and allow their inclusion into the averaging program; postpone the final VOC limits for high gloss nonflat, quick-dry enamel, and specialty primers until July 1, 2007; allow the use of tertiary-butyl acetate (TBAc) as an exempt solvent in industrial maintenance coatings; and establish a new high gloss subcategory of nonflat coatings with a VOC limit of 150 g/l and interim limits for quick-dry enamel coatings of 150 g/l and specialty primers of 250 g/l The other proposed amendments are administrative.

The socioeconomic analysis examines the impact of the proposed amendments as well as the three CEQA alternatives: Alternative A—No Project, Alternative B—National Paint and Coatings Association (NPCA) Proposal, and Alternative C—No TBAc Delisting and Delay of Industrial Maintenance Coating Limit.

REGULATORY HISTORY

Rule 1113 was adopted in September 1977 to lower VOC limits and required the use of waterborne coatings in place of solvent coatings where technically feasible, with small coating manufacturers allowed additional time for rule compliance. This rule has subsequently been amended 24 times.

An additional year for rule compliance was given in December 1977 and mastic and multicolored coatings were added to the rule in February 1978. Compliance deadline and sell-through date extensions were granted in the September 1980, April 1981, July 1981, May 1984, and August 1985 amendments. In addition, flat and nonflat coating categories and lower VOC limits were created in the April 1981 amendments, lower VOC limits were redefined in the July 1981 amendments for flat and nonflat coatings, and a higher VOC limit for nonflat coatings for small businesses was created in October 1981. In August 1983, lower VOC limits were created for multiple coating categories with compliance deadlines of September 1984 and September 1987. New interim VOC limits for some types of primers and topcoats with a compliance deadline of September 1986 were created in the November 1985 amendments. The small business exemption from lower VOC limits for nonflat coatings was removed in February 1987.

In January 1990, lower VOC limits were created for clear wood finishes, wood preservative, bond breakers, and industrial maintenance coatings, at an annualized cost of $1.5 million.[1] The February 1990 amendments removed the exemption for aerosol coatings in 1 liter containers, at an annualized cost of $1.6 million, while the November 1990 amendments removed aerosol coatings from the rule to have them regulated by Rule 1129—Aerosol Coatings. In December 1990, the rule was amended due to State Implementation Plan (SIP) revisions and the use of semi-transparent stains was allowed in the September 1991 amendments. Definitions of aerosol

[1] Compliance costs were presented in 2005 dollars.

coatings were amended to be consistent with CARB's aerosol coating regulation and with Health & Safety Code in March 1996. The small container exemption was reinstated in August 1996. VOC limits were lowered on lacquer and flat coatings in November 1996, at an annualized cost of $17 million. Lower VOC limits were introduced for industrial maintenance coatings; nonflat coatings; primers, sealers, and undercoatings; quick dry enamels; roof coatings; floor coatings; and water proofing sealers for the May 1999 amendments, at an annualized cost of $68 million. The July 2001 amendments created a new category for clear wood finish brushing lacquers with labeling requirements. The December 2002 amendments involved readoption of the May 1999 VOC limits and changes to compliance dates to comply with a court decision. The December 2003 amendments lowered VOC limits on roof coatings, clear wood finishes, and waterproofing sealers, at an annualized cost of $16 million. The July 2004 amendments addressed SIP approvability issues with regard to the averaging compliance option of the rule. No significant socioeconomic impacts were projected for the amendments in December 1990, September 1991, August 1996, July 2001, December 2002, and July 2004.

LEGISLATIVE MANDATES

The socioeconomic assessments at the AQMD have evolved over time to reflect the benefits and costs of regulations. The legal mandates directly related to the assessment of the proposed amendments include the AQMD Governing Board resolutions and various sections of the California Health & Safety Code (H&SC).

AQMD Governing Board Resolutions

On March 17, 1989 the AQMD Governing Board adopted a resolution that calls for preparing an economic analysis of each proposed rule for the following elements:

- Affected Industries
- Range of Control Costs
- Cost Effectiveness
- Public Health Benefits

On October 14, 1994, the Board passed a resolution which directed staff to address whether the rules or amendments brought to the Board for adoption are in the order of cost effectiveness as defined in the AQMP. The intent was to bring forth those rules that are cost effective first.

Health & Safety Code Requirements

The state legislature adopted legislation that reinforces and expands the Governing Board resolutions for socioeconomic assessments. H&SC Sections 40440.8(a) and (b), which became effective on January 1, 1991, require that a socioeconomic analysis be prepared for any proposed rule or rule amendment that *"will significantly affect air quality or emissions limitations."* Specifically, the scope of the analysis should include:

- Type of Affected Industries
- Impact on Employment and the Economy of the district
- Range of Probable Costs, Including Those to Industries

- Emission Reduction Potential
- Necessity of Adopting, Amending or Repealing the Rule in Order to Attain State and Federal Ambient Air Quality Standards
- Availability and Cost Effectiveness of Alternatives to the Rule

Additionally, the AQMD is required to actively consider the socioeconomic impacts of regulations and make a good faith effort to minimize adverse socioeconomic impacts. H&SC Section 40728.5, which became effective on January 1, 1992, requires the AQMD to:

- Examine the type of industries affected, including small businesses
- Consider Socioeconomic Impacts in Rule Adoption

H&SC Section 40920.6, which became effective on January 1, 1996, requires that incremental cost effectiveness be performed for a proposed rule or amendment relating to ozone, carbon monoxide (CO), oxides of sulfur (SO_x), oxides of nitrogen (NO_x), and their precursors. Incremental cost effectiveness is defined as the difference in costs divided by the difference in emission reductions between one level of control and the next more stringent control.

AFFECTED FACILITIES

The proposed amendments to Rule 1113 would impact manufacturers and end users of architectural coatings. The manufacturers belong to the industry of Paint and Coating Manufacturing (NAICS 325510). The end users include Painting and Wall Covering Contractors (NAICS 238320) as well as consumers and homeowners working on personal home improvement projects. According to the 2003 *County Business Patterns*, there are 102 paint manufacturing establishments and 13,741 painting contractors in the four-county region (Los Angeles, Orange, Riverside, and San Bernardino Counties). However, the number of affected facilities cannot be determined because the majority of them are not permitted by the AQMD.

Small Businesses

The AQMD defines a "small business" in Rule 102 as one which employs 10 or fewer persons and which earns less than $500,000 in gross annual receipts. In addition to the AQMD's definition of a small business, the federal Small Business Administration (SBA), the federal Clean Air Act Amendments (CAAA) of 1990, and the California Department of Health Services (DHS) also provide definitions of a small business.

The SBA's definition of a small business uses the criterion of gross annual receipts (ranging from $0.5 million to $25 million), number of employees (ranging from 100 to 1,500), or assets ($100 million), depending on industry type. The SBA definitions of small businesses vary by 6-digit NAICS code. For the Paint and Coating Manufacturing industry, establishments with 500 or fewer employees would be considered small businesses. Establishments making $12 million or less in gross annual receipts would be considered small businesses for the industry of Painting and Wall Covering Contractors.

The CAAA classifies a facility as a "small business stationary source" if it: (1) employs 100 or fewer employees, (2) does not emit more than 10 tons per year of either VOC or NOx, and (3) is a small business as defined by SBA.

Under the above definitions, most of the affected painting manufacturers and contractors could potentially be small businesses. The number of affected small businesses cannot be determined since the majority of affected businesses cannot be identified.

COMPLIANCE COSTS

Compliance costs associated with the proposed amendments consist of two types of savings as well as costs from lowering the VOC limit on traffic coatings and eliminating the fire retardant coating category. There are savings from implementing lower VOC limits on concrete-curing compounds and dry-fog coatings as well as potential savings associated with the delay in implementing lower VOC limits for nonflat high-gloss coatings, quick dry enamel coatings, and specialty primers.

There are no projected costs with the use of TBAc as an exempt solvent in industrial maintenance coatings even though TBAc is a more expensive solvent than other industrial solvents for three primary reasons. Coatings manufacturers have already begun conducting research and development in the use of TBAc in industrial maintenance coatings. Second, manufacturers are able to use resin systems used in solvent-based industrial maintenance coatings. Third, the use of TBAc is not a requirement under the proposed amendments. Rather, it adds regulatory flexibility to the rule.

Table 1 shows prices and sales volume by coating category for compliant and non-compliant coatings. The lower VOC limits on concrete-curing compounds and dry-fog coatings are projected to result in a savings of $0.76 million, $0.62 million for concrete-curing compounds and $0.14 million for dry-fog compounds, mainly due to lower prices of compliant coatings. A switch to compliant high traffic coatings would result in a cost of $1.95 million annually. The elimination of the fire retardant coating category would make these coatings subject to lower VOC limits in other coating categories (as low as 50 g/l) at an annual cost of $0.04 million. Some coating manufacturers believe that the elimination of the fire retardant coating category is problematic because nonintumescent coatings are a specialized type of fire retardant coating and compliance costs should only be considered within this subcategory rather than for fire retardant coatings in general. An analysis of compliance costs for non-compliant and compliant coatings shows that the difference in cost per gallon is the same whether comparing nonintumescent or all fire retardant coatings. The annual net cost of these four categories is projected to be $1.23 million, as shown in Table 1. Only half of the savings and cost would occur in 2007 because the compliance starts in the mid-year. The average annual net cost between 2007 and 2020 for the three categories is projected to be $1.18 million. It is assumed that the industry of painting and wall covering contractors would fully absorb the cost.

The delay in implementing lower VOC limits for nonflat high-gloss coatings, quick dry enamel coatings, and specialty primers would have no cost impact on coatings manufacturers because the research and development expenditures have already been committed. Currently there are some compliant products available for these coating categories as well. The cost of implementing the lower VOC limits for these categories was included in the socioeconomic analyses of previous amendments. There are~~is~~ potential savings from the delay of these costs by the proposed extension of these limits by one year for end users being able to use non-compliant coatings.

Table 1
Costs and Sales Volume by Coating Category

Coating Categories Proposed VOC Limits	Non-Compliant Coatings			Compliant Coatings			Annual Additional Compliance Cost
	Average price per gallon[1]	Sales Volume in AQMD (Gal)[2]	Dollars	Average price per gallon[1]	Sales Volume in AQMD (Gal)[2]	Dollars	
Concrete-Curing Compounds 100 g/l	$11.22	111,811	$1,254,519	$6.18	102,088	$631,089	-$622,430
Dry-Fog Coatings 150 g/l	$28.12	137,501	$3,865,841	$20.84	179,013	$3,729,989	-$135,852
Traffic Coatings 100 g/l	$15.82	1,012,151	$16,012,229	$17.98	998,981	$17,958,557	$1,946,328
Fire Retardant Coatings 50 g/l	$45.00	7,771	$349,695	$50.00	7,810	$390,500	$40,805
Net Total Costs							**$1,228,851**

[1] Average cost per gallon for products above the proposed VOC limit listed in Appendix A.
[2] Appendix B to Staff Report.
[3] Average cost per gallon for products at or below the proposed VOC limit listed in Appendix A.
[4] Sales volume adjusted for solid content of compliant coatings in Appendix B to Staff Report.

REGIONAL ECONOMIC IMPACTS

The potential job and socioeconomic impacts of implementing the proposed amendments were projected through the use of the Regional Economic Models, Inc. (REMI) model. The REMI model is an economic and demographic forecasting and simulation model designed to examine the economic and demographic effects resulting from policy initiatives or external events in a local economy. A 13-year analysis period from 2007 to 2020 was used to assess the impacts of the proposed amendments.

The direct effects of the proposed amendments on the affected paint manufacturers and users are estimated and used as inputs to the REMI model via the industries to which all these entities belong.[2] Compliance costs for the proposed amendments will begin in 2007. Compliance costs for painting and wall covering contractors are distributed among the four counties based on the number of contractors in each county in the 2003 *County Business Patterns*. The cost of switching to compliant coatings will increase the cost of doing business for painting and wall covering contractors. The increased costs of compliant coatings will result in additional sales to paint manufacturers (NAICS 325510), which is allocated to each county based on the output of the chemical and allied products industry in that county by year.

Direct effects of the proposed amendments will be transmitted throughout the local economy via the interactions between industries and across counties. Secondary effects will ensue. The total (direct and secondary) impacts of the proposed amendments can thus be examined through a number of economic variables such as employment and the cost of production.

[2] ~~Cost for the elimination of fire retardant coatings was not included in the REMI model results.~~

Employment Impact by Industry

It is estimated that an average of 48~~3~~ jobs would be forgone annually from 2007 to 2020 in the four-county region, or 0.46~~2~~% of the average annual baseline jobs from this same period. Table 2 shows the job impact of the proposed amendments by industry. A negative number relates to a job forgone. A positive number relates to jobs created.

In 2007, increased expenditures on compliant coatings made by contractors are projected to result in jobs created in the industry of chemical manufacturing (NAICS 325). The construction industry (NAICS 23) where the painting contractors belong would experience, on average, six~~five~~ jobs forgone annually due to the increased cost of doing business from compliant coatings. Other industries are expected to experience minor jobs forgone as well as a result of reduction in personal income.

Table 2
Job Impacts by Industry

Industry	(NAICS)	2007	2010	2015	2020	Average Annual (2007-2020)
Construction	23	-2	-6	-6	-5	-6~~5~~
Fabricated metal product manufacturing	332	0	-1~~0~~	-1	-1	-1
Computer, electronic product manufacturing	334	0	0	-1	-1~~0~~	0
Chemical manufacturing	325	1	2~~1~~	1	1	1
Wholesale trade	42	-1	-2	-2	-2	-2
Retail trade	44-45	-2	-5	-6	-5	-5
Truck transportation; couriers, messengers	484,492	0	-1~~0~~	-1	-1	-1
Monetary authorities, et al.	521,522,525	0	-1	-1	-1	-1
Securities, commodity contracts	523	0	-1	-1	-1	-1
Insurance carriers and related activities	524	0	-1	-1	-1	-1
Real estate	531	-1	-3	-4	-3	-3
~~Rental, leasing services~~	~~532,533~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
Professional, technical services	54	-1	-3	-4	-5~~4~~	-4~~3~~
Management of companies, enterprises	551	0	0	-1	-1	0
Administrative, support services	561	-1	-4~~3~~	-4	-5	-4
Educational services	61	-1	-2	-2	-2	-2
Ambulatory health care services	621	0	0	-1	-1	-1~~0~~
Nursing, residential care facilities	623	0	0	0	-1	0
Social assistance	624	-1	-1	-1	-1	-1
Performing arts, spectator sports	711	0	-1~~0~~	-1	-1	-1
Amusement, gambling, recreation	713	0	-1	-1	0	-1
Accommodation	721	0	0	-1	0	0
Food services, drinking places	722	-1	-3	-4~~3~~	-3	-3
Repair, maintenance	811	0	-1	-1	-1	-1
Personal, laundry services	812	0	-1	-1	-1	-1
Membership associations, organizations	813	0	-1	-1	-1	-1
Private households	814	0	-1	-1	-1	-1
Total[1]		**-14**	**-48~~3~~**	**-54~~49~~**	**-54~~45~~**	**-48~~3~~**

[1] The sum of individual numbers may not be the same as the total due to rounding.

Competitiveness

The additional costs from the proposed amendments would increase the cost of production of the affected industries relative to their national counterparts. Changes in the relative production costs would thus be a good indicator of changes in relative competitiveness. The magnitude of the impact depends on the size and diversification of, and infrastructure in a local economy as well as interactions among industries. A large, diversified, and resourceful economy would absorb the impact with relative ease.

Among all the industries, the industry of construction (NAICS 23) would face the highest increase in the relative production cost. In 2010 the relative production cost is projected to go up by 0.0019~~8~~ percent. The effects on other industries are relatively minor in comparison.

In terms of the impact on relative delivered price, the largest impact is again on the industry of construction (NAICS 23). For example, in 2010, it is projected that this industry would have a projected increase of 0.0019~~8~~ percent in price relative to its national counterpart.

CEQA ALTERNATIVES

There are three CEQA alternatives associated with the proposed amendments to Rule 1113. Alternative A is the No Project Alternative, which is the existing Rule 1113.

Alternative B is the NPCA Industry Proposal which involves permanently eliminating the implementation of lower VOC limits for 12 categories (with the exception of interior applications for certain categories) scheduled to start in July 2006, delaying the implementation of lower VOC limits for industrial maintenance and rust preventative coatings until July 2007, and moving up the lower VOC limit for interior flat coatings from 2008 to 2007. It is assumed that there are no costs for eliminating the lower VOC limits on these 12 coating categories or moving up the lower VOC limit for interior flat coatings. In the case of eliminating the limits on the 12 coating categories, the compliance date for these lower limits is only two months away and it is assumed that research and development expenditures have already been committed by coatings manufacturers and end users would continue to use existing coatings. For interior flat coatings, compliant coatings already exist on the market and research and development expenditures have already been spent by coatings manufacturers. Overall, there is no cost associated with Alternative B. It should be noted that eliminating and delaying the VOC limits results in a significant amount of forgone emission reductions.

Alternative C is the same as the proposed amendments, but does not include the delisting of TBAc as an exempt solvent in industrial maintenance coatings and delays a lower VOC limit for industrial maintenance coatings until July 2007. There are no projected costs with the use of TBAc as an exempt solvent in industrial maintenance coatings even though TBAc is a more expensive solvent than other industrial solvents because manufacturers have already begun conducting research and development in the use of TBAc in industrial maintenance coatings and the use of TBAc adds regulatory flexibility. There is potential savings for end users from delaying the VOC limit for industrial maintenance coatings. The potential savings from delaying

the lower VOC limit are not quantified because of unavailability of particular compliant coatings prices. Alternative C is similar to the proposed amendments and thus has approximately the same cost and job impacts.

The cost and job impacts of the proposed amendments and CEQA alternatives are presented in Table 3. The proposed amendments~~project~~ and Alternative C have the highest cost and job impacts among ~~of~~ all the alternatives, with an annualized cost of $1.14 million and 48 projected average annual jobs forgone of ~~43 jobs~~ between 2007 and 2020.

Table 3
Impacts of CEQA Alternatives

Alternative	Cost (2005 $ Millions)	Jobs	Cost-Effectiveness ($/ton)
Proposed Project	$1.18	-48~~3~~	$4,882
Alternative A—No Project	0.00	0	N/A
Alternative B—NPCA Proposal	0.00	0	N/A
Alternative C	~$1.18	~-48~~3~~	~$4,882

RULE ADOPTION RELATIVE TO THE COST-EFFECTIVENESS SCHEDULE

On October 14, 1994, the Governing Board adopted a resolution that requires staff to address whether rules being proposed for adoption are considered in the order of cost-effectiveness. The 2003 Air Quality Management Plan (AQMP) ranked, in the order of cost-effectiveness, all of the proposed control measures for which costs were quantified. It is generally recommended that the most cost-effective actions be taken first.

The proposed amendments implement part of ~~the~~ control measure CTS-07—Further Emission Reductions of Architectural Coatings—i~~o~~n the 2003 AQMP. The cost-effectiveness of control measure CTS-07 was estimated at $20,000 per ton of VOC reduced. Cost-effectiveness was not available for the portion that constituted the proposed amendments in control measure CTS-07. Therefore, consideration in the order of cost-effectiveness is not applicable. The cost-effectiveness of the proposed amendments to Rule 1113 is estimated to be $4,882 per ton of VOC.

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South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

Subject: **NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT**

Project Title: **PROPOSED AMENDED RULE 1113 – ARCHITECTURAL COATINGS**

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD), as the Lead Agency, has prepared this Notice of Preparation (NOP) and Initial Study (IS). This NOP/IS serves two purposes: 1) to solicit information on the scope of the environmental analysis for the proposed project, and 2) to notify the public that the SCAQMD will prepare a Draft Environmental Assessment (EA) to further assess potential environmental impacts that may result from implementing the proposed project.

This letter, NOP and the attached IS are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the proposed project has no bearing on you or your organization, no action on your part is necessary.

Comments focusing on issues relative to the environmental analysis for the proposed project should be addressed to Mr. Michael Krause (c/o Planning/CEQA) at the address shown above, or sent by FAX to (909) 396-3324 or by e-mail to mkrause@aqmd.gov. Comments must be received no later than 5:00 PM on February 22, 2006. If submitting comments, please include your name and phone number. Questions relative to the rule amendments should be directed to Mr. Dan Russell at (909) 396-2333.

The Public Hearing for the proposed amendments is scheduled for June 2, 2006 (subject to change).

Date: January 24, 2006 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor

Reference: California Code of Regulations, Title 14, Sections 15085, 15087, 15105, and 15372

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4182

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT

Project Title:

Initial Study: Proposed Amended Rule 1113 – Architectural Coatings

Project Location:

South Coast Air Quality Management District: the four-county South Coast Air Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties) and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project:

The purpose of the proposed amendments to Rule 1113 is to reflect the findings of the recently completed Technology Assessment to the July 1, 2006 VOC limits of the rule and minimize emissions of ozone-forming VOCs from architectural coatings to the extent feasible. The proposed amendments to Rule 1113 would define tertiary butyl acetate as a non-VOC for specific coating categories, lower the VOC limits from specific coating categories, differentiate nonflat high gloss from the other nonflat coatings, and postpone the compliance date for nonflat high gloss coatings and quick-dry enamels by one year. The delay in emission reductions is expected to exceed the SCAQMD's VOC significance threshold and, therefore, will have a significant adverse impact on air quality.

Lead Agency:	**Division:**
South Coast Air Quality Management District	Planning, Rule Development and Area Sources

Initial Study and all supporting documentation are available at:	**or by calling:**	**Initial Study is available by accessing the SCAQMD website at:**
SCAQMD Headquarters 21865 Copley Drive Diamond Bar, CA 91765	(909) 396-2039	http://www.aqmd.gov/ceqa/aqmd.html

The Public Notice of Preparation is provided through the following:

☑ Los Angeles Times (January 24, 2006) ☑ SCAQMD Website ☑ SCAQMD Mailing List

Initial Study Review Period:

January 24, 2006 – February 22, 2006

Scheduled Public Meeting Dates (subject to change):

SCAQMD Governing Board Hearing: June 2, 2006

Send CEQA Comments to:	**Phone:**	**Email:**	**Fax Number:**
Mr. Michael Krause	(909) 396-2706	mkrause@aqmd.gov	(909) 396-3324
Direct Questions on Amendments:	**Phone:**	**Email:**	**Fax Number:**
Mr. Dan Russell	(909) 396-2333	drussell@aqmd.gov	(909) 396-3324

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Initial Study:

Proposed Amended Rule 1113 – Architectural Coatings

January 24, 2006

SCAQMD No. 060124MK

Author:	Michael Krause	Air Quality Specialist
Technical Assistance:	Dan Russell	Air Quality Specialist
Reviewed by:	Steve Smith, Ph.D.	Program Supervisor
	Larry Bowen	Planning and Rules Manager
	Ed Muehlbacher	Air Quality Analysis and Compliance Supervisor
	Frances Keeler	Senior Deputy District Counsel

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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CHAPTER 1 - PROJECT DESCRIPTION

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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. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas over which the SCAQMD has jurisdiction.[2] Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP.[3] The 2003 AQMP concluded that major reductions in emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) are necessary to attain the air quality standards for ozone and particulate matter less than 10 microns in size (PM10).

Rule 1113 - Architectural Coatings was originally adopted by the AQMD on September 2, 1977, to regulate the VOC emissions from the application of architectural coatings, and has since undergone numerous amendments. Future VOC limits for many coating categories are to take effect on July 1 of 2006, 2007 and 2008. The current rule contains a requirement for staff to conduct a technology assessment prior to implementation of the lower limits.

As a result of the comprehensive technology assessment, summarized in the 2005 Annual Status Report on Rule 1113 – Architectural Coatings[4] (Status Report), staff has developed the currently proposed amendments to Rule (PAR) 1113 to implement the recommendations from the Status Report. Public comments on the Status Report were considered in preparing the recommendations for amendments to Rule 1113.

The proposed amendments to Rule 1113 will allow the coating manufacturers to use tertiary butyl acetate (TBAc) as an exempt solvent in industrial maintenance (IM) Coatings, including zinc-rich industrial maintenance primers, and establish a new high-gloss nonflat coating category and postpone the 50 grams per liter (g/l) final VOC content limit by one year to July 1, 2007 for the high gloss nonflat and quick dry enamel coating categories. In addition, the proposed amendments will require lowering the VOC content limit for the following five existing coating categories: bond breakers, concrete-curing compounds, dry-fog coatings, fire-retardant coatings, and traffic coatings by July 1, 2007. These specific categories were identified by SCAQMD staff and National Paint and Coating Association (NPCA) as potential

[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).
[4] Presented to the Governing Board at their January 6, 2006 meeting and can be accessed online at http://www.aqmd.gov/hb/2006/060126a.html

cost-effective means of offsetting the VOC emissions foregone due to the delay in implementation of the final VOC content limit for nonflat high gloss and quick-dry enamel categories. The delay in emission reductions is expected to exceed the SCAQMD's VOC significance threshold and, therefore, will have a significant adverse impact on air quality.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments to Rule 1113 are a "project' as defined by the California Environmental Quality Act (CEQA) Guidelines §15378. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this initial study (IS) to identify potential adverse environmental impacts associated with amending Rule 1113. As noted above, since the air quality impacts are anticipated to be adversely significant, an EIR equivalent CEQA document will be prepared pursuant to SCAQMD's certified regulatory program and CEQA Guidelines §15252.

The purposes of the IS are to: provide the lead agency with the information to use as the basis for deciding whether to prepare a CEQA document with significant impacts (EIR equivalent) or a CEQA document with no significant impacts (Negative Declaration equivalent). If the lead agency decides, on the basis of preparing an initial study, that an EIR or EIR-equivalent CEQA document is warranted, the initial study assists in the preparation of the CEQA document by focusing on the effects determined to be significant, identifying effects not significant, and explaining the reasons for determining why potentially significant effects would not be significant. All comments received during the public comment period on the IS will be responded to and included in the Draft EA.

PROJECT LOCATION

PAR 1113 would apply to the SCAQMD's entire area of jurisdiction. The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave

Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

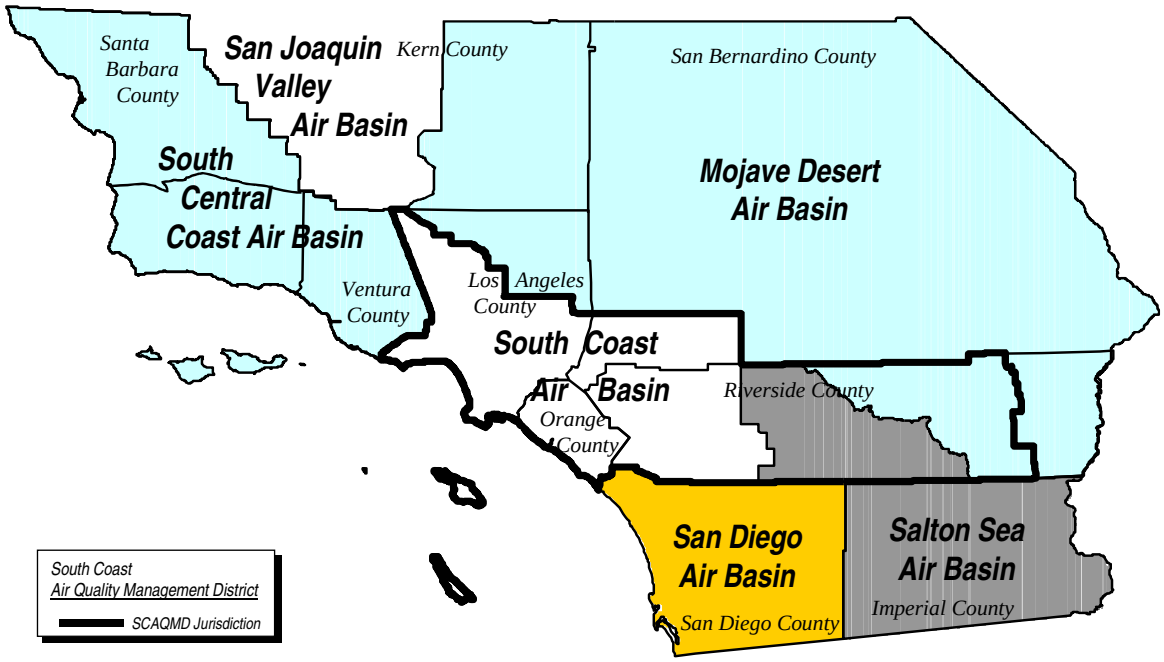

FIGURE 1-1

South Coast Air Quality Management District

PROJECT BACKGROUND

Architectural coatings, including IM coatings, are one of the largest non-mobile sources of VOC emissions in the district. Rule 1113 is applicable to manufacturers,

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

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

VOC emissions contribute to the formation of ozone, PM 2.5 (particulate matter less than 2.5 microns) and PM10, three pollutants that exceed the state and national ambient air quality standards. They are the most serious regional air quality problems within the district and the most difficult to reduce to comply with healthful levels.

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

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

addressed U.S. EPA concerns regarding the approvability of the ACO for the State Implementation Plan and the administration of the ACO Program.

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

The scope of the program is being completed in multiple phases and is designed to test and evaluate VOC compliant coatings necessary for maintenance and new construction projects for agencies essential to the public. Approximately 150 VOC compliant industrial maintenance coating systems have already been applied and are undergoing environmental testing over a three to four year period.

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

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

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

TECHNOLOGY ASSESSMENT

The 1999 amendments to Rule 1113 require staff to conduct an annual technology assessment to assess the availability of coatings with future VOC limits. In addition, the rule requires staff to consider any applicable future CARB architectural coating surveys when assessing the availability of compliant products. After the technology assessment is completed, a status report on the appropriateness of the future VOC limits is required to be presented to the SCAQMD Board. The latest Annual Status Report on Rule 1113 was presented to the SCAQMD Board on January 6, 2006. A copy of the report is available on the SCAQMD's web-site (http://www.aqmd.gov/hb/2006/060126a.html) or from the SCAQMD's Public Information Center.

Highlights of the Annual Status Report on Rule 1113

Industrial Maintenance Coatings and the Use of TBAc in Formulation

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

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

Southern California Alliance Of Publicly Owned Treatment Works evaluation of the performance of low-VOC atmospheric and immersion coating systems, completed in February 2003, indicated that compliant coating systems meeting the performance criteria for wastewater environments and the 2006 limits in Rule 1113, performed similarly to existing coating systems.

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

1) Low-VOC "immersion" (immersion in water) IM coatings meeting the 2006 VOC content limits and conforming to MWD's stringent performance standards that are currently available.

2) MWD continues to search for "atmospheric" IM products that comply with the 2006 VOC content limits and also meet the stringent performance standards.

SCAQMD staff recognizes that there is a lack of sufficient atmospheric IM coatings available that meet MWD's and the EPSA's rigorous standards. MWD has completed testing of some atmospheric IM coatings formulated using TBAc, a solvent that the U.S. EPA has delisted as a VOC. At the time EPA delisted TBAc as a VOC, it raised the issue of the potential toxicity of TBAc because one of its metabolites tert butyl alcohol (TBA) has been demonstrated to induce cancer in laboratory animals. In spite of the uncertainty regarding the toxicity of TBAc, the ESPA and some IM coating manufacturers are looking to the SCAQMD to delist TBAc for use in coatings that meet the stringent standards established for coatings used on public infrastructure. At the present time the availability of other non-VOC exempt solvents that could be used to manufacture compliant IM atmospheric coatings appears to be limited.

California EPA (Cal/EPA) conducted an environmental impact assessment pursuant to CEQA to determine the environmental impacts associated with granting an exemption for TBAc as a VOC in the CARB Consumer Products Regulation (Environmental Impact Assessment of Tertiary-Butyl Acetate, June 2006). CARB concluded that there were no significant impacts statewide associated with the exemption of TBAc as a VOC in the definition in the CARB Consumer Products Regulation. The environmental impact assessment further recommended that local regulatory agencies conduct their own analysis prior to exempting TBAc as a VOC in any applicable rule.

At the federal level, TBAc was given an exemption by U.S. EPA due to its low photochemical reactivity. As part of the federal delisting of TBAc, U.S. EPA requested that the manufacturer of TBAc commit to working with U.S. EPA to conduct the additional toxicity testing as necessary to resolve the long-term toxicity uncertainty of TBAc.

As recommended by CARB and required by CEQA, the Draft EA for PAR 1113 will analyze the short-term (acute) non-carcinogenic effects from a "worst case" scenario use of TBAc in IM coating applications based on the parameters of the health analysis provided by Cal/EPA. 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.

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

In response to the concerns regarding the potential toxicity of TBAc expressed during the PAR 1151 process, the SCAQMD has committed to conduct a technical assessment on the use of TBAc by July 1, 2007. Upon completion of this technical assessment, staff will report back to the Governing Board on the appropriateness of maintaining TBAc as a non-VOC. Until that time, the proposed limited exemptions for TBAc will maintain its potential risk at low levels, while providing some level of flexibility in developing compliant coatings.

New High Gloss Subcategory of Non Flat Coatings

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

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

Several coating manufacturers have commented on expected performance for certain key characteristics such as dirt pickup. This issue is due to the softer resin technology used for 50 g/l products in the high gloss nonflat and the companion quick-dry enamel category. Subsequent discussions with other manufacturers indicated that with the latest resin and additive technologies, coating manufacturers were able to overcome the dirt pick up issue. Discussions with raw material

suppliers also reinforced the point of view that new resins that were recently made commercially available to the market will address these issues. Based on the state of technology, it appears that it is reasonable to expect that all manufacturers will be able to soon produce good performing products.

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

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

The request to establish a high gloss category is based on the fact that some manufacturers may need additional time to formulate nonflat high gloss coatings using resins recently introduced into the market. In response to this industry request, SCAQMD staff is proposing to divide the nonflat coatings category, creating a new category specifically for nonflat high gloss coatings effective July 1, 2006 with a VOC limit of 150 g/l and modifying the future effective date for meeting the VOC limit of 50 g/l to July 1, 2007. To date, staff has found few low-VOC products meeting the definition of high gloss.

Quick-Dry Enamels

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

Existing Coating Categories Selected for Reduced VOC Content Limits

Bond Breakers

Bond breakers are coatings applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the substrate over which it is poured. The primary use for this type of coating is in site-cast tilt-up concrete construction. Different types of resins are used in the formulations such as Oleoresinous binders, paraffin wax, polybutene and other polymer emulsions, acrylics and hydrocarbons. Most are chemically active meaning that they bond with the calcium in the fresh cement paste. The VOC limit for this category is currently 350 g/l and is proposed to be reduced to 100 g/l effective July 1, 2007, since there are adequate formulations currently available at or below this limit.

Concrete-Curing Compounds

Concrete-curing compounds are coatings applied to freshly poured concrete to retard the evaporation of water promoting the optimum cement hydration immediately after placement. As cement hydrates, strength increases and permeability decreases. When hydration stops, strength gain ceases. Resins include acrylic, acrylic copolymer, alkyd, phenolic, calcium nitrate, hydrocarbon, lignosulfonate, siliconate, sodium silicate, wax, styrene acrylate, and polystyrene. The VOC limit for this category is currently 350 g/l and is proposed to be reduced to 100 g/l effective July 1, 2007, since there are adequate formulations currently available at or below this limit.

Dry-Fog Coatings

Dry-fog coatings are applied by spray application so that the overspray droplets dry before falling on floors and other surfaces. Resins include acrylic, acrylic copolymer, alkyd amines epoxy, vinyl toluene, and vinyl acrylic copolymer. The VOC limit for this category is currently 400 g/l and is proposed to be reduced to 100 g/l effective July 1, 2007, since there are adequate formulations currently available at or below this limit.

Fire-Retardant Coatings

Fire-retardant coatings retard ignition and flame spread. The coating has to be fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The coating must be tested in accordance with ASTM Test Method E-89 or listed by Underwriter's Laboratories, Inc., as a fire-retardant coating with a flame spread index of less than 25. Resins include acrylic, acrylic copolymer amines, poly vinyl acetate, urethane, polyurethane, and vinyl acrylic copolymer. The VOC limits for this category are currently divided

into clear coatings at 650 g/l and pigmented coatings at 350 g/l with both proposed to be reduced to 50 g/l effective July 1, 2007, because compliant coatings have been found to be available.

Traffic Coatings

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

PROJECT DESCRIPTION

The proposed amendments to Rule 1113 include the following:

- Amend the definition for floor coatings to include clear floor coatings, except for IM coatings and clear wood finishes. This clarification is necessary to keep the intent of the original definition which included both opaque and clear coatings.

- Add a new definition for nonflat high gloss by separating this category from the general nonflat category.

- Extend the VOC limit effective date for nonflat high gloss coatings from July 1, 2006 to July 1, 2007.

- Modify the definition of VOC to exclude TBAc when used in formulating IM coatings and zinc-rich industrial maintenance primers.

- Remove the requirement to submit an annual report to the Executive Officer for the following specialty coating categories: clear brushing lacquers, rust preventative coatings and special primers. These coatings have or will be subsumed by July 1, 2006, into the lower VOC general coating categories lacquer; nonflat; and primer, sealer, undercoater; respectively.

- Change the VOC limit of 50 g/l for quick-dry enamels to 150 g/l effective July 1, 2006, and implement the limit of 50 g/l effective July 1, 2007.

- In the Table of Standards in paragraph (c)(2), reduce the VOC content limits to 100 g/l for bond breakers, concrete-curing compounds, dry-fog coatings and traffic coatings, and to 50 g/l for fire retardant coatings effective July 1, 2007.

- Update administrative requirements such as outdated labeling requirements for brushing lacquers, technology assessments and acronyms.

Table 1-1 outlines the current and proposed VOC content limits for the affected coating categories. A detailed version of PAR 1113 can be found in Appendix A.

TABLE 1-1

Current and Proposed VOC Content Limits
(grams of VOC per liter of coating, less water and less exempt compounds)

COATING TYPE	Current Limit*	Effective Date	Effective Date
		7/1/06	7/1/07
Bond Breakers	350		100
Concrete-Curing Compounds	350		100
Dry-Fog Coatings	400		100
Fire-Retardant Coatings			
Clear	650		50
Pigmented	350		50
Nonflat Coatings, High Gloss	150		50
Quick-Dry Enamels	250	150	50
Traffic Coatings	150		100

ALTERNATIVES

The Draft EA will discuss and compare the relative merits of alternatives to the proposed project as required by CEQA and by SCAQMD Rule 110 when there are significant adverse impacts. Alternatives must include realistic measures for attaining the basic objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. Alternatives are typically designed to mitigate the significant adverse environmental impacts of the project. In addition, the range of alternatives must be sufficient to permit a reasoned choice and it need not include every conceivable project alternative. The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. Suggestions on alternatives submitted by the public will be evaluated for inclusion in the Draft EA.

As mentioned previously, NPCA acknowledged the air quality challenges of the region and has submitted an alternative to the proposed project that is intended to be emissions neutral. The NPCA proposal will be considered an alternative to the

proposed project and would be evaluated in the Draft EA in accordance with the requirements of CEQA. The current NPCA proposal to the proposed amendment to Rule 1113 expands the number of coating categories, maintains the current limits and deletes the future effective limits for those categories. The NPCA proposal also advances the future limit for a portion of the flat coatings category. The NPCA proposal will result in significant foregone emission reductions from the current Rule 1113.

SCAQMD Rule 110 does not impose any greater requirements for a discussion of project alternatives in an environmental assessment than is required for an Environmental Impact Report under CEQA. Alternatives will be developed based in part on the major components of the proposed rule. The rationale for selecting alternatives rests on CEQA's requirement to present "realistic" alternatives; that is alternatives that can actually be implemented. CEQA also requires an evaluation of a "No Project Alternative." Written suggestions on potential project alternatives received during the comment period for the Initial Study will be considered when preparing the Draft EA.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Potentially Significant Impact Areas

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed amendments to SCAQMD Rule 1113 – Architectural Coatings.

GENERAL INFORMATION

Project Title:	Proposed Amended Rule 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:	Michael A. Krause (909) 396-2706
Rule Contact Person:	Dan Russell (909) 396-2333
Project's Sponsor Name:	South Coast Air Quality Management District
Project's Sponsor Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not Applicable
Zoning:	Not Applicable
Description of Project:	The proposed amendments to Rule 1113 would define tertiary butyl acetate as a non-VOC on a limited basis, lower the VOC limits from specific coating categories, differentiate nonflat high gloss from the other nonflat coatings, postpone the compliance date for nonflat high gloss coatings and quick-dry enamels by one year and other minor clarifications.
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. Any checked items represent areas that 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
☐	Agricultural Resources	☐	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality	☐	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 will be 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 January 24, 2006 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

		Potentially Significant Impact	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 would 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): The proposed amendments do not require any changes in the physical environment that would obstruct any scenic vistas or views of interest to the public. In addition, no major changes to existing architectural coatings operations or stockpiling of additional materials or products outside of existing facilities are expected. The reason for this

determination is that the proposed project is not expected to produce any physical changes because PAR 1113 is expected only to alter the formulation of specific architectural coatings. Coatings subject to PAR 1113 for use on an architectural structure is anticipated to improve the aesthetic view of that structure. Therefore, no significant impacts adversely affecting existing visual resources such as scenic views or vistas, etc. are anticipated to occur.

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

I. d): There are no components in PAR 1113 that would alter existing work practices, or require coating activities at night. Therefore, PAR 1113 is not expected to create a new source of substantial light or glare that would adversely affect day or nighttime views in an area.

Based on the above considerations, significant adverse impacts to aesthetics are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
II. AGRICULTURE RESOURCES. Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Famrland 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)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☑

SIGNIFICANCE CRITERIA

Project-related impacts on agricultural resources would 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 would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

DISCUSSION

II. a) - c): As discussed under Aesthetics, no major construction is associated with the lowering of the VOC content of affected coating categories. Further, the coating activities would occur at existing industrial or commercial areas. Therefore, the proposed project would not result in any construction of new buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Since the proposed project would not substantially change the equipment or process in which the coatings are applied, there are no provisions in the proposed amended rule that would convert farmland to non-agricultural uses, thus, affecting land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project.

Based on the above considerations, significant adverse impacts to agriculture resources are not expected from PAR 1113. Since there are no significant adverse impacts, no

mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. 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)?	☑	☐	☐

SIGNIFICANCE CRITERIA

Impacts will be evaluated and compared to the significance criteria in Table 2-1. If impacts equal or exceed any of the following criteria, they will be considered significant.

TABLE 2-1

Air Quality Significance Thresholds

Mass Daily Thresholds[a]		
Pollutant	**Construction**	**Operation**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants [b]		
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) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	 10.4 μg/m^3 (recommended for construction) [c] 2.5 μg/m^3 (operation) 1.0 μg/m^3 20 μg/m^3	
Sulfate 24-hour average	 1 ug/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] SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[c] Ambient air quality threshold based on SCAQMD Rule 403.

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

DISCUSSION

III. a): PAR 1113 would not conflict with or obstruct, air quality plan implementation but rather implement, in part, control measure CTS-07 from the 2003 AQMP, which was

developed for the primary purpose of controlling emissions to attain and maintain all federal and state ambient air quality standards for the district. The 2003 AQMP concluded that major reductions in emissions of VOC and NOx are necessary to attain the air quality standards for ozone and PM10. VOC emissions contribute to the formation of ozone and PM10, two pollutants that exceed the state and national ambient air quality standards. VOCs react photochemically with NOx to form ozone. Ozone is a strong oxidizer that irritates the human respiratory system and damages plant life and property. VOCs also react in the atmosphere to form PM10, a pollutant that adversely affects human health and limits visibility. Because these small particulates penetrate into the deepest regions of the lung, they affect pulmonary function and have even been linked to increased morbidity and mortality. The net affect of implementing PAR 1113 is that VOC emissions from this source category will be reduced 1,620 pounds per day thus providing an eventual overall direct air quality benefit. This VOC emission reduction will assist the SCAQMD's progress in attaining and maintaining the ambient air quality standards for ozone and, although there is a delay in emission reductions, the proposed project will not obstruct with the goals of the AQMP since the overall air quality benefit will be achieved in 2007 when the next AQMP is expected to be promulgated and implemented.

III. b) and f): To determine whether or not air quality impacts from adopting and implementing the proposed amendments are significant, impacts will be evaluated and compared to the criteria in Table 2-1. If impacts equal or exceed any of the criteria in Table 2-1, they will be considered significant. All feasible mitigation measures will be identified and implemented to reduce significant impacts to the maximum extent feasible. By delaying compliance with some existing architectural coating categories, the amendments to the existing air quality Rule 1113 and its future compliance requirements will result in a delay in anticipated VOC emission reductions that exceed the SCAQMD daily operational VOC significance threshold of 55 pounds per day. In order to determine the amount of increase, the existing VOC emission inventory of the affected coating categories needs to be determined to compare with the overall emission reduction. The following discussion provides the data necessary to determine the significance of the air quality impact from PAR 1113.

VOC Emission Inventory for Affected Coating Categories

To establish an emission inventory for the architectural coatings source category , SCAQMD staff relies on air quality data provided by CARB. CARB gathers air quality data for the state of California, ensures the quality of this data, designs and implements air models, and sets ambient air quality standards. CARB compiles the state emissions inventory and performs air quality and emissions inventory special studies. CARB uses the emissions inventory and air quality models to evaluate air quality which is then used by the local air agencies to reduce emissions in each of the 35 local air basins.

Table 2-2 summarizes the 2000 emissions inventory for both California and the district and with the assumption that 45 percent of the state sales are within the AQMD jurisdiction.

TABLE 2-2

2000 California and SCAQMD Emission Inventory

Coating Category - Proposed VOC Content Limit (grams/liter)	California		District	
	Sales	Emission Inventory	VOC Emission Inventory	
	Gallons	Tons per year	Tons per year	Tons per day
Bond Breakers – 100	67,308	22.56	10.15	0.03
Concrete-Curing Compounds – 100	359,428	112.56	50.65	0.14
Dry-Fog Coatings – 100	305,557	385.19	173.33	0.47
Fire-Retardant Coatings – 50	PD*	5.33	2.40	0.01
Nonflat, High Gloss – 150	1,961,924	549.22	247.15	0.68
Quick-Dry Enamel – 150	932,806	439.06	197.58	0.54
Quick-Dry Enamel – 50	828,113	234.60	105.58	0.29
Traffic coatings – 100	2,249,225	838.65	838.65	1.03
Totals	6,704,361	1,364.28	613.93	1.68

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

Delay of Emission Reductions and Future Emission Reductions

There are two purposes for amending Rule 1113. First, PAR 1113 would allow additional time for manufacturers to formulate compliant products for specific coating categories. The VOC emission reductions postponed for one year from the nonflat, high gloss category will be 960 pounds per day and from the quick-dry enamel category, 400 pounds per day. Thus, the total delay in VOC emission reductions will be 1,360 pounds per day but will be temporary and last only until July 1, 2007 when the original lower VOC content limits are required to be met. On July 1, 2007, all originally anticipated VOC emission reductions from nonflat, high gloss coatings and quick-dry enamels will be achieved. Consequently, PAR 1113 will diminish existing air quality, but for only one year.

The second purpose for amending Rule 1113 is to further reduce VOC emissions, which contribute to ozone and PM10 formation. PAR 1113 is expected to achieve an overall VOC emission reduction of 1,620 pounds per day from bond breakers, concrete-curing compounds, dry-fog coatings, fire-retardant coatings and traffic coatings beginning July 1, 2007. These reductions will be permanent and will provide an overall air quality benefit to the district. Table 2-3 summarizes the

estimated delay in VOC emission reductions as well as the future emission reductions from PAR Rule 1113 beyond the current rule.

TABLE 2-3

Estimated Delay of Emission Reductions and
Future Emission Reductions from the Proposed Project

Coating Category	**Proposed VOC Content Limit** (grams/liter)	**Delay VOC Emissions Reductions** (pounds per day)	**VOC Emission Reductions** (pounds per day) **as of July 1, 2007**
Bond Breakers	100		40
Concrete-Curing Compounds	100		180
Dry-Fog Coatings	100		800
Fire-Retardant Coatings	50		20
Nonflat, High Gloss Coatings*	50	960	
Quick-Dry Enamel*	150/50	400	
Traffic Coatings	100		580
Total		**1,360**	**1,620**

* The emission reductions from these categories have been accounted for in prior rule amendments.

Since the delay in VOC emission reductions in year 2006 exceeds the SCAQMD's daily VOC significance threshold, the impact to air quality will be significant. This significant adverse impact, however, will only be temporary for one year as the original VOC content limits will be required to be met by July 1, 2007.

III. c): The cumulative air quality impacts from the proposed amendments will be analyzed in the Draft EA.

III. d) The potential pollutant concentrations impacts from the exposure of TBAc to sensitive receptors will be further analyzed it the Draft EA. The short-term (acute) non-carcinogenic effects from a "worst case" scenario use of TBAc in IM coating applications will be based on the parameters of the health analysis provided by Cal/EPA. 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. The analysis would also include a comparison of toxic impact from solvents currently used to formulate coating affected by PAR 1113 (bond breakers, concrete curing, dry fog, fire retardants and traffic coatings) to the solvents used in reformulating new compliant lower VOC coatings. Table 2-4 lists typical solvents found in affected coatings at the current VOC content limits and solvents found in the reformulated lower-VOC coatings, along with the high weight percent of the solvents

in the formulations. This data was compiled from MSDS sheets of affected coatings from a variety of coating manufacturers. Further, it should be noted that MSDS sheets do not always lists all the solvents used in coating formulations but rather highlight the potentially hazardous solvents.

TABLE 2-4

Typical Solvents Found in Affected Coatings at Current and Lower-VOC Limits

		AFFECTED COATING CATEGORIES				
		Bond Breakers	**Concrete Curing**	**Dry Fog**	**Fire Retardant**	**Traffic**
	VOC Content	350 g/l	350 g/l	400 g/l	350 g/l	150 g/l
Existing Solvents	**CAS No.**	**Weight Percent (High)**				
Ethylene glycol	107211	10	10			1.46
Stoddard solvent	8052413	2.5	25		25	
Solvent naphtha	64742956	1	5			
1,2,4-Trimethylbenzene	95636	1	5			
Mesitylene	108678	1				
Propylene glycol phenyl ether	770354		5			
Diethylene gylcol	111466		5			
Hydrocarbon polymer	68527253		28			
Alpha methyl styrene	9011114		35			
VM&P naphtha	8032324					
Petroleum distillates	8002059				25	
Mineral Spirits	64742887					
Isopropanol	67630					
p-Chlorobenzotrifluoride	98566				8	
Methanol	67561					2.89
Texanol ester alcohol	25265774					2
Denatured ethanol	64175					5
		Bond Breakers	**Concrete Curing**	**Dry Fog**	**Fire Retardant**	**Traffic**
	VOC Content	100 g/l	100 g/l	100 g/l	50 g/l	100 g/l
Replacement Solvents	**CAS No.**	**Weight Percent (High)**				
Ethylene glycol	107211	10		10		10
Stoddard solvent	8052413	2.5	2.5			
Solvent naphtha	64742956	1			5	
1,2,4-Trimethylbenzene	95636	1			5	
Mesitylene	108678	1				

TABLE 2-4 (CONCLUDED)

Typical Solvents Found in Affected Coatings at Current and Lower-VOC Limits

		AFFECTED COATING CATEGORIES				
		Bond Breakers	**Concrete Curing**	**Dry Fog**	**Fire Retardant**	**Traffic**
	VOC Content	100 g/l	100 g/l	100 g/l	50 g/l	100 g/l
Replacement Solvents	**CAS No.**	**Weight Percent (High)**				
Glycol ether DB	111762		4	1		
Epoxy resin	25068386		70			
Acrylic polymer			28			
Sodium glucoheptonate	31138655		60			
Propylene glycol phenyl ether	770354		5			
Diethylene gylcol montobutyl ether	112345			5		2
VM&P naphtha	8032324			30		
Propylene glycol	57556			5		5
Texanol ester alcohol	25265774			5		5
Isopropanol	67630			2		5
Styrene acrylic copolymer				20		5
Methanol	67561			1	0.5	2.5
Vinyl Acetate	108054				1	
Ethylbenzene	100414				5	0.5
Formaldehyde	50000				1	
Acetone	67641					26
Denatured ethanol	64175					

III. e): Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. PAR 1113 will require the reduction of the VOC content limit from various coating categories which will require coating manufacturers to formulate with solvents that emit less VOC. The proposed amendments will also classify TBAc as an exempt solvent for IM coatings and zinc-rich maintenance primers. To comply with the lower VOC content limits, some architectural coatings will be water-based. Water-based coatings have less solvent than existing solvent-based coatings. Based on site visit comparison between a solvent-based coating manufacturing facility and a water-based coating manufacturing facility, facilities that convert to water-based coatings are assumed to have a beneficial effect on nuisance odor. However, due to the re-classification of

TBAc, PAR 1113 could increase the amount of exempt solvents used for two coating categories that might not be reformulated using water-based formulations.

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

In order to determine the extent of the potential odor impact from the proposed rule, an odor analysis will need to be conducted to compare the conventional solvents with the lower VOC formulations, including TBAc.

		Potentially Significant Impact	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?	☐	☐	☑
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 would 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), d): Implementation of the proposed amendments will not cause impacts to sensitive habitats of plants or animals because they do not require acquisition of or construction on open space areas. The overall intent of the proposed amendments is to reduce VOC emissions from affected coating categories. Therefore, the proposed amendments to Rule 1113 will have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely in the SCAQMD's

jurisdiction. The overall net effect of implementing the proposed amended rule will be improved air quality resulting from reduced VOC emissions, which is expected to be beneficial for both plant and animal life. Modifications at existing affected coating manufacturers to switch to low-VOC coatings, such as water-based, would not require acquisition of additional land or further conversions of riparian habitats or sensitive natural communities where endangered or sensitive species may be found.

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

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

Based on the above consideration, significant adverse impacts to biological resources are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	**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 or site or unique geologic feature?	☐	☐	☑
d)	Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☑

SIGNIFICANCE CRITERIA

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

Based on the above consideration, significant adverse impacts to cultural resources are not expected from PAR 1113. Since there are no significant adverse impacts, no

mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

		Potentially Significant Impact	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?	☐	☐	☑
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

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

VI. b), c), d): The architectural coating operations are not expected to change as a result of lowering the VOC content limit of affected coatings. Since there will be no additional demand for electricity, there will be no need for new or substantially altered power or natural gas utility systems as a result of the proposed project. The proposed project will have a non-significant effect on the electricity capacity or demand and, therefore, no significant impact on peak or base demands for electricity.

Based on the above consideration, significant adverse impacts to energy are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	**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?	☐	☐	☑
	• Landslides?	☐	☐	☑
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 waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☑

SIGNIFICANCE CRITERIA

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

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, and 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): Architectural coatings are applied to new and existing buildings, stationary structures, roads, etc. The proposed amendments affect coating formulators, sellers, and users and have no effects on geophysical formations in the district because the proposed project does not require or induce the construction of any structures. Coating activities and operations are not expected to change from current practice so the proposed amendments to Rule 1113 will not expose people to potential substantial adverse geological effects greater than what they are exposed to already. Lowering the VOC content limit of affected coating categories will not result in exposing people or structures to risks of loss, injury, or death involving: rupture of an earthquake fault, seismic ground shaking, ground failure or landslides.

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

VII. c), d): The proposed project does not involve construction of new structures and, therefore, will not involve locating any structures on soil that is unstable or expansive. For this reason, no destabilization of unstable soils would be expected that could cause on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

VII. e): The proposed project does not involve the installation of septic tanks or alternative waste water disposal systems. Therefore, this type of soil impact will not occur.

Based on the above considerations, significant adverse impacts to geology and soils are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	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, disposal of hazardous materials?	☐	☐	☑

b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident 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?	☐	☐	☑
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 airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h)	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?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

SIGNIFICANCE CRITERIA

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

VIII. b), c): Hazard impact concerns are related to the risk of fire, explosions, or the release of hazardous substances in the event of an accident or upset conditions. It is expected that the lower VOC content limits required by PAR 1113 may be achieved, in part, through the use of replacement solvents and predominantly water-borne technologies. Overall, exempt solvents are considered to be viable alternatives to other, more toxic solvents currently found in various coatings. However, as noted in Table 2-4 in the "Air Quality" section, the typical solvents found in the affected coatings at the current VOC content limits are the same or similar to the solvents found in the same coatings reformulated to the lower-VOC content limit. In order to comply with the lower VOC content limits, the affected coatings are expected to be formulated with less of these similar solvents and more water, which are typically less hazardous than currently used. The coatings reformulated to lower VOC content limits typically are subject to a change in the resin technology making the resin "softer" and, thus, less solvent is needed to break the resin down. As mentioned previously, the solvent list was compiled from MSDS sheets from a variety of coating manufacturers and the MSDS may not list all the solvents used in the formulation but

rather highlight the solvents with potentially hazardous affects. Since the type of solvents are not substantially changing with the reformulation of the affected coatings, the potential adverse hazard impact from exposure to these solvents will either reduce or not change from current conditions.

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

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

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

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

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

- Any self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode, and

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

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

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

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

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

VIII. d): Government code §65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). Since the proposed project primarily affects the VOC content limit of specific coatings used by coating contractors, hazardous waste handling practices, if any, at regulated facilities would not be affected. However, it is expected that any facility using affected coatings that are on the §65962.5 list will continue to comply with any applicable requirements.

VIII. e), f): Even for facilities that may be located near airports or private airstrips, the proposed project will not create new safety hazards because any affected coating operations are not expected to change their current operating practices.

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

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

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
3. Procedures to mitigate a release, or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
    a. The safe handling of hazardous materials used by the business;
    b. Methods of working with the local public emergency response agencies;
    c. The use of emergency response resources under control of the handler; and
    d. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

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

VIII. h): Architectural coatings are used predominantly in urbanized areas. For this reason and the fact that PAR 1113 affects a limited number of architectural coating

categories, the proposed project is not expected to increase the probability of wildfires in urbanized or wilderness areas.

VIII. i): PAR 1113 is expected to reduce the VOC content limits for specified coating categories primarily through reformulation of the solvent or conversion to alternative resin technologies. It is anticipated that the reformulation will primarily entail the use of water-based components or low-VOC materials less hazardous or flammable than currently being used. Refer to the discussion in VIII b) and c) for the comparison of solvents currently used in the affected coatings versus the solvents used to reformulate the same coatings to a lower VOC content limit.

The proposed amendments will also specifically consider TBAc as a non-VOC on a limited basis. TBAc has low photochemical reactivity, but physical and chemical properties are generally similar to the conventional solvents currently used in IM coatings at noted in Table 2-5. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Consequently, local fire departments ensure that adequate permit conditions are in place to protect against potential risk of upset from the use of hazardous materials. However, any use of hazardous materials at affected facilities is not expected to change and may even decrease as a result of implementing the proposed project.

TABLE 2-5

Chemical Characteristics for Typical IM Coating Solvents

Traditional/Conventional Solvents						
Chemical Compounds	**M.W.**	**Boiling Point** (^{o}F)	**Flashpoint**[a] (^{o}F)	**Vapor Pressure** (mmHg @ 68 ^{o}F)	**Lower Explosive Limit** (% by Vol.)	**Flammability Classification** (NFPA)*
Toluene	92	231	40	22	1.3	3
Xylene	106	292	90	7	1.1	3
MEK	72	175	21	70	2.0	3
Isopropanol	60	180	53	33	2.0	3
Butyl Acetate	116	260	72	10	1.7	3
Isobutyl Alcohol	74	226	82	9	1.2	3
Stoddard Solvent	144	302 - 324	140	2	0.8	2

TABLE 2-5 (CONCLUDED)

Chemical Characteristics for Typical IM Coating Solvents

Traditional/Conventional Solvents						
Chemical Compounds	**M.W.**	**Boiling Point** (^oF)	**Flashpoint**[a] (^oF)	**Vapor Pressure** (mmHg @ 68 ^oF)	**Lower Explosive Limit** (% by Vol.)	**Flammability Classification** (NFPA)*
Petroleum Distillates (Naptha)	100	314 - 387	105	40	1.0	4
EGBE	118	340	141	0.6	1.1	2
EGME	76	256	107	6	2.5	2
EGEE	90	275	120	4	1.8	2
Replacement Solvents						
Chemical Compounds	**M.W.**	**Boiling Point** (^oF)	**Flashpoint**[a] (^oF)	**Vapor Pressure** (mmHg @ 68 ^oF)	**Lower Explosive Limit** (% by Vol.)	**Flammability Classification** (NFPA)*
Acetone	58	133	1.4	180	2.6	3
Di-Propylene Glycol	134	451	279	30	1	1
Propylene Glycol	76	370	210	0.1	2.6	1
Ethylene Glycol	227	388	232	0.06	3.2	1
texanol	216	471	248	0.1	0.62	1
Oxsol 100	181	282	109	5	0.90	1
t-Butyl Acetate	113	208	59	34	1.5	3

*National Fire Protection Association

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

Thus, the use of TBAc as a replacement solvent for IM coatings and zinc-rich maintenance primers will not result in adverse hazard impacts as the conditions which lead to a potentially hazardous situation is not expected to substantially change from current conditions.

Based on the above considerations, significant adverse impacts to hazards and hazardous materials are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☑
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, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑
d)	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 flooding on- or off-site?	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☑
g)	Place housing 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?			
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flaws?	☐	☐	☑
i)	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?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑
o)	Require 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 would be considered significant if any of the following criteria apply:

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 would 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.

Water Demand:

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

DISCUSSION

IX. a), f): Lowering the VOC content limit of coatings at affected facilities will have no direct or indirect impact on hydrology and water quality because the reformulation of the coatings is not expected to change the current architectural coating operation practices or alter the coating formulations to be more detrimental to water quality. It is likely that resin manufacturers and coating formulators will replace conventional coating formulations and, as noted in Table 2-4, may contain similar solvents. Also, due to the change in resin technology to formulate coatings with lower VOC content, the need for stronger solvents to break down the newer "softer" resin is reduced.

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

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

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

Consumer and user outreach and education programs such as NPCA's "Protocol for Management of Post Consumer Paint," and the SCAQMD's "Painter's Guide to Clean Air" provide the public and painting contractors with information on environmentally sound coating disposal practices. These public outreach programs are expected to reduce the amount of coating waste material entering the sewer systems, storm drainage systems, and being dumped on the ground, therefore, further reducing any water quality impacts associated with the improper disposal of compliant coatings.

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

To evaluate potential water quality impacts from PAR 1113, it is assumed that future compliant AIM coatings will be formulated primarily with water-borne technologies. As a result, more water will be used for clean-up and the resultant wastewater material could be disposed of into the public sewer system. It is anticipated that current coating

equipment (i.e., spray guns, rollers, and brushes) clean-up practices of using water will continue into the future. Table 2-6 illustrates the "worst-case" potential increase of waste material likely to be received by POTWs in the district as a result of implementing PAR 1113. POTW's average daily flow is based on historical wastewater flow in the district. Further, the estimated usage is based on the assumption that 45 percent of the state sales (from Table 2-2) are within the SCAQMD jurisdication.

TABLE 2-6

Projected POTW Impact From Implementing PAR 1113

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

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

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

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

mgd = millions of gallons per day

The potential increase estimated as a result of implementing PAR 1113 is considered to be well within the projected capacity of POTWs in the district based on historical wastewater data. Hence, wastewater impacts associated with the disposal of water-borne clean-up waste material generated from PAR 1113 affected coating categories are not considered significant. With the increasing trend toward less toxic water-borne coatings, it is likely that there will be less severe impacts to water quality because of improvements in affluent water quality. Therefore, PAR 1113 will not significantly adversely affect water resources, water quality standards, groundwater supplies, existing water supplies or wastewater treatment facilities.

IX. b), n): Historically, potential water demand to reformulate conventional coatings into waterbased coatings and to clean up waterbased coatings has not resulted in a significant adverse impact on water demand or depleted groundwater supplies. Using "worst-case" assumptions, increased water demand from implementing PAR 1113 can be calculated for both manufacturer of water-based coatings and water used to clean coating equipment. As shown in Table 2-7, water demand associated with the manufacture and clean-up of water-borne formulations is estimated to be 16,548 gallons per day (6.04 million gallons per year). This increased water demand does not exceed the SCAQMD's significant threshold of 5,000,000 gallons per day and, therefore, is not considered to be a significant water demand impact.

While it is not possible to predict water shortages in the future, existing entitlements and resources in the district provide sufficient water supplies that currently exceed demand. Further, according to the Metropolitan Water District (MWD), the largest supplier of water to California, "For its part, Metropolitan expects to be able to meet 100 percent of its member agencies' water needs for the next ten years, even during times of critical drought. Metropolitan and its member agencies have identified and are implementing programs and projects to assure continued reliable water supplies for at least the next 20 years."[5] MWD is expected to continue providing a reliable water supply through developing a portfolio of diversified water sources that includes: cooperative conservation; water recycling; and groundwater storage, recovery, and replenishment programs. Other additional water supplies will be supplied in the future as a result of water transfer from other water agencies, desalination projects and state and federal water initiatives, such as CALFED and California's Colorado River Water Use Plan.

TABLE 2-7

Projected Water Demand from Implementing PAR 1113

Year	Projected Population[a] (millions of people)	Projected Water Demand[b] (bgy)	Projected Coating Sales[c] (mgy)	Projected Mfgr Demand[d] (mgy)	Projected Cleanup Demand[e] (mgy)	PAR 1113 Total Demand[f] (mgy)	Total Impacts[g] (% Increase)
2006	17.04	1,414.84	3.02	3.02	3.02	6.04	0.0004

[a] Population projections obtained from SCAG's 1998 RTP.

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

[c] Obtained from Table 2-2 in this Initial Study.

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

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

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

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

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

As shown in Table 2-7, it is within the capacity of the local water suppliers to supply the small incremental increase in water demand associated with the implementation of PAR 1113. Sufficient water supplies are available to serve the project from existing entitlements and no new or expanded entitlements are needed to implement the proposed project. Therefore, no significant water demand impacts are expected as the result of implementing PAR 1113.

5 From Metropolitan Water District, Annual Progress Report to the California's State Legislature, February 2002.

IX. c), d), e): The proposed project would not change current architectural coating application or practices. Consequently, no major construction activities will be necessary to comply with PAR 1113, so the proposed project will not require site preparation, so the proposed project is not expected to alter any existing drainage patterns, increase the rate or amount of surface runoff water that would exceed the capacity of existing or planned stormwater drainage systems.

IX. g), h): Since PAR 1113 does not require construction of new structures, it will not result in placing housing in a 100-year flood hazard areas. Architectural coating contractors are not expected to change their existing coating practices, so any flood hazards would be part of the existing setting or would be present for reasons unrelated to PAR 1113.

IX. i), j): Since PAR 1113 does not require construction of new facilities, it will not alter existing flood risks or risks from seiches, tsunami's or mudflow conditions.

IX. k): 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.

IX. l), m), o): As indicated in the discussion under items IX a) and f), the proposed project is not expected to result in a significant increase in the volume of wastewater generated in the district. Similarly, as discussed under items IX b) and n), the proposed project is not expected to significantly increase demand for water in the district. 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.

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 and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	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?	☐	☐	☑
c) Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

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.): Lowering the VOC content limit of certain coatings manufactured by affected facilities will not create divisions in any existing communities because there is no anticipated change to current architectural coating practices. Further, the proposed project does not require construction of any features, such as freeways, that would physically divide an established community.

X. b), c): Architectural coating operations would still be expected to comply, and not interfere, with any applicable land use plans, zoning ordinances, habitat conservation or natural community conservation plans. There are no provisions of the proposed project that would directly affect these plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no present or planned land uses in the region or planning requirements will be altered by the proposed project. No new development or alterations to existing land use designations will occur as a result of the implementation of the proposed amendments. It is not

anticipated that architectural coating operations located in the district would require additional land to continue current operations or require rezoning as a result of implementing PAR 1113. Therefore, no significant adverse impacts affecting existing or future land uses are expected.

Based on the above consideration, significant adverse impacts to land use and planning are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	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 would 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 of the proposed amended rule that would directly result in the loss of availability of a known mineral resource, such as aggregate, coal, shale, etc., of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The proposed project would lower the VOC content of certain coatings, which typically do not require mineral resources to reformulate compliant products.

Based on the above consideration, significant adverse impacts to mineral resources are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XII.	**NOISE.** Would the project result in:			
a)	Exposure of persons to or generation of 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 permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
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 airport	☐	☐	☑

	or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			
f)	For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

SIGNIFICANCE CRITERIA

Impacts on noise would be considered significant if:

- Construction noise levels exceed 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), b), c), d): Excessive generation of noise, excessive groundborne vibration, or substantial increase in ambient noise levels is generally not associated with architectural coating operations. The proposed project is not expected to increase noise levels relative to existing noise levels that are currently generated from the application and use of architectural coatings. Even though architectural coating operations are not noise intensive, it is expected that painting contractors would comply with existing relevant local community noise standards and ordinances. It is likely that noise generated by coating contractors' operations would be indistinguishable from noise sources generated from adjacent sources which may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses. In general, the primary noise source at existing facilities that manufacture architectural coatings is generated by vehicular traffic, such as trucks transporting raw materials to the facility, trucks hauling wastes away from the facility, trucks to recycle waste or other materials, and miscellaneous noise such as spray equipment (i.e. compressors, spray nozzles) and heavy equipment use (forklifts, trucks, etc.). Noise would typically be generated during operating hours, which generally

range from 6 a.m. to 5 p.m. Monday through Friday. PAR 1113 is not expected to alter noise from existing noise generating sources. It is likely that coating contractors or affected facilities manufacturing architectural coatings are operating in compliance with any local noise regulations that may exist in their respective communities. Additionally, the implementation of PAR 1113 is not expected to result in significant noise impacts in residential areas because changing the VOC content will not affect noise levels from coating applications, since it is expected that coating contractors would use the same or similar equipment. Contractors or do-it-yourselfers applying compliant PAR 1113 coatings in residential areas are expected to comply with local community noise standards. Thus, lowering of VOC content limit requirement of affected coating categories would have no additional noise impacts.

XII. e), f): Lowering the VOC content of coatings affected by PAR 1113 is not expected to alter in any way coating contractor operations. As a result, noise levels from coating equipment is not expected to change as a result of the proposed project and, therefore, will not create significant adverse noise impacts even if coating operations occur near an airport or private airstrip.

Based on the above considerations, significant adverse impacts to noise are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	**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 existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

SIGNIFICANCE CRITERIA

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

Based on the above considerations, significant adverse impacts to population and housing are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	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 would 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), b): The proposed amendments will not substantially increase the amount of businesses or equipment in the district. Reformulation of coatings is not expected to require new or additional fire fighting resources or police protection. In fact, PAR 1113 may actually result in fewer impacts to public service agencies because compliant coatings are generally expected to be formulated with less hazardous materials compared to current conventional coatings. Any increase in accidental releases of compliant coating materials would be expected to result in a concurrent reduction in the number of accidental releases of existing conventional coating materials. As a result, the net number of accidental releases would be expected to remain constant, allowing for population growth in the district. Additionally, future compliant coating materials are not expected to cause significant adverse human health impacts, so accidental release scenarios would be expected to pose a lower risk to the public and less need for emergency responders such as fire and police departments. Furthermore, if manufactures continue to use solvents such as texanol, propylene glycol, ethylene glycol, etc., in their compliant water-borne coatings, fire departments would not be expected to experience adverse impacts because in general these solvents are equal or less flammable solvents than currently used solvents and, therefore, create fewer emergency incidents. Additional demands on fire or police department services are not expected to increase, so impacts to these services are, therefore, not considered to be significant. Any potential increase in the use of flammable substances, such as

TBAc or acetone, would be offset by a reduction in the use of flammable solvents such as toluene or xylene. As a result, fire or police department performance objectives, service ratios, response times, etc., are not expected to be significantly adversely affected.

XIV. c), d): Because coating operations are not expected to change, coating contractor operations are not expected to require new employees. As noted in item "XIII. Population and Housing," the proposed project will not increase population growth in the district. Consequently, no new impacts to schools, parks or other recreational facilities are foreseen as a result of implementing the proposed amendments to Rule 1113.

XIV. e): Lowering the VOC content of a few selected architectural coatings is not anticipated to result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times or other performance objectives because use of reformulated coatings would simply displace use of conventional coatings.

Based on the above considerations, significant adverse impacts to public services are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	**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?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts to recreation would 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): The proposed amendments will not generate additional demand for, or otherwise affect land used for recreational purposes. The proposed amendments are not expected to have adverse affects on land uses in general. As discussed under "Land Use and Planning" above, there are no provisions in the proposed project that would affect land use plans, policies or ordinances, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposal. As already noted in item "XIII, Population and Housing", the proposed project is not expected to increase population growth in the district because use of low VOC coatings does not require additional employees. As a result, no additional demand for parks is anticipated. Further, the proposed amendments would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Based on the above considerations, significant adverse impacts to recreation are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	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 would be considered significant if the following occur:

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

DISCUSSION

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

Based on the above consideration, significant adverse impacts to solid/hazardous waste are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☑

b)	Exceed, either individually or cumulatively, a level of service standard 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 or?	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☑
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts on transportation/traffic would 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.
- There is an increase in traffic (e.g., 350 heavy-duty truck round-trips per day) 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.

DISCUSSION

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

XVII. c): Air traffic patterns are not expected to be directly or indirectly affected by the proposed amended rule because the coating activity will not require any air transportation of any materials. Since PAR 1113 will not require transport of materials by air, no increase in any safety risks are expected.

XVII. d), e): The proposed amendments to Rule 1113 are not expected to generate significant not have direct or indirect roadway hazard impacts because the proposed project does not require or induce the construction of roadway design features. PAR 1113 simply lowers the VOC content limit of certain coatings, so it is expected that the architectural coating operations would not change.

XVII. g): Affected facilities would still be expected to comply with, and not interfere with adopted policies, plans, or programs supporting alternative transportation. The lowering of the VOC content limit of certain coatings in Rule 1113 will not hinder compliance with any applicable alternative transportation plans or policies.

Based on the above considerations, significant adverse impacts to transportation/circulation are not expected from PAR 1113. Since there are no significant adverse impacts, no mitigation measures are required and this environmental topic will not be further analyzed in the draft EA.

	Potentially Significant Impact	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?	☐	☐	☑
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 item III above, the proposed amended rule has the potential to cause significant adverse air quality impacts from the delay in complying with current lowering of the VOC content for certain architectural coatings in Rule 1113. However, the delay is expected to last one year when the original VOC content limits are required to be met. Therefore, the proposed project is not expected to permanently 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. Similarly, PAR 1113 would not eliminate important examples of the major periods of California history or prehistory or otherwise degrade cultural resources.

XVIII.b) The foregoing analysis indicates that implementing PAR 1113 may generate significant adverse impacts to air quality. This environmental topic will be analyzed in the Draft EA and cumulative impacts will be analyzed where warranted.

XVIII.c) Based on the foregoing analyses, PAR 1113 has the potential to cause significant adverse air quality impacts, which could adversely affect human beings, either directly, or indirectly.

APPENDIX A OF THE NOTICE OF PREPARATION/ INITIAL STUDY

PROPOSED AMENDED RULE 1113

In order to avoid confusion, the proposed amended rule included in the NOP/IS package has been excluded. The "PAR 1113 January, 2006" version of the proposed amended rule was circulated with the NOP/IS that was released on January 24, 2006 for a 30-day public review and comment period ending February 22, 2006.

Original hard copies of the NOP/IS, which include the "PAR 1113 January, 2006" version of the proposed amended rule, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX C

COMMENTS ON THE INITIAL STUDY AND RESPONSES TO THE COMMENTS

Institute for Research and Technical Assistance
a nonprofit organization

IRTA

January 31, 2006

Michael Krause
Air Quality Specialist
South Coast Air Quality
Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Dear Mr. Krause:

I am writing on behalf of the Institute for Research and Technical Assistance (IRTA) with comments on the Draft Environmental Assessment (EA) for Proposed Amended Rule 1113 "Architectural Coatings."

1-1 TBAC was deemed exempt from VOC regulations by EPA in November 2004. TBAC forms a metabolite called tert-butyl alcohol (TBA) that is a carcinogen. Little toxicity information is available on TBAC itself and no chronic toxicity tests have been conducted on the chemical. The California Air Resources Board (CARB) originally opposed EPA's exemption after requesting that the State Water Resources Control Board (SWRCB) and the Office of Environmental Health Hazard Assessment (OEHHA) evaluate the chemical. The SWRCB review indicated that not enough information is available to determine the water quality impacts of TBAC. OEHHA's evaluation indicated that no chronic, developmental or reproductive toxicity data are available for TBAC and that TBA has been shown to induce tumors in both rats and mice. OEHHA developed a cancer potency factor for TBA and also published a peer reviewed article that stated that TBAC "should be considered to pose a potential cancer risk to humans because of the metabolic conversion to TBA."

1-2 After EPA exempted TBAC from VOC regulations, the CARB Research Division recommended that the chemical be exempted in California in auto body applications and for consumer product categories regulated by CARB. It is not clear why CARB changed their position on the exemption or why the Research Division made this recommendation. The Research Division did publish a report that analyzed an exemption. This report, however, has many errors. For instance, in discussing auto aerosol cleaning, the report indicates that perchloroethylene (PERC) is the most widely used brake cleaner. CARB banned the use of chlorinated solvents in auto aerosol cleaning in 2000 and PERC has not been used for a few years by auto repair shops for cleaning. The report also assumes that TBAC will not substitute for water-based products but the basis for this claim is not supported. Suppliers nearly always find it easier to simply drop in an exempt chemical for a VOC than to work on a more complex reformulation.

1-3 According to the SCAQMD EA for Rule 1113, the District is proposing to exempt TBAC for use in industrial maintenance coating formulations which are used in architectural coating. I am strongly opposed to a full or limited exemption of TBAC and would like to raise five issues. First, the District's usual procedure is to propose exempting a chemical through SCAQMD Rule 102. In this case, the District is proposing an exemption in a specific rule and plans to propose additional exemptions in other District rules. This appears to be a "back door" method of exempting a chemical to avoid public comment. Community members are not aware of the District's action in Rule 1113 and it is likely they

230 N. Maryland Ave., Suite 103
Glendale, CA 91206
(818) 244-0300 Fax (818) 244-0396

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1-3 *cont.* would strongly object to an increased cancer risk from use of TBAC in architectural coatings if they were informed.

1-4 Second, it is not at all clear the exemption is needed in Rule 1113 for industrial maintenance coatings. The District indicates that there are 280 industrial maintenance coating formulations that meet the July 2006 VOC limit. The District further indicates that there are difficulties formulating to the low VOC limit only in certain atmospheric industrial maintenance coatings. These coatings are used by the Metropolitan Water District and other essential public services like Publicly Owned Treatment Works. The District could simply allow a higher VOC limit for these very limited applications until coatings are formulated without TBAC. At the workshop on January 26, one supplier indicated he already had coatings without TBAC for these applications.

1-5 Third, the risk posed by the use of TBAC is high. A few years ago, the Hazard Evaluation System & Information Service (HESIS), which is part of the California Department of Health Services, evaluated the risk of using TBAC to workers. HESIS used the cancer potency factor developed by OEHHA and sent the results of this evaluation to CARB. Based on the current worker exposure level for TBAC of 200 ppm, HESIS estimates the risk posed to a worker using TBAC at 7.4 percent or 74,000 in a million. This is a very high risk and workers should not have to bear this risk because of the District's exemption action.

1-6 In the EA, the District estimates only the acute risk to the community from exposure to TBAC. This District indicates that the cancer risk need not be determined. This approach is not correct and the cancer risk should be determined. Companies that apply industrial maintenance coatings are dedicated to applying only industrial maintenance coatings and they are permanently stationed at certain sites. For instance, at the Los Angeles County Sanitation District (LACSD) Carson treatment facility, a crew that applies industrial maintenance coatings is permanently stationed at the facility and continuously applies industrial maintenance coatings to all the buildings on a regular basis. This means that if TBAC were part of the formulation in the industrial maintenance coatings, application of the coatings poses a chronic (cancer) risk to the workers applying it, the workers at the LACSD facility and to the people who live around the LACSD facility. The District must calculate and report the cancer risk posed by the coatings as part of the EA.

1-7 Fourth, if TBAC is exempted in California, there will be a disproportionate risk to California workers and community members. California relies on exempt chemicals to achieve attainment much more than other states or localities in the country. Because of California's stringent VOC regulations, exempt chemicals are used extensively here. TBAC is not used today because it is more expensive than other VOC solvents (see discussion below about chemical prices). Lyondel, the producer of TBAC, is strongly lobbying California regulators to exempt the chemical. The company is aware that California is it's largest potential market. If the District exempts TBAC, it will be used extensively here and California workers and community will face an increased risk. If TBAC is exempted in other states, it will not be used because traditional VOC solvents will be used instead.

1-8 Fifth, little toxicity information on TBAC is available. TBAC specifically has not been tested for chronic toxicity. It is structurally similar to TBA which is a carcinogen. TBAC may be an even stronger carcinogen than TBA. Unless TBAC is tested for chronic toxicity, it cannot be known whether or not it is a carcinogen. It should be a very high priority, at least for the District if not for Lyondel, that California workers and community members not face a high cancer risk.

2

1-9 The District should not even consider exempting TBAC from VOC regulations in Rule 102 or in individual rules unless the supplier agrees to conduct chronic toxicity studies for the chemical. When the studies are complete, the supplier could submit the results to OEHHA for evaluation. OEHHA could then develop a unit risk value that the District could use in calculating the risk posed by use of TBAC coatings in industrial maintenance coatings. The District's policy on exempting all chemicals from VOC regulations should include a requirement that the supplier of the chemical provide extensive toxicity data on the chemical prior to consideration of a VOC exemption.

1-10 I would like to make two suggestions. First, the District could carve out a narrow area of atmospheric industrial maintenance coatings used only by the Metropolitan Water District and essential public services and allow a higher VOC level for a few years until suppliers develop coatings that meet the lower VOC level without TBAC. Second, the District should require Lyondel to conduct chronic toxicity testing for TBAC and submit the results to OEHHA for evaluation before the District considers and exemption for TBAC, no matter how limited.

1-11 In summary, then, IRTA opposes a limited or complete exemption of TBAC from VOC regulations in proposed Rule 1113 or any other rule. The District should adopt a policy that requires suppliers to demonstrate the safety of their products before they can be considered for an exemption. This is the most prudent course that will ensure protection of California workers and community members. The District should modify the EA to determine the chronic risk that TBAC coatings pose for industrial maintenance coatings. The crews applying the coatings apply only industrial maintenance coatings and apply them continuously at various sites.

I appreciate the opportunity to comment on the EA for proposed Rule 1113. If you have questions about my comments, please call me at (818) 244-0300.

Sincerely,

Katy Wolf, Ph.D.
Executive Director

3

COMMENT LETTER NO. 1
INSTITUTE FOR RESEARCH AND TECHNICAL ASSISTANCE

Katy Wolf, Ph.D.
January 31, 2006

Response 1-1

In performing the background research for tertiary butyl acetate (TBAc), SCAQMD staff also concluded that there is limited toxicity data available on TBAc and no chronic toxicity has been conducted on the chemical. For this reason the health risk analysis prepared for PAR 1113 in the Draft EA used tert-butyl alcohol (TBA), which has been shown to induce tumors in laboratory animals, as a surrogate for TBAc because of the metabolic conversion of TBAc to TBA. The health risk analysis was prepared for SCAQMD staff using standard health risk protocol, health risk values provided by Office of Environmental Health Hazard Assessment (OEHHA) staff and parameters used by California Air Resources Board (CARB) to estimate risk from TBAc. As with other projects evaluating the health impacts from air toxics, SCAQMD staff relied upon OEHHA/CARB to develop heath risk values, associated parameters and procedures.

Response 1-2

The SCAQMD is aware of the concern that TBAc formulated coatings could replace waterbased coatings in some categories. To avoid this type of substitution and because of the uncertainty regarding the toxicity of TBAc, TBAc has been delisted as a VOC only for IM coating category, where coatings are largely solvent based. By restricting the use of TBAc in coating formulations, it is expected that TBAc formulated coatings replacing waterbased coatings will also be restricted.

Response 1-3

SCAQMD staff understands that IRTA is against any exemption for TBAc from the VOC definition. The commentator states that by exempting TBAc from the VOC definition in PAR 1113 instead of through Rule 102, community members may not be aware of the exemption as they would be if TBAc was exempted through Rule 102. While staff acknowledges the low photochemical reactivity of TBAc and its beneficial impacts on reducing ozone and particulate formation, staff is not recommending its complete exemption from volatile organic compound (VOC) definition in Rule 102 at this time. This is because there is limited information on its toxicity and one of its metabolites, TBA, has been shown to induce tumors in rats and mice. At the present time, neither TBAc nor TBA have been classified as TACs by OEHHA, and therefore are not listed in Rules 1401 and 1402, two rules that provide SCAQMD with the necessary tools to limit usage of toxic compounds and limit potential risk and exposure. In the absence of such tools, a complete exemption under Rule 102 could potentially subject the public to higher risk and exposures unnecessarily. The proposed limited exemption under Rule 1113 is

more health protective compared to a complete delisting under Rule 102 while providing some level of compliant products with the future effective limits for certain coating categories. Further, public comment is not being avoided as a CEQA Initial Study was available for a 30-day public comment period, which has been followed by this Environmental Assessment available for a 45-day public comment period. Also, the draft staff report and proposed rule, which includes the TBAc provision in the VOC definition, are available for public comment during the rule development process. Finally, the Governing Board conducts a public hearing on the day when a decision is made regarding amending the rule, which is noticed to the public at least 30 days before the public hearing.

Response 1-4

The commentator states that the exemption of TBAc from the VOC definition is not needed to achieve the VOC content limits in PAR 1113 because waterborne coatings are available for use. While this is true for a number of industrial maintenance coatings, SCAQMD staff recognizes that there is a lack of sufficient atmospheric industrial maintenance (IM) coatings available that meet Metropolitan Water Department (MWD) most rigorous standards. However, MWD has completed testing of some atmospheric IM coatings formulated with TBAc, which yielded excellent performance characteristics that met even MWD's most rigorous standards. Many IM coating manufacturers have requested that the SCAQMD delist TBAc for use in coatings critical to the support of the public infrastructure. At the present time there appears to be no other non-VOC exempt solvent available to manufacture compliant IM atmospheric coatings with exceptionally long life performance.

To allow a higher VOC limit for these very limited applications would require the establishment of numerous subcategories of IM coatings, as the uses range from chemical immersion, exterior exposure heavy equipment coating, floors, etc., which is difficult to delineate and enforce. Further, while the challenges with atmospheric coatings use have been determined, there might be subcategories of immersion and other uses of the coatings that may also need to use TBAc for exceptionally long life performance. However, since TBAc is sold at high cost, there is no financial incentive for a compliant coating not using TBAc to reformulate with TBAc.

Response 1-5

The commentator states that risk to on-site workers is high. On-site worker exposure is under the jurisdiction of federal Occupational Safety and Health Administration (OSHA) and the California Department of Industrial Relations Division of Occupational Safety and Health (DOSH). SCAQMD staff relies on OSHA and DOSH to establish and enforce health and safety regulations that will protect workers from chemical exposure and health risk impacts.

The Hazard Evaluation System & Information Service (HESIS) worker risk value of 74,000 in one million was developed by multiplying the California Permissible Exposure

Level (PEL) of 950,000 µg/m3 from CCR, Title 8, §5155, Table AC-1 by the OEHHA unit risk factor for TBAc of $4x10^{-7}$ $(ug/m^3)^{-1}$, then adjusting exposure from residential parameters (24 hour/day, 365 day/week, 70 year lifetime) to worker parameters (8 hour/day, 250 day/week and 40 year lifetime).

SCAQMD staff contacted Dr. Julia Quint the chief of HESIS, who prepared the worker risk value of 74,000 in one million. The PEL for TBAc is based on acute exposure. Dr. Quint stated that the risk value was prepared to demonstrate that the PEL should be reduced to account for carcinogenic and noncarcinogenic exposures. The estimate was developed under the assumption that employees would be exposed to TBAc concentrations equivalent to the PEL everyday.

Based on the information provided by Dr. Quint, SCAQMD staff agrees that reducing the California PEL for TBAc will also reduce carcinogenic and noncarcinogenic exposures. Reducing the PEL limiting the exemption for TBAc to the IM coating categories, and requiring workers to wear protective respirator equipment, would be expected to reduce worker exposure, but not eliminate it. IM coatings are typically applied by large contractors that call for the use of personal protection equipment (PPE). Staff also reviewed labels and technical safety sheets with coatings using TBAc concluding that manufacturers also recommend the use of PPE. As indicated in Chapter 4 in the EA, exempting TBAc from the definition of VOC will increase cancer and noncancer risks, but these risks were less than significant.

Response 1-6

The commentator has raised this argument during the public workshop/scoping meeting for PAR 1113 that usage of IM coatings at facilities where the painting process occurs all year round on-site could potentially result in long-term exposure to downwind sensitive receptors, which could increase exposure to potential carcinogenic risk by nearby receptors. These types of facilities would have the need to apply IM coatings on a more regular basis than sites where the application of IM coatings is less frequent based on the typical ten to 20-year life of IM coatings. Such facilities include sewage treatment plants, refineries and water/power plants. However, although a company may apply IM coatings around the facility throughout the year, the location within the site will vary and, thus, the distance to the downwind sensitive receptor changes for each application. To address this comment, however, an HRA analysis has been conducted to include such an evaluation as the commentator suggests. Calculation and results can be found in Chapter 4 of this Draft EA. The results showed that none of the facilities would expose the surrounding community to a significant cancer or acute noncancer risk.

Response 1-7

The commentator states that TBAc is not used outside of California because of cost and air quality regulations are less stringent than in California. Further, exempting TBAc will result in substantially greater use of the chemical and greater exposure to residents and workers. It is likely that exempting TBAc from the definition of VOC will increase its

usage in the district, while increasing exposure to residents. SCAQMD staff has calculated that the cancer risk from the limited exemption for TBAc in IM coatings. The results show that cancer risk will be less than 10 in one million (10×10^{-6}), which is the SCAQMD's cancer risk significance criterion. Through its adoption of Rules 1470 and 1401.1 the Board has acknowledged that certain sensitive receptors require additional protection from air toxics. In particular, Rule 1401.1 prohibits, for example, new permitted facilities with a facility-wide cancer risk greater than one in one million (1×10^{-6}) from locating within 500 feet of a school. Ultimately, it is the SCAQMD Governing Board who will decide whether the risk posed by TBAc is an acceptable level of risk.

Response 1-8

Although SCAQMD staff does not require chronic toxicity testing for compounds exempted from the definition of VOC by U.S. EPA and CARB, SCAQMD staff does attempt to compile as much toxicity, global warming, stratospheric ozone depleting potential, etc., information as is currently available in the CEQA document that is typically prepared when exempting a compound from the definition of VOC. In the case of TBAc, there is little available information on the toxicity of TBAc, but there is some toxicity information available on one of its metabolites, TBA. While there are studies that indicate tumors in rats and mice when exposed to high concentrations of TBA, TBA has not been classified as a human carcinogen yet. Estimated risk factors for TBA provided by OEHHA staff members were used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAc. It should be noted that these surrogate risk factors developed by OEHHA staff have not been formally approved by the Scientific Review Panel yet, but have been peer reviewed. However, they reflect the best available information from OEHHA at this time, and these factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAc used to formulate IM coatings. By limiting the exemption for TBAc to IM coatings, the SCAQMD recognizes the potential cancer risk exposure due to the use of TBAc while providing the coating manufacturers with flexibility in formulating products compliant with the future IM coatings limits in PAR 1113.

A representative for the manufacturer of TBAc has stated that Lyondell has commissioned a 90-day subchronic study that will be peer reviewed "by at least five toxicology experts selected by an independent third party." This study may provide useful subchronic effects information that will be evaluated for use in further health risk analyses. SCAQMD staff has recommended to the TBAc manufacturer representative that a long-term study be completed in addition to the subchronic study.

Response 1-9

Exempting TBAc from the definition of VOC in Rule 102 is not currently under consideration. The commentator states that SCAQMD staff should adopt a policy that would require that suppliers of chemicals provide extensive toxicity data on those chemicals prior to consideration of a VOC exemption. Although the SCAQMD has no

formal a policy requiring toxicity data prior to delisting a chemical, available toxicity data are considered in the CEQA document that would be prepared. The determination whether a chemical should be exempt or not is made strictly based on its relative photochemical reactivity. The SCAQMD has developed policies and regulatory safeguards to address potential toxicity from the use of a chemical that is declared VOC exempt. The regulatory safeguards are provided by Rules 1401 and 1402, as well as the recently adopted Rule 1401.1, that sets regulatory risk thresholds to minimize chronic and acute health risk from the use of such chemicals. In rare instances, where unit risk factors for a given chemical are not available, such as TBAc, the SCAQMD takes additional precautionary measures by further limiting the used of such chemicals until additional information regarding the chemical's toxicity become available. This is the reason why staff is recommending a limited exemption for the TBAc from the VOC definition, rather than a complete exemption, as its low photochemical reactivity suggests, and limit its use to those critical applications that do not pose risk to the public as analyzed under conservatively structured operating scenarios.

Response 1-10

See Response 1-4 with regard to establishing an atmospheric subcategory for IM coatings. As noted in Response 1-8, Lyondell has agreed to conduct a 90-day subchronic study that may provide useful subchronic effects information that will be evaluated for use in further health risk analyses. SCAQMD staff has verbally recommended to the TBAc manufacturer representative that a long-term study be completed in addition to the subchronic study. Further, the SCAQMD has suggested and recommended at a number of public meetings that Lyondell conduct a full chronic toxicity test for TBAc and submit the results to OEHHA for consideration. The chronic toxicity test is not required to be conducted, although it was noted in the Federal Register that toxic study should be conducted but compliance with that request did not halt the exemption of TBAc from VOC regulations except in jurisdictions where more stringent local rules supercede federal rules such as in California. The SCAQMD relies on the toxicology expertise and guidance from OEHHA and until risk factors are assigned to TBAc, staff will analyze the potential health risk from TBAc by using established factors of TBA, which is a known metabolite of TBAc.

Response 1-11

SCAQMD staff understands that IRTA is opposed to an exemption for TBAc from the VOC definition. Based on the commentator's comments regarding potential toxic impact from TBAc reformulated in IM coatings applied at facilities that continuously paint throughout the year, the Draft EA includes a health risk analysis of potential cancer and noncancer risk from the TBAc reformulated in those IM coatings. As noted in Response 1-5, a cancer risk HRA was prepared as suggested by the commentator. A chronic noncancer HRA was not prepared because neither TBAc nor TBA have been assigned a chronic REL.

The South Coast Air Basin, as an extreme nonattainment area, is in desperate need of technological innovations, such as new paint chemistry and solvents with low photochemical reactivity and toxicity in order to improve air quality for the 16 million southern Californians. Therefore, the policies of the SCAQMD must foster the promotion of technological innovation and provide the necessary protection to minimize potential risk to public health. Staff believes requiring long-term toxicity studies to be conducted for all solvents prior to their delisting is a very expensive and risky proposition that may potentially stifle technological innovation. These are very expensive, multimillion dollar studies that will significantly increase the research and development cost of new solvents to levels that very few companies and certainly no small, independent innovators can afford. Because of these unintended consequences, staff believes such studies should be targeted towards chemicals with available scientific information indicating potential long-term toxicity rather than all new chemicals.

LYONDELL

Daniel B. Pourreau, Ph.D.
Technical Advisor

Lyondell Chemical Company
3801 West Chester Pike
Newtown Square, PA 19073

Phone: 610-359-6837
Fax: 610-359-5530
Email: dan.pourreau@lyondell.com

February 9, 2006

Michael Krause
Planning, Rule Development and Area Sources
c/o CEQA
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765
909-396-2706

Re: Comments on the Proposed CEQA Analysis for PAR 1113 – Architectural Coatings.

Dear Michael,

2-1 As the developer and leading producer of tertiary-butyl acetate (TBAC), Lyondell Chemical appreciates the opportunity to provide input on the CEQA analysis for Proposed Amended Rule 1113 – Architectural Coatings. TBAC is a useful solvent for a variety of coatings and, if exempted, would be an important tool to reduce ozone levels in the South Coast while allowing businesses to formulate cost-effective VOC-compliant coatings that meet performance requirements. This was evident from the comments from the coating companies weighing in at the recent public workshop and from input by NPCA, representing other manufacturers and users of both industrial maintenance and architectural coatings.

2-2 For this reason, we believe it is important to accurately assess and describe the relative risks and benefits of key low-VOC technologies, and to not just focus on the speculative concerns raised about the chronic toxicity of TBAC during the rule 1151 process. As you correctly state in the NOP/IS document, chronic toxicity is not relevant to short term risk assessment. To the extent that a few architectural coatings may be used occupationally, it may be appropriate to consider chronic health effects and assess potential chronic risks in these specific cases. However, the exemption of TBAC should not be arbitrarily limited to industrial maintenance categories based on unsubstantiated health concerns as the draft rule currently proposes.

2-3 To the extent that AQMD staff believes that TBAC may pose a long term health risk due to occupational exposure of a few coating categories under rule 1113, we believe it should justify limiting the exemption based on a realistic usage scenario and an estimated chronic risk, as was done for automotive refinishing facilities during the rule 1151 process. If not, the AQMD could inadvertently be promoting the use of other low-VOC technologies with worse health and environmental impacts, higher cost and inferior performance.

2-4 The acute toxicity of TBAC is well studied and documented and is lower than many of the solvents used today in these coating categories. We believe that broadly exempting TBAC in all coating categories

2-4 *cont.* will help reduce the ozone levels and TAC emissions from these coatings in the South Coast. This will undoubtedly have a positive environmental and public health impact.

I. TBAC Has Low Acute Toxicity

There are several acute toxicity studies on TBAC in the open literature and in reports from accredited industrial laboratories. These studies are summarized in the attached March 20, 2000 memorandum from Melanie Marty of OEHHA to Janette Brooks of CARB.[1] In this memo, OEHHA concludes that TBAC has low acute inhalation, oral, dermal, and ocular toxicity, the relevant endpoints for assessing short term health risks.

2-5 OEHHA also calculated an acute REL for TBAC.[1] However, the reported REL is miscalculated and is based on an outdated study that does not meet OEHHA quality guidelines to calculate an REL.[2] In the attached letter to Joan Denton, we recommend an REL of 55,000 $\mu g/m^3$ based on two recent acute inhalation studies conducted following Good Laboratory Practices as required by OEHHA guidelines. This REL is higher than that of many industrial solvents in use today, including common, high-volume solvents such as toluene, xylene, and MEK. Therefore, there is no apparent reason to limit the use of TBAC in any category based on its acute toxicity.

II. TBAC is Likely to Have Low Chronic Toxicity

2-6 There are no chronic studies available for TBAC. This is also true of PCBTF, an exempt solvent used in California, as wells as many other solvents and components of water based coatings. TBAC has been shown to be non-mutagenic in a variety of in vivo and in-vitro assays, including Ames tests using several E. *coli* and S. *typhimurium* indicator strains, including TA 102.[3] TBAC has been shown to metabolize in part to tertiary-butanol (TBA) and to be rapidly exhaled and excreted when inhaled.[4] TBA was also shown to be non-mutagenic in a battery of in-vivo and in-vitro tests.

2-7 However, OEHHA has expressed concerns that TBAC might be carcinogenic because TBA has been shown to cause a slight increase in naturally occurring tumors in male rats and female mice when ingested in high doses. Leading experts on the mode of action of male rat carcinogenesis agree that these tumors are likely due to an exacerbation of a rat-specific mode of action that is not relevant to humans. Furthermore, humans are much less susceptible than mice to the formation of thyroid tumors and it would be impossible for humans to inhale enough TBAC to produce the high TBA levels that may have contributed to this slight increase in tumors in mice. It is, therefore, questionable that the chronic animal data for the TBA metabolite are relevant to chronic human toxicity or risk assessment for TBAC.

2-8 Nonetheless, in an attempt to be health protective, OEHHA has calculated a hypothetical cancer URF for TBAC based on the TBA chronic rodent data and several conservative assumptions including the percent conversion of TBAC to TBA and a non-threshold response to TBA. Despite these conservative assumptions, the hypothetical inhalation URF proposed by OEHHA is only 4×10^{-7} $(\mu g/m^3)^{-1}$, which is several orders of magnitude lower than that of known or probable human carcinogens. It is, therefore, unlikely that TBAC poses a chronic human risk or that this hypothetical risk is relevant to short term

[1] Letter from Melanie Marty to Janette Brooks, "Potential Health Effects associated with Tertiary Butyl Acetate", March 20, 2000. Appendix B of CARB's Draft Environmental Impact Assessment of Tertiary-Butyl Acetate, June 2005.
[2] Air Toxics Hot Spots Program Risk Assessment Guidelines Part I – The Determination of Acute Reference Levels for Airborne Toxicants, March 1999, Cal EPA/OEHHA.
[3] McGregor et. al., Mutation Research 565 (2005) 181-189.
[4] Cruzan et. al., manuscript submitted for publication in the Journal of Toxicology and Environmental Health.

2-8 *cont.* risk assessment. Therefore, if SCQAMD is concerned about occupational use of TBAC in some coating categories, it should conduct a risk assessment using estimated TBAC usage and the conservative URF proposed by OEHHA.

III. A TBAC Exemption in Architectural Coatings Will Not Increase Solvent Emissions or Nuisance Odor Complaints.

2-9 There has been some speculation that, if broadly exempted in 1113, TBAC-based coatings would replace latex paints and solvent emissions would increase. This concern is baseless. The vast majority of architectural paints are latex-based because of their low odor, low flammability, and ease of cleanup, despite the availability of several VOC-exempt solvents. The exemption of acetone in 1995 had no impact on the use of latex-based paints, despite its low cost and availability. Likewise, although TBAC does offer some performance and cost advantages over existing exempt solvents, its exemption will not cause the architectural market to suddenly abandon its requirements for low odor, low flammability, and water-based cleanup.

2-10 Instead, TBAC will be used to replace other solvents in solvent-based coatings for applications where water-based coatings do not provide acceptable performance. TBAC is an effective solvent for a variety of coating resins and is a pound-per-pound replacement for most other solvents. One important exception is PCBTF where a pound of TBAC replaces between 1.5 and 2.0 pounds of PCBTF. Hence, replacing exempt PCBTF with TBAC would result in a net decrease in solvent emissions.

2-11 Although TBAC's odor is strong, it is less objectionable than that of solvents such as PCBTF and not as strong as that of others. For example, the attached study by Eastern Michigan University shows that TBAC is about four times less odorous than n-butyl acetate, a solvent commonly used in solvent-borne architectural and industrial maintenance coatings. Since TBAC will be used predominantly to replace other odorous solvents in solvent-based coatings, its exemption and increased use is not likely to cause a significant increase in nuisance odor complaints.

2-12 In summary, there is sufficient evidence to conclude that TBAC has low acute toxicity. We urge the AQMD to contact OEHHA regarding their suggested REL as it appears that it should be higher than 10,000 $\mu g/m^3$ and more likely on the order of 55,000 $\mu g/m^3$. It is likely that using either REL will indicate that TBAC does not pose a short-term health risk in any architectural coating category affected by rule 1113. However, if the AQMD is concerned about a potential long-term risk based on occupational use of a few coating categories, we urge staff to use OEHHA's very conservative URF to estimate this risk under a reasonable use scenario. Given the very conservative exposure assumptions used in 1151, it is unlikely that the hypothetical chronic risk for TBAC will rise above the CEQA level of concern in any coating category under consideration here.

We thank you again for the opportunity to comment and look forward to working with you. Please feel free to contact me if you have any questions or comments about this letter.

Best Regards,

Daniel B. Pourreau, Ph.D.
Technical Advisor

cc: Steve Smith, Lee Lockie, Laki Tisopulos, Jean Ospital, Dan Russell, Barry Wallerstein, David DeBoer, Naveen Berry, Larry Bowen, Elaine Chang.

COMMENT LETTER NO. 2
LYONDELL CHEMICAL COMPANY

Daniel B. Pourreau, Ph.D.
February 9, 2006

Response 2-1

SCAQMD staff understands that Lyondell believes their product, tertiary butyl acetate (TBAc) is a useful solvent that, if exempted as a volatile organic compound (VOC), will reduce ozone as it allows coating manufacturers to formulate with it and comply with stringent VOC content limits. The SCAQMD is also aware of the support for TBAc from both industrial maintenance (IM) and architectural coating manufacturers.

Response 2-2

The commentator suggests that the CEQA analysis should include the health benefits of TBAc with regard to key low-VOC technologies. The purpose of the CEQA document is to evaluate the impacts of the project, generally using worse-case scenarios, not promote one product over another. The benefits of the rule, i.e., VOC emission reductions are disclosed to provide the rational for the rule. Since VOC emissions are an ozone precursor, reducing VOC emissions generally results in reducing ozone formation.

The commentator also suggests to not focus on the speculative concerns raised about toxicity of TBAc. Based on comments raised at the Public Workshop and in another commentator's letter regarding the potential toxicity of TBAc, there exists a potential chronic health risks from TBAc reformulated in IM coatings applied at facilities that continuously paint throughout the year. The SCAQMD has investigated whether or not there is the potential for chronic exposure to IM coatings and has concluded that this is not speculative, but has identified facilities where IM coatings are continuously applied and, thus, this source needs to be considered. To evaluate the potential impacts from these types of specific sources, the Draft Environmental Assessment (EA) includes an analysis of potential cancer and noncancer risk if TBAc is formulated in IM coatings used at a sewage treatment plant, refinery, and a water/power facility.

Response 2-3

SCAQMD staff proposed a limited exemption for TBAc in Rule 1151, in part, based on the HRA prepared to analyze cancer and noncancer health risks. An HRA to analyze cancer and noncancer health risks was prepared for PAR 1113 using the same methodology that was used for the Rule 1151 HRA. Similar assumptions were used including using TBA as a surrogate, the percent concentration, emission rates, etc. The main difference is that the PAR 1113 HRA used actual IM coating usage information for facilities in the district and used the actual meteorological data for the identified facilities. Similar to the results for Rule 1151, the HRA for PAR 1113 identified potential cancer

and acute noncancer risks, but in neither case did the risks exceed applicable significance thresholds. See Chapter 4 and Appendix D for the results of the HRA.

Response 2-4

The environmental assessment conducted in accordance with CEQA examines the potential impacts from formulations expected to be used to comply with the proposed project. The formulations currently used to comply with the current requirements are considered baseline and in most cases have been evaluated in previous environmental assessments with regard to their potential adverse impacts. If compliance with proposed lower VOC limits is achieved with the use of waterborne coatings and coatings formulated with VOC exempt solvents, then the evaluation will analyze impacts from those types of coatings. The evaluation will not compare what is currently used because the current coating formulations will not comply with the future standards.

With regard to providing a broad exemption of TBAc as a VOC for all coating categories, the SCAQMD is proposing to limit the exemption to the IM coating category because a segment of that category, atmospheric IM coatings, has not been successfully reformulated at a lower future VOC content limit to meet the Metropolitan Water District rigorous criteria. Reformulating IM atmospheric coatings with TBAc has reportedly provided a satisfactory product that complies with the lower future VOC content limit of 100 grams per liter. Reducing VOC emissions, which is a precursor to ozone, has positive environmental and public health consequences. However, potential cancer risk and non-cancer health effects are also a major concern on public health, especially because there is little toxicity data for TBAc. U.S. Environmental Protection Agency (EPA), Office of Environmental Health Hazard Assessment (OEHHA) and the California Air Resource Board (CARB) have expressed concerns regarding the potential toxicity of TBAc. The risk and health effects from reformulated IM coatings have been evaluated in the Draft EA and, although determined to be not significant, demonstrates that a limited exemption is warranted. However, broad usage of TBAc in all architectural coatings is unnecessary and has the potential to substantially increase cancer and noncancer health risks to the public. The limited exemption for TBAc as a VOC for IM coatings limits public exposure to these adverse toxic impacts while providing a solvent that will assist manufacturers with formulation coatings that would meet the most rigorous standards.

Response 2-5

The SCAQMD is aware of the miscalculation in the reported REL from OEHHA and the analysis of the acute health effect from the use of TBAc in IM coatings reflects the latest values. A high REL does not solely dictate whether the acute health effect is significant or not. The calculation of acute health effect requires other parameters such as usage amount, emission rate and meteorology, which affect the level of significance of the acute health effect from a contaminant. Further, staff uses OEHHA's published data which is the a revised REL of 10,000 ug/m^3. Thus, a broad determination that because the REL is high there will be no adverse acute toxicity if TBAc is used in all coating

categories does not reflect the importance of other factors that may substantially increase cancer and noncancer health risks.

Response 2-6

The commentator compares the availability of chronic studies for TBAc and parachlorobenzotrifluoride (PCBTF); however, PCBTF is currently exempt under Rule 102 so an exemption for PCBTF is not part of the proposed project. The SCAQMD originally exempted PCBTF from the definition of VOC in November 1995, and classified it as a Group II compound. A Final EA was prepared to address potential impacts from the proposed action. PCBTF was exempted from the definition of VOC based on the information available at that time, which indicated, "PCBTF is not absorbed into the body to any appreciable extent. Most of the material is either exhaled back or excreted. The small quantities that are assimilated are converted to non-toxic water soluble products and excreted." (Final EA for Proposed Amended Rule 102 – Definition of Terms, SCAQMD, October 1995).

PCBTF was moved from the Group II to the Group I list of exempt VOC compounds as part of amendments to Rule 102 adopted by the Governing Board on June 12, 1998. A Final Supplemental EA was prepared to address impacts from the proposed action. PCBTF was moved to the Group I list based on subchronic toxicity data evaluated by the OEHHA. After completing its review, OEHHA notified the SCAQMD in writing that there was an "absence of adverse health effects." Based on this evaluation, the SCAQMD moved PCBTF from Group II to Group I.

Unlike TBAc's metabolite TBA, no cancer potency values had been developed at that time for PCBTF or any of its metabolites. When OEHHA publishes toxicity values for chemicals, SCAQMD staff evaluates the health risk from these chemicals. Since cancer potency and acute noncarcinogenic values have been provided by OEHHA for use in evaluating health risk impacts from TBAc's metabolite, TBA, SCAQMD staff used these values to estimate the potential increase health risk from the limited VOC exemption for TBAc in PAR 1113.

Response 2-7

As discussed in Response 2-6, cancer potency and acute noncarcinogenic values have been provided by OEHHA for use in evaluating health risk impacts from TBAc's metabolite, TBA, and, consistent with SCAQMD policy, staff used these values to estimate the potential increase health risk from the limited VOC exemption for TBAc in PAR 1113. SCAQMD staff relies on and defers to OEHHA to provide cancer potency values for preparing a health risk assessment (HRA). Since OEHHA staff has developed a cancer potency value for TBA and since TBAc is substantially metabolized into TBA, it is appropriate that the HRA prepared to evaluate health risks from TBAc in the Draft EA use TBA as a surrogate. The HRA in the Draft EA was based upon the most recent TBA cancer potency value provided by OEHHA. The TBAc carcinogenic HRA in the Draft EA is consistent with the methodology used by CARB in their TBAc health risk analysis.

With regard to whether the test results are questionable, the commentator should direct this information to support his opinion to OEHHA for consideration.

Response 2-8

See Response 2-3 with regard to concerns about occupational use of TBAc and Response 2-7 with regard to the cancer risk health assessment of TBAc and the reliance on OEHHA's cancer potency and acute noncarcinogenic values.

Response 2-9

PAR 1113 would exempt TBAc from the definition of VOC for IM coatings only. Since this category of coatings is largely solvent based, it is expected that TBAc could be used as a "drop-in" solvent. By limiting TBAc formulations to the IM coating category, it is expected that substituting TBAc formulations for waterbased coatings will also be limited.

Response 2-10

See Response 2-9 with regard to replacement of unacceptable performing products with coatings formulated with TBAc. If TBAc is classified exempt as a VOC, then the replacement of PCBTF with TBAc would not change the solvent emissions since both would be considered exempt solvents and PCBTF can be used today. However, the 2005 Status Report for Rule 1113 presented to the Governing Board in 2006 did not identify PCBTF as a potential replacement solvent for IM coatings.

Response 2-11

As noted in Response 2-6, PCBTF is currently exempt under Rule 102 so an exemption for PCBTF is not part of the proposed project. Further, as stated in Response 2-10, PCBTF was not identified as a potential replacement solvent for IM coatings. In a TBAc odor analysis conducted for SCAQMD Rule 1151, the concentration of TBAc from replacing conventional solvents with TBAc was less than the TBAc odor threshold. Therefore, no significant additional odor impacts are expected to result from implementing the proposed amendments.

Response 2-12

The Draft EA analyzes the potential acute toxicity based upon information provided by the facility operator. A scenario of painting a large storage tank with IM coatings formulated with TBAc was analyzed and it was concluded the impacts would not be significant. Again, the SCAQMD staff relies on conclusions generated by OEHHA for our HRAs. Finally, as stated in Response 2-2, there exists a potential cancer risk from TBAc reformulated in IM coatings applied at facilities that continuously paint throughout the year. The Draft EA includes an analysis of potential cancer risk if TBAc is

formulated in IM coatings used at a sewage treatment plant, refinery, and a water/power facility which are reasonable scenarios.

February 22, 2006

Mr. Michael Krause
CEQA -- AIM Coatings Rule
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, California 91765

RE: Notice of Preparation of a Draft Environmental Assessment; Rule 1113 Architectural and Industrial Maintenance Coatings

Dear Mr. Krause:

The National Paint and Coatings Association (NPCA) is providing the following comments on the SCAQMD's Notice of Preparation of a Draft Environmental Assessment relating to the proposed amendments to Rule 1113 that would define tertiary butyl acetate as a non-VOC for specific coatings categories, lower the VOC limits for certain coating categories, differentiate nonflat high gloss from other nonflat coatings, and postpone the compliance date for nonflat high gloss coatings and quick-dry enamels by one-year. Since members of NPCA manufacture and sell AIM coatings in the South Coast Air Management District, NPCA is very interested the proposed amendments.

3-1

NPCA is a voluntary, nonprofit trade association representing some 350 manufacturers of paints, coatings, adhesives, sealants, and caulks, raw materials suppliers to the industry, and product distributors. As the preeminent organization representing the coatings industry in the United States, NPCA's primary role is to serve as ally and advocate on legislative, regulatory and judicial issues at the federal, state, and local levels. In addition, NPCA provides members with such services as research and technical information, statistical management information, regulatory guidance, and community service project support.

It is important to note that it is very difficult for NPCA to provide specific comments on the proposed amendments since NPCA and SCAQMD are still having discussions on this matter as part of the Ad Hoc Board Committee that was established by Chairman Burke with members Antonovich and Perry. The Committee's focus is to address industry concerns regarding various AIM coating VOC limits, and resolve current and potential future litigation arising from this issue.

3-2

So while NPCA provides these initial comments on the CEQA document, we recognize that there could well be additional information that may become available that affect the issues commented upon, including further technical test results. Previous materials submitted to the SCAQMD in our on-going discussions with SCAQMD should be considered as part of this submission, e.g.,

1

3-2 *cont.* NPCA's December 21, 2005 Position Paper which sets out our current position in detail with respect to Rule 1113 as it now stands and our proposed amendments for it and the accompanying Table of Standards.

1. General Comments

In its Rule 1113 Annual Report and elsewhere SCAQMD cites NPCA as "suggesting" lowering the VOC limits for several coating categories of low-volume specialty coatings (Bond Breakers, Concrete Curing Compounds, Dry Fog Coatings, Fire Retardant Coatings and Traffic Coatings).

3-3 This is a misreading of NPCA's position. In the course of discussions with Staff it is true that NPCA has mentioned several options that might be considered for further additional reductions – including possibly lowering the limits for various categories where feasible but also subdividing the Industrial Maintenance category and the Limit-to-Limit over compliance concept. But all of these have been raised only as "possibilities" that would have to be fleshed out in the context of further discussions. Despite their being raised only as possibilities by NPCA, SCAQMD Staff has indicated that NPCA "suggested" the feasibility of the lower limits for the coatings categories mentioned, which is incorrect.

It is difficult to understand how NPCA is to proceed in discussions to resolve our differences with SCAQMD if its "suggestions for possible consideration" are treated as firm commitments for technologically feasible VOC emissions reductions

3-4 The Staff recognizes that two of the 2006 technology forcing limits are not technologically feasible - the limits for the non-flat coatings and quick dry enamels. It nonetheless first requires that other 2006 technology forcing limits be lowered below their 2006 technology forcing limits before these two limits can be raised to ensure that there will be no diminution in the over all VOC emissions reductions that were hoped for from the 2006 technology forcing limits.

Such an approach directly contradicts the nature of the technology forcing limits and the purpose of the technology reviews established by the Board in adopting them. While technology may advance for some coatings to allow reductions in some limits to compensate for raising others, nothing guarantees this. The technology reviews mandated by the Board were intended to acknowledge when a technology forcing limit in deed could not be met and this was to be done without requiring that technology forcing limits of other coatings be arbitrarily lowered.

2. Tertiary Butyl Acetate (TBAc)

3-5 NPCA has requested that TBAc be available for use in industrial coatings, industrial maintenance coatings, lacquers and varnishes. Prior to the January 6, 2006 Governing Board meeting, SCAQMD Staff stated it would look at exempting

TBAc for certain industrial maintenance coatings. Recently, Staff has stated that it is not as concerned with the health affects of TBAc as previously because it has been shown that the earlier risk assessment had overstated the risk. In light of this development, we urge the SCAQMD to consider a broader use of the material in addition to the industrial maintenance coatings, lacquers and varnishes. In fact we believe that SCAQMD should exempt TBAc without usage restriction for all coatings as did the State of California, EPA and most other states. In support of the above we fully endorse the submission of Lyondell, the developer and manufacturer of TBAc, which demonstrates that the risks and benefits of a wider use of TBAc in AIM coatings have not been properly analyzed pursuant to CEQA requirements.

3-5 *cont.*

However, as we have previously informed Staff, even if TBAc is exempted tomorrow, the industry needs at least a year or more to complete performance and field testing of reformulated products. Consequently, interim relief from the 2006 limits will still be required as coatings using the exempt material are reformulated and tested.

3-6

Also NPCA notes that TBAc will not be a "cure-all" for all 100 gram per liter industrial maintenance coatings. It has a strong odor, evaporates relatively, quickly and is not a universal replacement solvent for all current usages.

SCAQMD must realize that industrial maintenance coatings are primarily protective of vital infrastructure, including bridges, water pipes/tanks, chemical and oil storage tanks, etc. If these coatings fail, catastrophic releases could result. Consequently, field exposure testing beyond lab testing is essential for these coatings. NPCA again requests SCAQMD to extend the limit for all industrial maintenance coatings one year to July 1, 2007. Failure to fully analyze these issues is a flaw in the CEQA analysis.

3. Lowering VOC Limits from Specific Coating Categories

3-7

SCAQMD states that, based largely on NPCA suggestions, Staff is proposing to amend Rule 1113 by lowering the VOC limits for several categories of low-volume specialty coatings (Bond Breakers, Concrete Curing Compounds, Dry Fog Coatings, Fire Retardant Coatings, and Traffic Coatings). NPCA had indeed mentioned, at the August 10, 2005 meeting, several options that might be considered for further additional reductions - including subdividing the Industrial Maintenance category and the Limit –to-Limit over compliance concept, as well as possibly lowering the limits for various categories where feasible, in the context that further discussions would ensue. However, Staff recommendations for these newly proposed limits were raised at the January 26th public workshop without additional consultation with industry, rather than being considered in the context of the ongoing discussions.

3

3-8 It is important to note the reason why SCAQMD is proposing to lower limits for these coatings categories. It is because SCAQMD is unwilling to adjust any emission reduction goals and have now required industry to find a way to render any changes (needed due to technological infeasibility) in future limits to be absolutely "emissions neutral".

As a result, to maintain the emissions neutral goal, Staff has cut limits in other categories without *checking if these limit reductions are technically feasible*. In short, Staff has taken the mandate for the Annual Report and the mission of the Ad Hoc Committee (to realistically evaluate the technological feasibility of coatings limits before they become effective) to mean only if it suits its existing expectations for emissions reductions. Such an approach renders both exercises meaningless.

3-9 In light of the acknowledged technology forcing nature of the limits at issue here, Rule 1113, it is vital that SCAQMD complete technical assessments for the coatings selected for VOC limit reduction. In adopting the 1999 amendments to Rule 1113, the Board established an annual review process to determine whether sufficient progress in coatings technology was being made to allow for the effective implementation of lower VOC limits. A Technical Advisory Committee also was established to assist in designing the various tests and measures to help track this process and advise Staff accordingly.

In addition, CARB will have results of the AIM survey later this year, which should provide additional information on the availability and sales of products in these categories. Depending upon the CARB survey data, SCAQMD should either pull back the limit changes or extend the compliance dates for these categories.

3-10 SCAQMD's CEQA analysis is deficient for failing to fully analyze the costs and benefits of the proposed amended limits for these coatings, which includes a failure to determine whether the limits are technologically feasible for all of the coatings' applications.

4. Differentiation of Non-flat High-Gloss from Other Non-flat Coatings

3-11 NPCA supports the SCAQMD differentiation of the Non-flat High Gloss category. It disagrees, however, with the lower limit it continues to mandate for non-flat coatings. As has been demonstrated by industry in several meetings and workshops on this issue, the resin technologies SCAQMD is relying on for this lower limit continue to have performance problems, including dirt pickup. The failure to take this into account is a deficiency in the CEQA analysis.

3-12 **5.** Postponement of the Compliance Date for Non-flat High Gloss Coatings and Quick-Dry Enamels by One Year

3-12 *cont.*

NPCA supports the SCAQMD proposed postponement of the implementation date of the Non-flat High-gloss limits and Quick Dry coatings categories to allow coatings formulators to develop compliant coatings. SCAQMD also should be prepared to provide additional postponements of implementation dates if they are required to produce technologically feasible coatings for these two categories. However, NPCA believes that the Quick Dry coatings limit should stay at the current 250 g/l limit. The CEQA analysis fails to properly analyze the consequences of moving to this limit for quick dry coatings which we believe is a technologically infeasible for a number of the coatings' applications.

6. Other Changes to Rule 1113 to Enhance Clarity and Enforceability

3-13

As we stated in our December 21 Position Paper, we believe that it would be highly useful to subdivide a number of the coatings categories into their "exterior" and "interior" uses. The worry Staff has expressed over the materials being misapplied (exterior coating being used for interior application) we believe is misplaced. Consumers of the coatings have been able to draw distinctions between the two uses long before there were regulations in place and will continue to do so because exterior coatings do not lend themselves to interior applications. This is one instruction on the can that long practice has demonstrated to be religiously followed by end users.

As discussed at the February 14-15 meeting, there seems to be an overlap problem with the revised floor coating definition, the revised definition is too broad and will lead to compliance issues in the future if left as proposed.

These issues should also be fully considered in the CEQA analysis.

7. NPCA Alternative Amendments to Rule 1113

3-14

One of the key goals of the Ad Hoc Committee is to resolve current and potential future litigation arising from this issue. Over the past seven months, NPCA has provided the SCAQMD Staff with numerous proposals to amend Rule 1113 in ways that would resolve the current litigation. In addition, NPCA proposals would achieve substantial emission reductions while maintaining products that meet important performance standards, including critical safety requirements necessary to maintain Southern California's infrastructure.

NPCA has now offered four proposals to SCAQMD and NPCA continues to work with Staff since we believe that Rule 1113 could be amended in a manner that will result in a cessation of the litigation as well as provide a rule that is technologically feasible and delivers substantial emissions reductions. See previously submitted December 21 Position Paper and Table of Standards.

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8. February 14 and 15, 2006 Rule 1113 Technical Meeting

3-15 Based on Technical Meetings held with SCAQMD Staff on February 14 and 15, 2006, it appears that there are continuing technology issues with Rule 1113. Please find attached a copy of a letter to Barry Wallerstein, identifying action items for key coatings categories from the meeting. Of greatest concern are technical issues include but are not limited to the following coating categories: Antigraffiti, Water Proof Concrete Masonry Sealers, Water Proof Sealers, Specialty Primers, Nonflats, Floor Coatings, Stains and industrial Maintenance coating categories.

9. 275 g/l Varnish Limit/Elimination of Small Container Exemption

3-16 The elimination of the small container exemption and the reduction of the varnish limit to 275 g/L provides no air quality benefit when the ozone-forming potential per unit volume solids applied is considered. The failure of the CEQA analysis to adequately consider this is a deficiency.

10. Comments on Specific Statements of the CEQA Document

3-17 • As noted on page 1-1, the current rule contains a requirement for Staff to conduct a technology assessment prior to implementation of the lower limits – such a technology assessment was not completed for the bond breakers, concrete-curing compounds, dry-fog coatings, fire-retardant coatings and traffic coatings categories. SCAQMD does not mention that these coatings limits are being lowered to off-set reductions elsewhere to maintain emissions neutrality.

3-18 • Page 1-5, last sentence, NPCA acknowledges the air quality challenges of the region and expressed its desire to submit an alternate proposal that would be emissions neutral – note this was a goal and the proposal would be emissions neutral to the extent possible.

3-19 • Page 1-8, 2nd paragraph – NPCA strongly disagrees with the statement that Staff demonstrated that there are sufficient compliant coatings available on the market in the other architectural coatings categories that will meet the VOC limits of Rule 1113 without the use of TBAc. Clearly, Staff agrees that high gloss and quick dry enamels are not available – additional problematic categories were identified during the February 14 and 15th Technical meeting as described above. NPCA is requesting SCAQMD to delist TBAc for Industrial Maintenance coatings – however NPCA ultimately believes that TBAc should be delisted without usage restriction for all coatings as did the State of California, EPA and most other states.

3-20 • Page 1-9, last sentence – NPCA questions the statement that new resins were used in Quick-Dry Enamels that were included in the technology assessment. Staff's claim that these new resin system are just now

6

3-20 *cont.* becoming available is at variance with the statement that they were available when the technology assessment was started several years ago.

3-21 • Page 1-12, the goal of NPCA's proposal was to be emissions neutral to the extent possible.

3-22 • Page 2-11, as mentioned earlier, Rule 1113 is a technology forcing rule, that must be amended when technological issues are found. Since Staff found it to be technologically infeasible to implement the high gloss and quick dry enamels the industry should not be penalized for these needed changes by forcing emissions reductions from other coatings categories the technology feasibility of which has not been adequately evaluated.

3-23 • Page 2-13 – it appears that for several of the columns – the weight percent of VOC appears to be more than the VOC content listed (for example concrete curing – the listed replacement solvents add up to more than 100 g/l).

3-24 • Page 2-28 – NPCA agrees that the use of TBAc as a replacement solvent for IM coatings and zinc rich primers will not result in adverse hazard impacts. As noted earlier, however, we believe that the failure to more fully exempt TBAc for other coatings uses is not warranted as is demonstrated by Lyondell's comments.

In advance, thank you for the opportunity to comment. Please contact us with any questions you might have concerning our comments.

Sincerely,

/s/ /s/

David F. Darling, P.E.
Director, Environmental Affairs
Affairs

Jim Sell, Esq.
Senior Counsel, Government

Cc:

** Sent via email and in hard-copy **

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COMMENT LETTER NO. 3
NATIONAL PAINT AND COATING ASSOCIATION

David F. Darling, P.E. / Jim Sell, Esq.
February 22, 2006

Response 3-1

The National Paint and Coatings Association (NPCA) has worked with the SCAQMD on past amendments to Rule 1113 and we look forward to continue working with NPCA during this latest Rule 1113 amendment proposal process. As explained in more detail, PAR 1113 creates a nonflat high gloss coating category. The compliance date for both nonflat high gloss and quick dry coatings is proposed to be extended for one year.

Response 3-2

The SCAQMD appreciates the participation of the NPCA at the Ad Hoc Board Committee meetings to address industry concerns regarding architectural coatings and staff will consider any material submitted by the public in crafting the rule amendments as well as evaluating environmental and fiscal impacts from these amendments.

Response 3-3

It is not the SCAQMD's intention to misconstrue the position of NPCA with regard to lowering the VOC limits for several coating categories. The rule proposals are based on information exchanged during the rule development process. At the July 8, 2005 Ad Hoc Committee Meeting with SCAQMD Governing Board and Los Angeles County Supervisor Michael Antonovich, Councilwoman Jan Perry, NPCA President Andy Doyle agreed, in response to a question from SCAQMD Executive Officer Barry Wallerstein, that the industry (rule) proposal would be "emissions neutral." This dialogue was noted in both the July 8, 2005, meeting minute notes as well as in the Annual Status Report on Rule 1113 submitted to the SCAQMD Governing Board on February 3, 2006. Thus, it appeared that both the SCAQMD and NPCA recognize the extreme air quality needs of the region by suggesting rule proposals that would achieve the same overall VOC emission reductions while providing the industry flexibility to meet future limits. Subsequently, at both the August 10, 2005, and September 14, 2005, subcommittee meetings, the NPCA proposed subdividing five coating categories into interior and exterior applications and moving the compliance date up for the interiors at the current final VOC content limit. The exteriors would presumably be allowed to stay at a higher VOC content limit creating permanent forgone emission reductions. Implementation and enforcement concerns have been raised with regard to properly classifying interior and exterior coatings so this suggestion has not been included as part of the current proposed amendments to Rule 1113. At those same meetings, NPCA suggested additional reductions by lowering the VOC content limit for concrete curing compounds, dry fog

coatings, and traffic coatings. Being a feasible suggestion and a proposal that will reduce emissions, the SCAQMD has included this suggestion as part of the proposed project.

The Ad Hoc Committee Meeting minutes appeared to indicate that NPCA's "suggestions" were more than mere "possibilities." These future limit "suggestions" were found to be feasible as coatings that comply with these future limits are commercially available. The technical assessment conducted by the district supports the availability of the affected coatings achieving the lower VOC content limit. When NPCA suggested lowering certain coating categories limits, the SCAQMD respected their opinion and expertise by including that suggestion in the rule proposal, along with delays in compliance dates and an exemption of a potentially toxic contaminant, to achieve the mutual goal of emission reductions that will be approximately the same as the emission foregone. In order to achieve that goal and provide a delay in compliance dates, other coating category limits will need to be lowered for those coating categories that meet the future limits with commercially available products. Staff has conducted a thorough assessment for each of the additional categories proposed for lower VOC limits, and ahs revised its original proposed based on findings.

Response 3-4

As long as there are commercially available coatings that meet the lower VOC content limits, the proposed rule amendment to lower the VOC content limit does not constitute "technology forcing." The SCAQMD staff recognizes the challenge for non-flat coatings and quick dry enamels to comply with the 50 grams per liter by July 1, 2006, which is why the proposed project extends the compliance date one year to provide manufacturers of non-flat coatings and quick dry enamels one additional year to take advantage of the latest resin technologies and formulate to the lower VOC content limit. These findings were based on discussions with manufacturers as a part of the ongoing technical assessment. However, staff also found raw materials introduced into the marketplace that mitigate the issues of dirt pickup but concluded that some manufacturers may need additional time to reformulate with these new resins. At the same time, SCAQMD staff recognizes, based on information provided by NPCA and several coating manufacturers that the VOC content limit of other coating categories can be feasibly lowered from their current required limits. After the NPCA first identified potential coating categories with lower VOC coatings, staff researched and found that many coatings with VOC content limits below the proposed limits are currently available on the market. The staff report for proposed amended Rule 1113 shows that the lower VOC limits for the five affected coating categories are "potential cost-effective means of offsetting the VOC emissions foregone due to the delay in implementation." This observation does not directly contradict the nature of technology forcing limits since the staff conducted a comprehensive technology assessment, which demonstrated that coatings meeting the future VOC limits were commercially available. Further, a list of coating categories showing that lower VOC content limits are feasible was provided by NPCA. Staff conducted a preliminary evaluation of the emission inventory and available VOC technology for these five categories which strongly indicates potential significant cost-effective emission reductions.

See Response 3-3 with regard to achieving an "emission neutral" proposal.

Response 3-5

The commentator is incorrect that the SCAQMD is not concerned with health affects of TBAc. The SCAQMD has a responsibility to protect public health and evaluate the potential adverse impacts from proposed projects in accordance with the requirements of the California Environmental Quality Act (CEQA). Consistent with CEQA, an HRA was prepared to evaluate cancer and noncancer health risks from using coatings formulated with TBAc. Preliminary acute risk calculations were modified to reflect updated input parameters which changed the conclusion of the acute risk assessment. The lowering of the acute risk value, however, does not eliminate the potential acute impact from potential increased use of TBAc in IM coatings. Further, the issue has been raised with regard to the potential cancer risk at certain facilities where IM coatings are applied throughout the year creating a potential long-term exposure. For these specific cases, the potential cancer risk from TBAc was evaluated in the Draft EA. To provide a more broad exemption of TBAc as a VOC for all coatings would increase the potential risk associated with usage of TBAc and is not under consideration at this time. In addition, other coatings lack the application procedures followed by professional contractors who typically apply IM coatings, especially the use of personal protection equipment, including respirators.

Finally, with regard to the opinion of the commentator that the analysis of risk was not properly analyzed pursuant to CEQA requirements, such an analysis is not required as part of the Initial Study (IS). The IS serves two purposes: 1) to solicit information on the scope of the environmental analysis for the proposed project, and 2) to notify the public that the SCAQMD will prepare a Draft EA to further assess potential environmental impacts that may result from implementing the proposed project. Thus, the risk analysis will be properly presented in the Draft EA.

Response 3-6

The current proposal allows an exemption of TBAc as a VOC for IM coatings to provide the IM coatings manufacturers, particularly the atmospheric IM coating manufacturers the ability to formulate a coating that not only meets the 100 grams per liter but has exceptionally long durability. Reportedly, IM coating manufacturers have successfully worked with TBAc in their formulations, which is the basis for the exemption of TBAc as a VOC for IM coatings. Additionally, coating manufacturers have already been working to reformulate these coatings with other solvents. Discussions with raw material and additive suppliers indicate that these products can be delivered in TBAc, if demanded by the industry.

Further, the SCAQMD is fully aware of the characteristics the IM coatings are expected to demonstrate in order to be successful and be a marketable product. Field exposure testing beyond lab testing is essential and if a manufacturer needs additional time to test

and research, a variance from rule compliance should be requested from the SCAQMD Hearing Board. The consequences for failure are not considered a potential adverse impact since it is not expected that IM coatings manufacturers will produce and market a coating that will knowingly fail. If it is unknown whether or not a coating will fail, the analysis would be speculative.

Response 3-7

As explained in Response 3-3, NPCA did mention at both the August 10, 2005, meeting and the September 14, 2005, meeting several rule proposal options which were later included in the current rule proposal. There were reasons why certain suggestions were included and why others were not. With regard to commentator's opinion that further additional consultation with industry before the January 26, 2006, public workshop, the SCAQMD staff did meet and discuss the proposed limits with the coating manufacturers after reviewing market penetration and availability of compliant products. The public workshop rule proposal relied on NPCA's suggestions as an expert opinion which could be seriously considered as feasible rule proposal options.

Response 3-8

As noted in Response 3-3, both the SCAQMD and NPCA discussed the importance of proposing an "emission neutral" rule amendment early in the rule development process. In this spirit of cooperation and negotiation, NPCA proposed the lowering of limits of certain coating categories which the SCAQMD has incorporated into the current rule proposal. The NPCA has changed their stance regarding an emission neutral proposal and the SCAQMD has determined that coatings complying with future lower VOC content limits for certain coatings are commercially available. Thus, based on the technical data and commercial availability, the SCAQMD is proposing to lower the VOC content limit for certain coatings.

The SCAQMD has a responsibility to the public, legislative decision-makers as well as the affected industry to set goals and reach those targets. The SCAQMD has adjusted emission reductions goals for a number of rules, including Rule 1113, in the past and it is unfounded that SCAQMD is not being willing to adjust our goals. By allowing the delay of compliance dates causes a delay in emission reductions which adjusts our emission reductions goals. Compliance dates have been adjusted a number of times during the 23 amendments to Rule 1113 since its adoption in 1977. The proposed lowering of the VOC content limits affect coatings that currently comply with the future proposed VOC content limits.

A federal consent decree limits overall changes to Rule 1113. The Board must make a finding that limits are infeasible which is supported by substantial evidence. Except for a few areas, staff has substantial evidence to support feasibility of the limits. Despite several meetings with NPCA and member paint manufacturers, no technical data has been provided to staff to support the consent decree's requirement finding of infeasibility.

Response 3-9

As discussed in Response 3-4, staff conducted a comprehensive technology assessment and obtained a list of coating categories with a suggested lower VOC content limit from the NPCA. The SCAQMD does intend to follow the mission of the Ad Hoc Committee since that is the reason participation in the committee is occurring. If the commentator has any further suggestions with regard to the technological feasibility of coating limits, staff welcomes public input. Where supported by substantial evidence, based on the entirety of the record, the SCAQMD has proposed the delay in compliance dates for some coating categories to allow manufacturers more time to reformulate.

As noted in Response 3-3, amendments to Rule 1113 are not technology forcing as coating formulations meeting the future VOC content limits set forth in the rule are currently commercially available and achieved in practice. The annual review process is taking place and the latest report was filed with the SCAQMD Governing Board on February 3, 2006.

When released, CARB's AIM survey will be reviewed by SCAQMD staff and pertinent information will be utilized where appropriate.

Response 3-10

SCAQMD has and continues to fully analyze the costs and benefits of the proposed limits for these coatings. A full analysis will appear in the socioeconomic assessment and the cost to implement the rule amendments was shown to be cost effective in all the staff reports. Performance of the coating is evaluated in the technical assessment which provides guidance to the rule development team when crafting proposed amendments to the rule. Potential adverse environmental impacts from the new known technologies and coating formulations introduced as a result of the proposed project are evaluated in the CEQA assessment. Failure of those technologies is not considered a potential adverse impact since it is not expected that IM coatings manufacturers will produce and market a coating that will knowingly fail. It would be a speculative analysis if it is unknown whether or not a coating will fail.

Response 3-11

The SCAQMD recognizes there are technical hurdles to overcome to develop a successful coating product when reformulating to achieve a lower VOC content limit, including dirt pickup. The one year extension for the high gloss category is being proposed to allow manufacturers to take advantage of the latest resin and additive technologies in overcoming the performance challenges identified and transition to the new limits.

Response 3-12

The decision to propose the extension of compliance dates is based on the technology assessment and Annual Report to the SCAQMD Governing Board. According to the market penetration data in Tables 2 and 4 of the Annual Status report, compliant coatings that already meet the lower VOC content are commercially available and being sold in local stores. Given an additional year to achieve compliance, the remaining quick dry enamels will also achieve compliance with the lower VOC content limit.

See Responses 3-6 and 3-10 with regard to consequences from failed coating products.

Response 3-13

Implementation and enforcement concerns have been raised with regard to properly classifying interior and exterior coatings so this suggestion has not been included as part of the current proposed amendments to Rule 1113. Furthermore, compliant interior and exterior products are readily available for use. The overlapping problem with the revised floor coating definition is being reviewed by the rule development group. The commentator is not clear as to how the division of coating categories or floor coating definition will have a potential adverse impact on the environment and how that needs to be considered in the CEQA analysis.

Response 3-14

Please refer to Response to 3-2 with regard to the mission and goals set forth by the Ad Hoc Committee. SCAQMD staff has carefully considered NPCA proposals. However, SCAQMD cannot simply adopt whatever industry proposes merely because it would avoid litigation. SCAQMD would like to eliminate unnecessary litigation, but also remains committed to obtaining feasible emission reductions and obtaining substantial public health benefits.

The SCAQMD does not agree that the NPCA proposals would achieve substantial emission reductions when lower VOC content limits are not reached. This would generate a permanent emission reduction foregone backsliding from the goals of Rule 1113, the AQMP, and attainment with the state and federal ambient air quality standards. The four proposals offered by the NPCA were not "emissions neutral" but did provide elements used in crafting the current amendments to Rule 1113. Federal consent decree permits the SCAQMD to support proposals that delay emission reductions by more than two years and not be offset.

Response 3-15

The technical issues raised by the commentator and the reasoning for why some suggestions are not included in the proposed project are discussed in the Staff Report for PAR 1113. It should be noted that the suggestions made by the NPCA constitute Alternative B to the proposed project in the Draft EA. Alternative B considers

maintaining the current limits for waterproofing sealers, specialty primers, floor coatings, nonflats and exterior stains, and not lower the VOC content limit any further. It would also extend the compliance date for IM coatings to achieve the lower 100 g/l VOC content limit by one year. Staff has identified compliant antigraffiti products that allow moisture permeation and breathability, so antigraffiti coatings will continue to be subject to the VOC content limits of IM coatings.

Response 3-16

The elimination of the small container exemption was promulgated in 2003 and is not part of the current rule amendments. According to the staff report prepared for the 2003 amendments to Rule 1113, the elimination of the small container exemption would result in a VOC emission reduction of 1,660 pounds per day. After more data refinement and further survey of the small container products, the VOC emission reductions were updated to 1,820 pounds per day. The same 2003 staff report also reported that 420 pounds per day of VOC emissions would be reduced when clear wood varnishes comply with the lower VOC content limit of 275 grams per liter on July 1, 2006.

Response 3-17

Rule 1113 does not specify that every coating category proposed for a lower VOC content limit is required to have a technical assessment. However, staff did conduct a technical assessment and has found that lower VOC content limits for concrete-curing compounds, dry-fog coatings and traffic coatings are technically feasible. The technology assessment requirement in Rule 1113 is independent of the goals of emission neutrality in the rule amendment proposals set forth in the Ad Hoc Committee meetings which began in July 8, 2005. As noted on page 1-1, a comprehensive technology assessment was conducted and included in the Annual Status Report on Rule 1113 presented to the SCAQMD Governing Board on February 3, 2006.

Response 3-18

When the NPCA proposed the lower VOC content limits for certain architectural coating categories at both the August 10, 1005, and September 14, 2005, subcommittee meetings, the ability to achieve the goal of emissions neutrality was implied to be possible and feasible. The lowering of the VOC content limits would provide an air quality benefit that would otherwise be lost when delaying compliance dates for other categories. The commentator seems to be retracting on the emissions neutral goal by adding the caveat "to the extent possible" to the goal set out at the July 8, 2005, Ad Hoc Committee Meeting (see Response 3-3). However, the emission neutral idea suggested by NPCA is possible as demonstrated through the comprehensive technology assessment in the 2005 Annual Report Status for Rule 1113 and other supporting documentation.

Response 3-19

SCAQMD staff does agree that high gloss nonflats and quick dry enamels compliant with the lower VOC content limit are not widely available and some have dirt pickup issues, and that is why the Rule 1113 amendments include a delay in the compliance date for those architectural coating categories. However, the comprehensive technology assessment in the 2005 Annual Report Status for Rule 1113 lists a sufficient number of compliant coatings in other architectural coating categories that are in compliance with the future lower VOC content limit. Finally, due to the challenges facing the atmospheric IM coating manufacturers to formulate a compliant coating that achieves the high standards required from public agencies, the Rule 1113 amendments include a delisting of TBAc as a VOC for IM coatings. Due to it potential toxicity and health effects associated with TBAc, a limited exemption is currently proposed.

Response 3-20

While the data in the technology assessment was begun in the spring of 2004, the ongoing study continued up to January 6, 2006 before the latest status report was presented to the SCAQMD Governing Board in February 2006. New resins have been critical in assisting the coatings to achieve lower VOC content limits and if resins did not assist quick dry enamels in reaching lower VOC content limits and provide acceptable coating characteristics for consumers and industry, the commentator is encouraged to provide a different insight.

Response 3-21

See Response 3-3 with regard to the emission neutral goal set forth at the initial Ad Hoc Committee Meeting and reconfirmed during the August and September 2005, subcommittee meetings, and refer to Response 3-18 with regard to the "extent possible" in achieving such a goal.

Response 3-22

See Response 3-3 with regard to the rule proposal not being "technology forcing" and Response 3-7 with regard to the development of a rule proposal. Responses 3-9, 3-17 and 3-19 discuss the feasibility of formulating compliant coatings and the independence from the goals to achieve emission neutrality and fulfill control measure set forth in the 2003 AQMP.

Response 3-23

Table 2-4 on page 2-13 in the Initial Study lists typical solvents found in affected coatings but not all the solvents are found in one single coating so the weight percentages are not additive. The purpose of the table is to provide a listing of the typical solvents found in both existing formulations and reformulations, along with the high end of weight percent found in these coatings. The high end was listed to consider the "worst-case"

scenario in these formulations. However, as noted previously, not all these solvents were discovered in a single coating type.

Response 3-24

The less than significant potential hazard impacts from reformulating IM coatings with TBAc is not reason enough to provide a broad exemption of TBAc as a VOC to other architectural coating categories. The potential toxicity and health effects associated with TBAc are the primary reason a limited exemption to IM coatings is currently proposed.

APPENDIX D

HEALTH RISK ASSESSMENT

TBAc Acute Noncarcinogenic Health Risk Analysis for PAR 1113

Tank Diameter and Approximate Footprint Area:

Tank Diameter, m	Tank Footprint Area, m^2	Effective Length, m	Height, m	Release Height, m
22.00	380	19.50	9.75	4.88

- Tank diameter and height from John Wallace, MWD for a one million gallon Tank
- Effective length, m = (tank footprint area, m^2)$^{1/2}$

Determination of the Highest TBAc Mass Emission Rate:

Description	Usage, gal/hr	Specific Gravity	Density, lb/gal	Mix Ratio	TBAc Weight Fraction	Coating Emission Rate, lb/hr	TBAc Emission Rate, lb/hr	Adjusted TBAc Weight Fraction	TBAc Emission Rate, g/s
Primer resin	4		9.96	0.1808	0.2620	7.2021	1.89		0.24
Primer cure	4		7.62	0.0599	0.3800	1.8251	0.69		0.09
Primer powder	4		58.80	0.7593	0.0000	178.5874	0.00		0.00
Primer total						187.61	2.58	0.01	0.33
Intermediate resin	4		12.78	0.5000	0.0000	25.5538	0.00		0.00
Intermediate cure	4		11.75	0.5000	0.1090	23.5000	2.56		0.32
Intermediate total						49.05	2.56	0.05	0.32
Topcoat resin	4	1.37	11.43	0.7500	0.2121	34.2980	7.27		0.92
Topcoat cure	4	1.13	9.43	0.2500	0.0000	9.4299	0.00		0.00
Topcoat total						43.7278	7.27	0.17	0.92
				Max TBAc emissions			**7.27**		**0.92**

Notes:
- Max.usage of four gal/hr provided by John Wallace DWP based two guns delivering two gallons per hour per gun
- Coating emissions , lb/hr = usage, gal/hr x density, lb/gal x mix ratio
- TBAc emissions , lb/hr = usage, gal/hr x density, lb/gal x mix ratio x TBAc weight fraction
- Adjusted TBAc weight fraction =(TBAc emission rate, lb/hr)/(Coating emission rate, lb/hr)
- TBAc Emissions, g/s = (TBAc emissions, lb/hr x 454 g/lb)/(3,600 sec/hr)

Mass Emission Rate Coating:

Description	Usage, gal/hr	Specific Gravity	Density, lb/gal	Mix Ratio	Emission Rate, lb/hr	Emission Rate, g/s
Topcoat resin	4	1.37	11.43	0.7500	34.30	4.32
Topcoat cure	4	1.13	9.43	0.2500	9.43	1.19
Topcoat total					**43.73**	**5.51**

- Coating emissions , lb/hr = usage, gal/hr x density, lb/gal x mix ratio
- Coatng Emissions, g/s = (coating emissions, lb/hr x 454 g/lb)/(3,600 sec/hr)

Acute HI for TBAc

Component	Maximum Unit Emission Rate Conc. (ug/m3)	Mass Rate, g/s	TBAc Weight Fraction	Acute REL, ug/m3	Acute HI
TBAc	4,277	5.51	0.17	1.00E+04	**0.4**

- Maximum unit emission rate conc., ug/m3 estimated using ISCST3
- Weight fraction TBAc - highest concentration reported by Ameron
- Acute REL - Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004.
- HI = (maximum unit emission rate conc., (ug/m3)/(g/s) x coating mass rate, g/s x TBAc weight fraction)/(REL, ug/m3)

Acute HI for Conventional Solvents

Component	Maximum Unit Emission Rate Conc. (ug/m3)	Mass Rate, g/s	Wt fraction Component	Acute REL	Acute HI
Xylene	4,277	5.51	0.01	2.20E+04	**0.01**

- Maximum unit emission rate conc., ug/m3 estimated using ISCST3
- Weight fraction conventional - highest concentration from review of MSDSs of I&M coatingss
- Acute REL - Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004.
- HI = (max. unit emission rate conc., (ug/m3)/(g/s) x coating mass rate, g/s x component weight fraction)/(REL, ug/m3)

Target Organs

Component	Dev	Eye	Hem	Imm	NS	Rep	Resp
TBAc							X
Xylene		X					X

Assumptions

- One million gallon tank per conversation with Mark Staple of DWP
- 25 meters from tank to property boundry per Rules 1401/212 HRA Guidance shortest distance to receptor
- Tank dimensions from John Wallace at MWD
- Tank modeled as a volume source with an volume equivalent to the volume of the cylindrical tank
- Initial release height is half the height of the tank
- West LA metrological data
- 10 meter receptor grid beginning 25 meters from tank
- Max.usage of four gal/hr provided by John Wallace DWP based two guns delivering two gallons per hour per gun
- Coating parameters (mix ratios, TBAc weight fraction and density) from three part Ameron coating system
- Since only one coating can be sprayed at a time, the coating with the highest amount of TBAc emissions was used.
- TBAc acute REL - Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004
- Weight fraction conventional - highest concentration from review of MSDSs of I&M coatingss
- Xylene acute REL - Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004

TBAc Cancer Risk Analysis for PAR 1113 - Sewage Treatment Facility

TBAc Emissions Inventory:

Coating	Usage, gal/yr	Specific Gravity	Density, lb/gal	Mix Ratio	TBAc Weight Fraction	Coating Emission Rate, lb/yr	TBAc Emission Rate (Q), lb/yr
Topcoat resin	889	1.37	11.43	0.75	0.2121	7,623	1,617
Topcoat cure	889	1.13	9.43	0.25	0.0000	2,096	0
Topcoat total						9,719	1,617

Equation:

TBAC Emission Rate, lb/yr = Usage, gal/yr x Density, lb/gal x Mix Ratio x TBAc Weight Fraction

Rule 1401 and 212 Tier II Cancer Risk Analysis:

Impact to Residential or Sensitive Receptor

Parameter	Value	Units	Note
X/Q	6.7	{(ug/m^3)/(ton/yr)}	75 meters downwind distance, for an area <3,000 sq ft
AFann	1.00E+00		Residential/sensitive receptor 24 hour/day exposure
MET	0.58		Long Beach
CP	2.00E-03	(mg/kg-day)$^{-1}$	OEHHA CP for TBA
DBR	302	(L/kg-day)	Sensitive/Residential
EVF	0.96		Sensitive/Residential
MP	1		Not assigned, assumed worst-case
Cair	3.14E+00	(ug/m^3)	
DI	9.11E-04	mg/kg-day	
MICR	**1.82E-06**		

Impact to Off-Site Worker

Parameter	Value	Units	Note
X/Q	6.7	{(ug/m^3)/(ton/yr)}	75 meters downwind distance, for an area <3,000 sq ft
AFann	4.20E+00		Off-site worker 8 hour/day exposure
MET	0.58		Long Beach
CP	2.00E-03	(mg/kg-day)$^{-1}$	OEHHA CP for TBA
DBR	149	(L/kg-day)	Off-site worker
EVF	0.38		Off-site worker
MP	1		Not assigned, assumed worst-case
Cair	1.32E+01	(ug/m^3)	
DI	7.47E-04	mg/kg-day	
MICR	**1.49E-06**		

Equations:

Cair = Qtons x X/Q x AFann x MET

DI = Cair x DBR x EVF x 10^{-6}

MICR = CP x DI x MP

Distance Range to Nearest Receptor *(varies depending on location of coating operation)*

Downwind Distances ft	Downwind Distances meter	
300 - 5280	91 - 1609	Obtained from SCAQMD Inspector; verified with Thomas Guide

Assumptions

- IM coating usage based on actual facility data and actual location meteorological data
- Weight fraction TBAc - highest concentration reported by Ameron
- TBAc Cancer Potency - Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004.
- Coating parameters (mix ratios, TBAc weight fraction and density) from three part Ameron coating system

Key

Dispersion factor	X/Q
Annual concentration adjustment factor	AFann
Meterological correction factor	MET
Cancer potency	CP
Daily Breathing Rate	DBR
Exposure Value Factor	EVF
Multi-pathway factor	MP
Concentration in air	Cair
Dose through inhalation	DI
Maximum Individual Cancer Risk	MICR

TBAc Cancer Risk Analysis for PAR 1113 - Refinery

TBAc Emissions Inventory:

Coating	Usage, gal/yr	Specific Gravity	Density, lb/gal	Mix Ratio	TBAc Weight Fraction	Coating Emission Rate, lb/yr	TBAc Emission Rate (Q), lb/yr
Topcoat resin	269	1.37	11.43	0.75	0.2121	2,307	489
Topcoat cure	269	1.13	9.43	0.25	0.0000	634	0
Topcoat total						2,941	489

Equation:

TBAC Emission Rate, lb/yr = Usage, gal/yr x Density, lb/gal x Mix Ratio x TBAc Weight Fraction

Rule 1401 and 212 Tier II Cancer Risk Analysis:

Impact to Residential or Sensitive Receptor

Parameter	Value	Units	Note
X/Q	6.7	{(ug/m^3)/(ton/yr)}	75 meters downwind distance, for an area <3,000 sq ft
AFann	1.00E+00		Residential/sensitive receptor 24 hour/day exposure
MET	1		West Los Angeles
CP	2.00E-03	(mg/kg-day)$^{-1}$	OEHHA CP for TBA
DBR	302	(L/kg-day)	Sensitive/Residential
EVF	0.96		Sensitive/Residential
MP	1		Not assigned, assumed worst-case
Cair	1.64E+00	(ug/m^3)	
DI	4.75E-04	mg/kg-day	
MICR	**9.50E-07**		

Impact to Off-Site Worker

Parameter	Value	Units	Note
X/Q	6.7	{(ug/m^3)/(ton/yr)}	75 meters downwind distance, for an area <3,000 sq ft
AFann	4.20E+00		Off-site worker 8 hour/day exposure
MET	1		West Los Angeles
CP	2.00E-03	(mg/kg-day)$^{-1}$	OEHHA CP for TBA
DBR	149	(L/kg-day)	Off-site worker
EVF	0.38		Off-site worker
MP	1		Not assigned, assumed worst-case
Cair	6.88E+00	(ug/m^3)	
DI	3.90E-04	mg/kg-day	
MICR	**7.79E-07**		

Equations:

Cair = Qtons x X/Q x AFann x MET

DI = Cair x DBR x EVF x 10^{-6}

MICR = CP x DI x MP

Distance Range to Nearest Receptor *(varies depending on location of coating operation)*

Downwind Distances ft	Downwind Distances meter	
300 - 3960	91-1207	Obtained from SCAQMD Inspector; verified with Thomas Guide

Assumptions

- IM coating usage based on actual facility data and actual location meteorological data
- Weight fraction TBAc - highest concentration reported by Ameron
- TBAc Cancer Potency - Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004.
- Coating parameters (mix ratios, TBAc weight fraction and density) from three part Ameron coating system

Key

Dispersion factor	X/Q
Annual concentration adjustment factor	AFann
Meterological correction factor	MET
Cancer potency	CP
Daily Breathing Rate	DBR
Exposure Value Factor	EVF
Multi-pathway factor	MP
Concentration in air	Cair
Dose through inhalation	DI
Maximum Individual Cancer Risk	MICR

TBAc Cancer Risk Analysis for PAR 1113 - Water/Power Facility

TBAc Emissions Inventory:

Coating	Usage, gal/yr	Specific Gravity	Density, lb/gal	Mix Ratio	TBAc Weight Fraction	Coating Emission Rate, lb/yr	TBAc Emission Rate (Q), lb/yr
Topcoat resin	600	1.37	11.43	0.75	0.2121	5,145	1,091
Topcoat cure	600	1.13	9.43	0.25	0.0000	1,414	0
Topcoat total						6,559	1,091

Equation:

TBAC Emission Rate, lb/yr = Usage, gal/yr x Density, lb/gal x Mix Ratio x TBAc Weight Fraction

Rule 1401 and 212 Tier II Cancer Risk Analysis:

Impact to Residential or Sensitive Receptor

Parameter	Value	Units	Note
X/Q	0.17	{(ug/m^3)/(ton/yr)}	500 meters downwind distance, for an area <3,000 sq ft
AFann	1.00E+00		Residential/sensitive receptor 24 hour/day exposure
MET	0.71		Upland
CP	2.00E-03	(mg/kg-day)$^{-1}$	OEHHA CP for TBA
DBR	302	(L/kg-day)	Sensitive/Residential
EVF	0.96		Sensitive/Residential
MP	1		Not assigned, assumed worst-case
Cair	6.59E-02	(ug/m^3)	
DI	1.91E-05	mg/kg-day	
MICR	**3.82E-08**		

Impact to Off-Site Worker

Parameter	Value	Units	Note
X/Q	0.17	{(ug/m^3)/(ton/yr)}	500 meters downwind distance, for an area <3,000 sq ft
AFann	4.20E+00		Off-site worker 8 hour/day exposure
MET	0.71		Upland
CP	2.00E-03	(mg/kg-day)$^{-1}$	OEHHA CP for TBA
DBR	149	(L/kg-day)	Off-site worker
EVF	0.38		Off-site worker
MP	1		Not assigned, assumed worst-case
Cair	2.77E-01	(ug/m^3)	
DI	1.57E-05	mg/kg-day	
MICR	**3.13E-08**		

Equations:

Cair = Qtons x X/Q x AFann x MET

DI = Cair x DBR x EVF x 10^{-6}

MICR = CP x DI x MP

Distance Range to Nearest Receptor *(varies depending on location of coating operation)*

Downwind Distances ft	Downwind Distances meter	
2000 - 3000	610 - 914	Obtained from SCAQMD Inspector; verified with Thomas Guide

Assumptions

- IM coating usage based on actual facility data and actual location meteorological data
- Weight fraction TBAc - highest concentration reported by Ameron
- TBAc Cancer Potency - Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004.
- Coating parameters (mix ratios, TBAc weight fraction and density) from three part Ameron coating system

Key

Dispersion factor	X/Q
Annual concentration adjustment factor	AFann
Meterological correction factor	MET
Cancer potency	CP
Daily Breathing Rate	DBR
Exposure Value Factor	EVF
Multi-pathway factor	MP
Concentration in air	Cair
Dose through inhalation	DI
Maximum Individual Cancer Risk	MICR

APPENDIX E

COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT AND RESPONSES TO THE COMMENTS

LYONDELL
Daniel B. Pourreau, Ph.D.
Technical Advisor

Lyondell Chemical Company
3801 West Chester Pike
Newtown Square, PA 19073

Phone: 610-359-6837
Fax: 610-359-5530
Email: dan.pourreau@lyondell.com

May 18, 2006

Michael Krause
Planning, Rule Development and Area Sources
c/o CEQA
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Re: Comments on the Draft Environmental Assessment for Proposed Amended Rule 1113 – Architectural Coatings.

Dear Michael,

As the developer and leading producer of tertiary-butyl acetate (TBAC), Lyondell Chemical appreciates the opportunity to comment on the CEQA analysis for Proposed Amended Rule 1113 – Architectural Coatings. TBAC is a useful solvent for a variety of architectural and industrial maintenance coatings and, when exempted, will be an important tool to reduce ozone levels in the South Coast while allowing businesses to formulate cost-effective VOC-compliant coatings that meet performance requirements. This was again evident from the comments from the coating companies weighing in at the recent public workshop and from input by NPCA, representing other manufacturers and users of both industrial maintenance and architectural coatings. 1-1

I. Lyondell Agrees that Exempting TBAC in IM Coatings Will not Pose a Health Risk

For this reason, we were pleased to see Staff conduct a health risk assessment (HRA) for the use of TBAC in low-VOC industrial maintenance coatings and zinc-rich primers. The HRA used OEHHA's very conservative acute REL and hypothetical cancer URF (unit risk factor) based on the most sensitive endpoints for the TBA metabolite. In other words, the toxicity numbers used in the HRA already incorporate several worst-case assumptions regarding the potential toxicity of TBAC. Lyondell understands that it is SCAQMD policy to accept OEHHA's toxicity numbers without question. However, it is important to note that these numbers already include several worst case assumptions about the potential toxicity of TBAC and are, themselves, worst-case hypothetical numbers. 1-2

For example, Staff used the acute REL of 10,000 $\mu g/m^3$ suggested by OEHHA. This REL is based on a poorly conducted and documented 1953 acute inhalation study despite the availability of two more recent studies conducted on TBAC using Good Laboratory Practices. The more recent studies should have been used by OEHHA but were dismissed or ignored. Similarly, OEHHA's cancer slope factor and URF (unit risk factor) for TBAC are not based on TBAC chronic data but on chronic data for the metabolite TBA. These hypothetical cancer numbers for TBAC also include several worst case assumptions, including the assumption that TBA and TBAC are genotoxic, despite compelling scientific evidence that they are not.

To OEHHA's worst-case toxicological assessment, SCAQMD Staff has added worst-case acute and chronic exposure scenarios. Yet, despite these cumulative conservative assumptions, Staff found that 1-3

the increased use of TBAC in industrial maintenance coatings would not increase health risks above the CEQA levels of concern. Staff correctly states that "the HRA analysis concluded that both carcinogenic and non-carcinogenic acute risk to be less than significant." Lyondell agrees with this conclusion, if not the process and assumptions made to reach it. 1-3 (con't)

Conspicuously absent for the analysis, however, are the health benefits that will result from the reduction in ozone and TAC emissions from increased use of TBAC in IM coatings. Also absent from this CEQA analysis is the impact of NOT exempting TBAC in other architectural coatings categories, as requested by Lyondell, NPCA , and other interested parties throughout the extended rulemaking process. In particular, we believe that exempting TBAC in the three coating categories whose compliance dates have been postponed because they are not technologically feasible would provide immediate economic and environmental benefits. 1-4

We also believe that CEQA Rule 110 requires that SCAQMD Staff conduct a health risk assessment on clear wood varnishes and sanding sealers, and other coating categories whose VOC content limits are being reduced on 7/1/2006. We also request that Staff correct several inaccuracies concerning the available toxicological information on TBAC and that the health risk analysis also reflect the potential *benefits* from increased TBAC use in industrial maintenance and architectural coatings. 1-5

II. <u>The Draft EA Incorrectly States that TBAC has not Undergone Toxicity Testing.</u>

The toxicity and environmental impacts of TBAC have been extensively studied and the abundant available information, although not exhaustive, supports the conclusion that its increased use will likely have a large beneficial impact on public health and the environment, when used instead of reactive TACs and VOCs such as toluene and xylene or known or probable carcinogens like PERC and methylene chloride. 1-6

When EPA and OEHHA referred to "uncertainty," they were merely pointing out that TBAC had not undergone subchronic or chronic toxicity testing. This is not uncommon for new chemicals such as TBAC or even for solvents that have been in commercial use for decades. For example, PCBTF, a solvent exempted several years ago and used extensively in the South Coast, has not been tested for chronic toxicity. 1-7

However, TBAC has been extensively tested for acute and sub-acute toxicity, genotoxicity and mutagenicity. The overwhelming weight of the evidence shows that TBAC has low acute toxicity relative to the solvents it will replace and is not genotoxic or mutagenic. TBAC is currently undergoing a battery of subchronic toxicity tests and preliminary results indicate that is has low subchronic toxicity as well. As you know, the final results will be available later this year and will determine if further toxicity testing is warranted. 1-8

It is also important to note that the pharmacokinetics of TBAC are well understood. TBAC has been shown to be rapidly exhaled and excreted when inhaled and the metabolites to be rapidly excreted via the urinary pathway. One of its metabolites is tertiary butanol, TBA, whose toxicity is very well understood. TBA has low acute and chronic toxicity, is non-mutagenic, and is not a reproductive toxin. Another metabolite is acetic acid, a component of vinegar and part of the citric acid cycle. TBA has been shown to produce small increases in tumors in rats and mice when ingested at very high doses only.

Leading toxicology experts believe these rat tumors to be irrelevant to human carcinogenicity because they are caused by rodent-specific modes of action that do not exist in humans (α2-u and CPN). Humans are also much less susceptible to thyroid tumors than mice. The increase in these tumors was also small and only occurred at the highest dose in female mice, indicative of a threshold mechanism. Both types of tumors occur naturally in aging rats and mice.

Furthermore, several authoritative agencies, including NTP, ACGIH and EPA have reviewed the TBA chronic data and have listed it as "not-classifiable" as a human carcinogen. Although OEHHA has calculated a worst-case cancer unit risk factor for TBAC based on the most sensitive TBA rat data, and assuming a non-threshold mechanism, it has not classified either chemical as known or probable human carcinogens or listed them as TACs. There is ample evidence that TBA and TBAC have low toxicity.

1-8 (con't)

Based on the known metabolism of TBAC, mice would have to be exposed to over 4,500 ppm of TBAC for extended periods to produce comparable doses of TBA. It would be impossible to expose animals or humans to such high levels of TBAC from occasional or even occupational use of architectural coatings. Therefore, TBAC cannot pose a significant cancer risk from its TBA metabolite and occasional use of architectural coatings.

Therefore, Lyondell requests that Staff delete or correct the following statements in the acute (non-cancer) health effects section of the draft EA and acknowledge that there is extensive toxicological information on both TBAC and TBA:

- " TBAC has not undergone specific toxicity testing" (4-2 first paragraph).
- "As noted above, no toxicity studies have been conducted for TBAC so no REL data are available." (4-3 second paragraph).
- "Therefore, TBAC (*sic*) is used as a surrogate for TBAC to evaluate non-cancer health effects from exposure to IM coatings formulated with TBAC." (4-3 second paragraph).

1-9

These statements are not only factually incorrect but very similar to statements made by Katie Wolf, a paid SCAQMD contractor, in her January 31, 2006 letter to you,[1] in which she strenuously objects to the TBAC exemption. In her letter, Dr. Wolf makes several incorrect statements about the toxicity of TBA and TBAC even though she is not a toxicologist. Dr. Wolf also informed Staff in her letter and at the public workshop that the LACSD was using IM coatings occupationally at their Carson treatment facility, which led to your risk assessment on TBAC. It is disturbing that several of Dr. Wolf's incorrect statements on the toxicity of TBAC and TBA can be found almost verbatim in this CEQA document.

1-10

III. Exempting TBAC in Other Architectural Coating Categories Would Result in Substantial Health Benefits by Reducing VOC and TAC Emissions.

As you stated in the NOP/IS document, chronic toxicity is not relevant to short term risk assessment. To the extent that a few architectural coatings may be used occupationally, it may be appropriate to consider chronic health effects and assess potential chronic risks in these specific cases. However, the majority of architectural coating categories are not used occupationally and, if some are, they are likely to be used in scenarios similar to industrial maintenance coatings uses. The risk assessment for the exemption of TBAC in industrial maintenance showed that there is no cause for concern. A similar assessment in other coating categories would likely produce the same answer. Therefore, the TBAC

1-11

[1] http://www.aqmd.gov/ceqa/documents/2006/aqmd/draftEA/1113/appC.doc

exemption should not be arbitrarily limited to industrial maintenance coatings based on unsubstantiated health risks and claims that TBAC is not needed in other coating categories.

In fact, the public record and the draft EA itself provide several examples of coating categories were a VOC-exempt TBAC would provide immediate health, environmental, and economic benefits. The National Paint and Coatings Association, who represents manufacturers and users of these coatings, has requested that the TBAC exemption be expanded to at least varnishes and lacquers and, preferably, to all coating categories in rule 1113. In addition, Staff is proposing to delay the compliance date for high gloss coatings, quick dry enamels, and specialty primers, because current low-VOC products are inadequate. VOC-exempt TBAC could be a useful compliance tool in these coating categories as well.

1-11 (con't)

To date, Staff has not provided any evidence to show that exempting TBAc in any coating categories in rule 1113 would pose a significant health or environmental risk. On the other hand, delaying the compliance date for VOC reductions is clearly not health protective. In addition, Staff continues to allow the use of exempt and non-exempt TACs such as PERC, methylene chloride, toluene, and xylene in architectural coatings.

CEQA rule 110 requires that Staff assess the potential adverse environmental impacts of PAR 1113. To the extent that Staff is proposing to limit the exemption of TBAC to Industrial Maintenance coatings, it is required to assess ***the overall impact*** of this decision, not just the potential negative health impacts of its increased use in this single coating category.

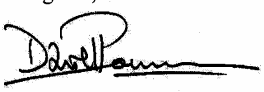
To the extent that AQMD Staff believes that TBAC may pose a long term health risk due to occupational exposure of a few coating categories under rule 1113, Rule 110 requires Staff to justify limiting the exemption based on a realistic usage scenario and an estimated chronic risk, as was done for automotive refinishing facilities for rule 1151. If not, the AQMD could inadvertently be promoting the use of other low-VOC technologies with worse health and environmental impacts, higher cost and inferior performance.

1-12

In summary, there is abundant evidence to conclude that TBAC has low toxicity and Staff's own analysis in Industrial Maintenance coatings confirms that exempting it will not pose any significant acute or chronic health risk. Lyondell requests that Staff either demonstrate that exempting TBAC in other coating categories would pose a risk under realistic use scenarios or expand the exemption to all coating categories in rule 1113. I thank you again for the opportunity to comment. Please feel free to contact me if you have any questions or comments about this letter.

1-13

Best Regards,



Daniel B. Pourreau, Ph.D.

cc: Steve Smith, Lee Lockie, Laki Tisopulos, Jean Ospital, Dan Russell, Barry Wallerstein, Larry Bowen, Elaine Chang, Michael Antonovich, Jan Perry, Dr. William Burke.

Page 4 of 4

COMMENT LETTER NO. 1
LYONDELL CHEMICAL COMPANY

Daniel B. Pourreau, Ph.D.
May 18, 2006

Response 1-1

SCAQMD staff understands that Lyondell believes their product, tertiary butyl acetate (TBAc) is a useful solvent that, if exempted as a volatile organic compound (VOC), will reduce ozone as it allows coating manufacturers to formulate with it and comply with stringent VOC content limits. The SCAQMD is also aware of the support for TBAc from both industrial maintenance (IM) and architectural coating manufacturers.

Response 1-2

The SCAQMD estimated the short-term acute risk associated with the use of TBAc where toxicity data were available. TBAc is known to metabolize into tert-butyl alcohol (TBA) whose potency factors have been established. Therefore, TBAc is used as a surrogate for TBAc to evaluate non-cancer health effects from exposure to IM coatings formulated with TBAc. The cancer potency factor (CPF) of TBA was used to calculate a CPF for TBAc assuming metabolism of TBAc to TBA and a certain molar conversion factor. The acute inhalation unit risk value for TBAc was then derived from the CPF value for TBAc by assuming a certain human breathing rate (Budroe, et. al, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, 2004). Chronic hazard index (HI) was not calculated because neither TBAc nor TBA have chronic Reference Exposure Levels (RELs) established for them.

SCAQMD is uncertain as to the 1953 acute inhalation study upon which the commentator claims was solely relied upon to determine the acute REL. According to Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, (Budroe, et. al, 2004), the two TBAc acute inhalation toxicity studies available for use in deriving an acute REL were conducted by Industrial Biotest Laboratories, Inc (1958) and Stillmeadow, Inc. (1997). With regard to the Good Laboratory Practices studies, the SCAQMD does not dictate which studies Office of Environmental Health Hazard Assessment (OEHHA) chooses to reference when making toxic determinations. SCAQMD staff relies on and defers to OEHHA to provide cancer potency values for preparing a health risk assessment (HRA).

Response 1-3

A "worst-case" short-term exposure to an IM coating formulated with TBAc was analyzed by examining a large one-million gallon tank as a typical piece of equipment to be painted using IM coatings that contain TBAc. All assumptions and the methodology

for calculating the acute HI from TBAc exposure can be found in Appendix D of this Final Environmental Assessment (EA). The calculation concludes that a realistic "worst-case" scenario of coating four gallons per hour of IM coating formulated with TBAc will produce an acute HI of 0.4 which is less than the SCAQMD's HI significance threshold of one.

Based on comments raised at the Public Workshop and in another commentator's letter regarding the potential toxicity of TBAc, there exists a potential chronic health risks from TBAc reformulated in IM coatings applied at facilities that continuously paint throughout the year. The SCAQMD has identified facilities where IM coatings are continuously applied and considered these sources. To evaluate the potential impacts from these types of specific sources, the Draft EA included an analysis of potential cancer and noncancer risk if TBAc is formulated in IM coatings used at a sewage treatment plant, refinery, and a water/power facility. For CEQA purposes, the SCAQMD's significance threshold for carcinogenic impacts is a MICR greater than or equal to 10 in one million (10x10-6). Using a realistic "worst-case" TBAc emissions for usage limited to IM coatings, real downwind distance to sensitive receptors and meteorological data, the HRA analysis concluded that carcinogenic risk to be less than significant.

Response 1-4

The commentator suggests that the CEQA analysis should include the health benefits of TBAc with regard to key low-VOC technologies. The purpose of the CEQA document is to evaluate the impacts of the project, generally using worse-case scenarios, not promote one product over another. The benefits of the rule, i.e., VOC emission reductions are disclosed to provide the rational for the rule. Since VOC emissions are an ozone precursor, reducing VOC emissions generally results in reducing ozone formation. Economic benefits and impacts can be found in the socioeconomic assessment.

Response 1-5

The environmental assessment conducted in accordance with CEQA examines the potential impacts from formulations expected to be used to comply with the proposed project. Compliance with the 7/1/2006 VOC content limits for clear wood finishes, sanding sealers and other coating categories is not part of the current rule proposal and the impacts from these new formulations can be found in previous environmental analyses when those limits were proposed.

With regard to providing a broad exemption of TBAc as a VOC for all coating categories, the SCAQMD is proposing to limit the exemption to the IM coating category because a segment of that category, atmospheric IM coatings, has not been successfully reformulated at a lower future VOC content limit to meet the Metropolitan Water District rigorous criteria. Reformulating IM atmospheric coatings with TBAc has reportedly provided a satisfactory product that complies with the lower future VOC content limit of

100 grams per liter. Reducing VOC emissions, which is a precursor to ozone, has positive environmental and public health consequences. However, potential cancer risk and non-cancer health effects are also a major concern on public health, especially because there is little toxicity data for TBAc. U.S. Environmental Protection Agency (EPA), OEHHA and the California Air Resource Board (CARB) have expressed concerns regarding the potential toxicity of TBAc. The risk and health effects from reformulated IM coatings have been evaluated in the Draft EA and, although determined to be not significant, demonstrates that a limited exemption is warranted. However, broad usage of TBAc in all architectural coatings is unnecessary and has the potential to substantially increase cancer and noncancer health risks to the public. The limited exemption for TBAc as a VOC for IM coatings limits public exposure to these adverse toxic impacts while providing a solvent that will assist manufacturers with formulation coatings that would meet the most rigorous standards.

Response 1-6

The SCAQMD acknowledges the studies conducted on the acute toxicity of TBAc and has used acute REL determined by OEHHA's in the HRA presented in the Draft EA, however the commentator's opinion that TBAc has been "extensively studied" is not completely accurate. Besides the need to use data on the known metabolite, TBA, for CPF and acute REL determination, the 90-day subchronic study mentioned is not finalized, and until those results are released, peer reviewed and confirmed, no data is available to assess chronic noncancer impacts from TBAc.

With regard to the toluene, xylene, etc. currently used to comply with the current requirements, these formulations are considered baseline and in most cases have been evaluated in previous environmental assessments with regard to their potential adverse impacts. If compliance with proposed lower VOC limits is achieved with the use of waterborne coatings and coatings formulated with VOC exempt solvents, then the evaluation will analyze impacts from those types of coatings. The evaluation will not compare what is currently used because the current coating formulations will not comply with the future standards.

Response 1-7

The commentator compares the availability of chronic studies for TBAc and parachlorobenzotrifluoride (PCBTF); however, PCBTF is currently exempt under Rule 102 so an exemption for PCBTF is not part of the proposed project. The SCAQMD originally exempted PCBTF from the definition of VOC in November 1995, and classified it as a Group II compound. A Final EA was prepared to address potential impacts from the proposed action. PCBTF was exempted from the definition of VOC based on the information available at that time, which indicated, "PCBTF is not absorbed into the body to any appreciable extent. Most of the material is either exhaled back or excreted. The small quantities that are assimilated are converted to non-toxic water

soluble products and excreted." (Final EA for Proposed Amended Rule 102 – Definition of Terms, SCAQMD, October 1995).

PCBTF was moved from the Group II to the Group I list of exempt VOC compounds as part of amendments to Rule 102 adopted by the Governing Board on June 12, 1998. A Final Supplemental EA was prepared to address impacts from the proposed action. PCBTF was moved to the Group I list based on subchronic toxicity data evaluated by the OEHHA. After completing its review, OEHHA notified the SCAQMD in writing that there was an "absence of adverse health effects." Based on this evaluation, the SCAQMD moved PCBTF from Group II to Group I.

Unlike TBAc's metabolite TBA, no cancer potency values had been developed at that time for PCBTF or any of its metabolites. When OEHHA publishes toxicity values for chemicals, SCAQMD staff evaluates the health risk from these chemicals. Since cancer potency and acute noncarcinogenic values have been provided by OEHHA for use in evaluating health risk impacts from TBAc's metabolite, TBA, SCAQMD staff used these values to estimate the potential increase health risk from the limited VOC exemption for TBAc in PAR 1113.

Response 1-8

Toxicity studies are complex considering a number of factors that could affect the outcome of the study. Regardless, the SCAQMD relies and defers to OEHHA to provide cancer, acute or chronic noncancer toxic determinations. Mice and rat studies are used to derive determinations of the effects to humans as humans are not used to test carcinogenicity. According to Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, (Budroe, et. al, 2004), "TBAc should be considered to pose a potential cancer risk to humans because of the metabolic conversion to TBA."

Response 1-9

The discussion under the Acute Health Effects section of the Final EA has been modified to reflect the use of the latest OEHHA evaluation, Acute Toxicity and Cancer Risk Assessment Values for Tert-Butyl Acetate, (Budroe, et. al, 2004) and suggestions made by the commentator have been clarified in the Final EA.

Response 1-10

While the commentator disagrees with Dr. Katy Wolf's objection to the TBAc exemption, the comments do not specifically list what statements were incorrect. SCAQMD staff responded to her comment letter and those responses can be found in Appendix C of the Draft and Final EA.

Response 1-11

Based on the potential, but unknown toxicity of TBAc, the proposed limited exemption of TBAc is more health protective compared to the complete exemption while providing the coating manufacturers with flexibility in formulating compliant products with the future limits of PAR 1113 for IM coatings. IM coatings have exceptionally long durability, typically require personal protection equipment during application, and some are required to adhere to stringent MWD criteria. With regard to expanding the exemption to other coatings, according to 2001 CARB survey results as listed in Table 2 of the 2005 Annual Status report, some coatings have already recorded high sales data of coatings complying with the lower future VOC content limit. For example, 36 percent of the clear wood finishes had already achieved the future lower VOC content limit. Further, applicators of other coating categories do not typically wear personal protection equipment worn by professionals who apply IM coatings. Staff is opposed to allowing TBAc use in residential applications until final conclusions regarding the toxicity of TBAc have been concluded.

Response 1-12

SCAQMD staff proposed a limited exemption for TBAc in Rule 1151, in part, based on the HRA prepared to analyze cancer and noncancer health risks. An HRA to analyze cancer and noncancer health risks was prepared for PAR 1113 using the same methodology that was used for the Rule 1151 HRA. Similar assumptions were used including using TBA as a surrogate, the percent concentration, emission rates, etc. The main difference is that the PAR 1113 HRA used actual IM coating usage information for facilities in the district and used the actual meteorological data for the identified facilities. Similar to the results for Rule 1151, the HRA for PAR 1113 identified potential cancer and acute noncancer risks, but in neither case did the risks exceed applicable significance thresholds. See Chapter 4 and Appendix D for the results of the HRA.

Response 1-13

The HRA conducted and presented in the Draft EA concluded that facilities using IM coatings that could be reformulated with TBAc would not pose a significant cancer or acute noncancer risk. However, a chronic noncancer risk could not be determined as neither TBAc nor TBA have chronic RELs established for them. However, cancer and noncancer risk from exemption TBAc as a VOC in other coating categories were not analyzed as that is not part of the proposed project. However, there is concern the users of other coating categories would be consumers who do not typically wear personal protection equipment worn by professionals who apply IM coatings and due to the unknown toxicity of TBAc and lack of consensus with regards to cancer potency factors and RELs, the proposed limited exemption of TBAc in IM coatings is more health protective compared to the complete exemption from other coating categories.

May 19, 2006

Mr. Michael Krause
CEQA -- AIM Coatings Rule 1113
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

RE: Notice of Completion of a Draft Environmental Assessment; Proposed Amendments to Rule 1113: Architectural and Industrial Maintenance Coatings

Dear Mr. Krause:

The National Paint and Coatings Association (NPCA) is providing comments on the SCAQMD's Notice of Completion of a Draft Environmental Assessment relating to the proposed Amendments to Rule 1113 that would:

- define tertiary butyl acetate as a non-VOC for industrial maintenance coatings,
- lower the VOC limits for three existing coating categories (concrete-curing, dry-fog, and traffic coatings),
- differentiate nonflat high gloss from other nonflat coatings,
- and postpone the compliance date for nonflat high gloss coatings, quick-dry enamels and specialty primers by one year while requiring interim VOC content limits for quick-dry enamels and specialty primers.

Since members of NPCA manufacture and sell AIM coatings in the South Coast Air Management District, NPCA is very interested the proposed amendments.

NPCA is a voluntary, nonprofit trade association representing some 350 manufacturers of paints, coatings, adhesives, sealants, and caulks, raw materials suppliers to the industry, and product distributors. As the preeminent organization representing the coatings industry in the United States, NPCA's primary role is to serve as ally and advocate on legislative, regulatory and judicial issues at the federal, state, and local levels. In addition, NPCA provides members with such services as research and technical information, statistical

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management information, regulatory guidance, and community service project support.

It is important to note that our ability to provide specific comments on the proposed amendments is affected by NPCA's and SCAQMD's ongoing discussions on this matter as part of the Ad Hoc Paint and Coatings Committee that was established by Chairman Burke with Board Members Antonovich and Perry. The Committee's focus is to address industry concerns regarding various AIM coating VOC limits, and resolve current and potential future litigation arising from this issue.

So while NPCA provides these initial comments on the CEQA document, we recognize that there could well be additional information that may become available that affect the issues commented upon. Previous materials submitted to the SCAQMD in our ongoing discussions with SCAQMD also should be considered as part of this submission.

These include NPCA's December 21, 2005 Position Paper which sets out our current position in detail with respect to Rule 1113 as it now stands and our proposed amendments for it and the accompanying Table of Standards, as well as information provided by industry representatives at the February 13 and 14, 2006 meetings with Staff.

2-1 (con't)

General Comments

As a general matter we note that the proposed amendments are an effort by SCAQMD to address concerns raised by industry relating to rule limits, definitions, etc. that will become effective July 1, 2006 and thereafter. While we welcome the proposed changes for providing at least some answer to our concerns, we still maintain that they are on the whole insufficient to answer all of our concerns over the technologically feasibility of the limits at issue. Our specific comments follow.

Clear Wood Finishes Small Container Exemption and the Shortened Sell Through Period

The SCAQMD in January 2006 announced what it characterizes as an "interpretation" of the sell through provision of Rule 1113 which requires that in order for previously completely exempted material in small containers to qualify for the three year sell through, the material must meet the previously applicable VOC limit that had applied to nonexempt material in large containers.

2-2

As discussed in the attached letter from NPCA's counsel, Jeff Margulies, this interpretation is inconsistent with the understood meaning of the sell through provision at the time of its adoption and any subsequent amendments to it. Moreover, the proposed amendment to it that would allow a limited one year sell through instead of the authorized three year period is wholly inadequate to address the issue for which the provision is intended – the waste that would be associated with removing and disposing of products that are rendered non-

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complaint by a rule change. The proposed amendment in effect would be based upon a fundamental "alteration" in the provision of the rule that in fact has never been passed or adopted by the Board.

As originally crafted by the California Air Resources Board several years ago and as adopted by the various air districts, the provision has always and consistently meant an unlimited three year sell through provision so long as the material had been compliant with any rule requirements that applied to it at the time of a rule change that made it noncompliant. In the case of a VOC limit change, to be eligible the material must have met that previously existing limit. But by the very terms of the small container exemption, no VOC limits apply to the material in small containers.

Staff apparently realizing for the first time the impact of its "interpretation" attempts to ameliorate the effects of what is in fact a substantive rule change by offering a wholly inadequate one year sell through. Staff surely must see that one year is insufficient time to use up all of the product that has been and will be manufactured and shipped by July 2006 and the impossibility of locating all of the remaining product by July 1, 2007.

Further the elimination of the small container exemption and the reduction of the varnish limit to 275 g/L provides no air quality benefit when the ozone-forming potential per unit volume solids applied is considered. The failure of the CEQA analysis to adequately consider this is a deficiency.

2-2 (con't)

Exemption of Tertiary Butyl Acetate (TBAc) Should be Expanded

NPCA has requested that TBAc be available for use in industrial coatings, industrial maintenance coatings, lacquers and varnishes. Prior to the January 6, 2006 Governing Board meeting, SCAQMD Staff stated it would look at exempting TBAc for certain industrial maintenance coatings. Recently, Staff has stated that it is not as concerned with the health affects of TBAc as previously because it has been shown that the earlier risk assessment had overstated the risk. In light of this development, we urge the SCAQMD to consider a broader use of the material in addition to the industrial maintenance coatings, lacquers and varnishes. In fact we believe that SCAQMD should exempt TBAc without usage restriction for all coatings as did the State of California, EPA and most other states. In support of the above we fully endorse the submission of Lyondell, the developer and manufacturer of TBAc, which demonstrates that the risks and benefits of a wider use of TBAc in AIM coatings have not been properly analyzed pursuant to CEQA requirements.

2-3

However, as we have previously informed Staff, even if TBAc is exempted tomorrow, the industry needs time to develop coatings and to complete performance and field testing of the reformulated products. Consequently, interim relief from the 2006 limits will still be required as coatings using the exempt material are reformulated and tested.

In response, SCAQMD Staff states that:

- IM coatings manufacturers have worked with TBAc in their formulations;
- they have already been working to reformulate these coatings with other solvents;
- and discussions with raw materials and additive suppliers indicate that these products can be delivered in TBAc, if demanded by industry; and
- if additional time is needed for developing and testing - a variance from the rule compliance should be requested from the SCAQMD Hearing Board or the manufacturers should stockpile TBAc formulated products in the event it is delisted as a VOC.

NPCA has previously that the new limit for IM will eliminate "maintenance" IM products that can simply be applied via roll or brush without the need for substantial surface preparation (with loss of substrate since the substrate has to be sandblasted down to white metal for water based and multi-component products). SCAQMD mentions that 11% of IM products already meet the 100 g/l limit without breaking out the types of coatings or applications these represent. NPCA believes that these are waterborne and multi-component coatings that would require extensive and expensive surface preparation.

Manufacturers do not have a TBAc "drop-in" substitute for "maintenance" IM coatings that will be lost as a result of the 100 g/l VOC limit – manufacturers have been working on solutions to this problem but generally to no avail. TBAc offers a possible solution but it is not the "cure all" substitute. Further, performance testing has not been completed – the raw material suppliers have not ramped up to supply TBAc compliant raw materials because TBAc has not been delisted. Further, it does not make business sense to invest substantial R&D funds into TBAc products until the specific uses for TBAc is exempted are established by the SCAQMD. It especially does not make sense to gamble and stockpile products before TBAc is so exempted. Finally, NPCA has also spoken to the raw material suppliers. They need time to ramp up production to provide TBAc products, and they agree that formulators need a minimum of one year to develop and scale up TBAc products and additional time to conduct performance testing and obtain approvals from organizations like the National Sanitation Foundation.

2-3 (con't)

SCAQMD must realize that industrial maintenance coatings are primarily protective of vital infrastructure, including bridges, water pipes/tanks, chemical and oil storage tanks, etc. If these coatings fail, catastrophic releases could result. Consequently, field exposure testing beyond lab testing is essential for these coatings. NPCA again requests SCAQMD to extend the limit for all industrial maintenance coatings for the time required to develop and test effective

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products. The failure to fully analyze these issues is a flaw in the CEQA analysis.

2-3 (con't)

Lowering VOC Limits from Specific Coating Categories

SCAQMD is proposing to lower the VOC content of concrete curing compounds (except for those used for roadways, bridges and bridge decks), dry-fog coatings, and traffic coatings by July 1, 2007.

SCAQMD proposed lowering these categories without adequate discussion with NPCA,

Further while NPCA agrees that concrete curing compounds used for roadways, bridges and bridge decks should be held at the current VOC limit, the associated proposed labeling requirements are impossible to meet. Assuming this proposal is approved in June - manufacturers cannot change labels in one month to comply with this proposal.

2-4

At the February 14-15, 2006 meeting NPCA members detailed the fact that there is an important subset of dry-fog coatings that will be eliminated if the VOC limit is lowered for this category – non-surface preparation dry-fogs which are primarily oil based.

While waterborne dry-fogs work well with clean surfaces associated with new construction, existing structures, and structures with dirt and grease would need to be cleaned at great cost if waterborne coatings were to be used. The non-surface preparation dry-fogs which are primarily oil based are needed for these substrates.

NPCA requests a new category to recognize the useful benefits of these essential higher VOC dry-fog products.

Elimination of Fire-Retardant Coatings

We strongly believe that this coating category should be maintained with an appropriate VOC limit that ensures continued effective coatings to retard flame. It cannot be emphasize too strongly that the SCAQMD is an area experiences numerous brush fires every year. This in addition to the other fire hazards of the area require effective fire-retardant coatings. It is our understanding that the category is being eliminated in major part because one company was thought to be abusing it. There is no evidence that this coating is being widely used for purposes other than for what it is intended, fire protection. Moreover, the additional expense incurred to develop and make such a coating so that it meets the fire retardant standards prevents it from being sold or used as a general house paint. In this connection you should again discuss the information provided by Dunn Edwards concerning its efforts to develop fire retardant coatings. Additionally, it is our understanding that one of the coatings referred to

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as being tested to meet the fire retardant standard is an industrial maintenance flat coating which cannot under the terms of the rule be used on residences. The two lower VOC coatings also were flat coatings. These were compared to the higher VOC Dunn Edwards non-flat coatings with the implication that the performance characteristics of the low VOC flat latex coatings would match those of the higher VOC non-flat coatings. This ignores the need for higher VOC content non-flat coatings for its specific performance requirement of a harder surface in high impact areas such as doors, door trim, and in kitchens, etc. For such an important coatings category related to fire safety, it would seem prudent to evaluate the efficacy of the coatings within the coatings performance needs of their specific categories before it is eliminated. One factor along these lines that seemed to merit at least some discussion was the much greater protection against smoke density provided by the higher VOC product. Another one was the importance of effective non-flat fire retardant coatings that are applied in areas more susceptible to fires, such as kitchens, and are the apertures from where fires spread and are fed by oxygen –doors and windows.

2-5 (con't)

<u>NPCA Did Not Agree that Certain Low Volume Specialty Coatings Could be Eliminated to Make Up for Increased VOC Emissions for Certain Raised Limits</u>

SCAQMD states that, based largely on NPCA suggestions, Staff is proposing to amend Rule 1113 by lowering the VOC limits for several categories of low-volume specialty coatings (Concrete Curing Compounds, Dry Fog Coatings, Fire Retardant Coatings, and Traffic Coatings).

NPCA had indeed mentioned, at the August 10, 2005 meeting, several options that might be considered for additional reductions - including subdividing the Industrial Maintenance category and the Limit–to-Limit over compliance concept, as well as possibly lowering the limits for various categories where feasible. But all of this was in the context that further discussions would ensue before final decisions would be made. However, Staff recommendations for these newly proposed limits were simply announced at the January 26th public workshop without additional consultation with industry.

2-6

It is also important to note the reason why SCAQMD is proposing to lower limits for these coatings categories. It is because SCAQMD is unwilling to adjust any emission reduction goals even when they have been premised on technology-forcing VOC limits which were to be evaluated before they become effective. Despite this Staff now requires industry to find a way to render any changes in the limits that are needed due to their technological infeasibility to be absolutely "emissions neutral" by requiring additional VOC emissions from other coatings categories.

As a result, to maintain the emissions neutral goal, Staff has cut limits in other categories without *checking if these limit reductions are technically feasible.* In short, Staff has taken the mandate for the Annual Report and the mission of the Ad Hoc Committee (to realistically evaluate the technological feasibility of

coatings limits before they become effective) to mean only if it suits its previous expectations for emissions reductions. Such an approach renders both exercises meaningless.

In light of the acknowledged technology forcing nature of the limits at issue here in Rule 1113, it is vital that SCAQMD complete technical assessments for the coatings selected for VOC limit reduction. In adopting the 1999 amendments to Rule 1113, the Board established an annual review process to determine whether sufficient progress in coatings technology was being made to allow for the effective implementation of lower VOC limits. A Technical Advisory Committee also was established to assist in designing the various tests and measures to help track this process and advise Staff accordingly.

In addition, CARB will have results of the AIM survey later this year, which should provide additional information on the availability and sales of products in these categories. Depending upon the CARB survey data, SCAQMD should either pull back the limit changes or extend the compliance dates for these categories.

SCAQMD's CEQA analysis is deficient for failing to fully analyze the costs and benefits of the proposed amended limits for these coatings, which includes a failure to determine whether the limits are technologically feasible for all of the coatings' applications.

2-6 (con't)

Differentiation of Non-flat High-Gloss from Other Non-flat Coatings

NPCA supports the SCAQMD differentiation of the Non-flat High Gloss category. It disagrees, however, with the lower limit it continues to mandate for general non-flat coatings. As has been demonstrated by industry in several meetings and workshops on this issue, the resin technologies SCAQMD is relying on for this lower limit continue to have performance problems, including dirt pickup. The failure to take this into account is a deficiency in the CEQA analysis.

Further NPCA has asked SCAQMD to adjust the definition of High Gloss to include those coatings that register a gloss of 60 (instead of cutting it off at 70). A gloss of 60 better captures the gloss products that are most impacted by the current lower VOC resin technology problems. SCAQMD Staff said that CARB would need to be consulted if this change were to be made. CARB has informed NPCA that it is receptive to this change.

2-7

Postponement of the Compliance Date for Non-flat High Gloss Coatings and Quick-Dry Enamels by One Year

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NPCA supports the SCAQMD proposed postponement of the implementation date of the non-flat high-gloss limits and quick dry coatings categories to allow coatings formulators to develop compliant coatings. SCAQMD also should be prepared to provide additional postponements of implementation dates if they are required to produce technologically feasible coatings for these two categories. However, NPCA believes that the quick dry coatings limit should stay at the current 250 g/l limit. The CEQA analysis fails to properly analyze the consequences of lowering the limit for quick dry coatings which we believe is a technologically infeasible for a number of the coatings' applications.

2-8 (con't)

Specialty Primers

SCAQMD proposes an interim limit of 250 g/l for specialty primers that would become effective upon adoption and delay the effective date of 100 g/l VOC limit one year from July 1, 2006 to July 1, 2007. NPCA believes that the 250 g/l limit may help somewhat but NPCA maintains that the current 350 g/l limit should not be lowered.

2-9

As we have stated previously , specialty primers are required for certain extreme environmental and substrate conditions, including smoke damage and water soluble tannin bleed through which by their very nature are incompatible with water based coatings. See the December 21 Position Paper

Interior/Exterior

As we stated in our December 21 Position Paper, we believe that it would be highly useful to subdivide a number of the coatings categories into their "exterior" and "interior" uses. The worry Staff has expressed over the materials being misused with exterior coatings being used for interior applications we believe is misplaced. Consumers of the coatings have been able to draw distinctions between the two uses long before there were regulations in place and will continue to do so because exterior coatings do not lend themselves to interior applications. This is one instruction on the can that long practice has demonstrated to be religiously followed by end users.

2-10

NPCA Alternative Amendments to Rule 1113

One of the key goals of the Ad Hoc Committee is to resolve current and potential future litigation arising over Rule 1113. Over the past seven months, NPCA has provided the SCAQMD Staff with numerous proposals to amend Rule 1113 in ways that would resolve the current litigation. In addition, NPCA proposals would achieve substantial emission reductions while maintaining products that meet important performance standards, including critical safety requirements necessary to maintain Southern California's infrastructure.

2-11

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NPCA has now offered four proposals to SCAQMD and NPCA continues to work with Staff since we believe that Rule 1113 could be amended in a manner that will result in a cessation of the litigation as well as provide a rule that is technologically feasible and delivers substantial emissions reductions. See previously submitted December 21 Position Paper and Table of Standards.

2-11 (con't)

February 14 and 15, 2006 Rule 1113 Technical Meeting

Based on Technical Meetings held with SCAQMD Staff on February 14 and 15, 2006, it appears that there are continuing technology issues with Rule 1113. Please see the NPCA letter to Executive Officer Wallerstein, identifying action items for key coatings categories discussed at the meetings. Our concerns include but are not limited to the following coating categories: Anti-graffiti, Water Proof Concrete Masonry Sealers, Water Proof Sealers, Specialty Primers, Nonflats, Floor Coatings, Stains and industrial Maintenance coating categories.

PROSOCO an NPCA member which attended the meeting has supplied specific comments for this submission on issues it raised at the meetings and provided additional information on after the meetings.

Based on its PROSOCO'S information NPCA disagrees with Staff's contention that Staff identified future compliant anti-graffiti products that meet the specific needs of the full range of common architectural concrete and masonry substrates and installations. PROSOCO has commented to Staff on specific performance criteria, field application issues and specific coating and graffiti protection failure mechanisms. NPCA believes that SCAQMD should develop a high end concrete and masonry anti-graffiti sealer category to allow for niche products with adequate performance characteristics.

2-12

NPCA disagrees with Staff's assertion that it identified adequate, future compliant products for calcareous stone; including, but not limited to limestone, dolomite and travertine. PROSOCO has responded to the list of products and product data sheets provided by Staff but it has not received a response from Staff. PROSOCO has identified specific performance issues encountered in field applications and documented that these substrates are used prominently in the District. No technical assessment of the ability of the lower VOC products to meet the performance requirements of these substrates exists at SCAQMD other than a list of products Staff has gleaned from the Internet.

PROSOCO has commented to Staff on specific concrete and masonry coating performance issues, including but not limited to: application over previously coated substrates, application on dense and admixture modified concrete, application on dense substrates such as glazed tile and terra cotta, and performance and longevity issues with water-carried oil and stain repellents versus their currently compliant counterparts. Staff has yet to responded to these specific comments on these specific issues. Based on POSOCO's

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information and data NPCA believes that SCAQMD should develop a concrete and masonry subcategory that allows for niche products for problematic applications.

With regard to the Environmental Assessment, NPCA believes that Staff did not adequately address significant environmental effects. Exterior use coatings and protective treatments define the aesthetic appearance of a structure and, in the case of historic and landmarks architecture, help to preserve the building fabric. Staff has dismissed such concerns from any further impact and impact mitigation study. We believe that Staff comments in the areas of Aesthetics and Cultural Resources have not met the mandate and intent of CEQA.

The premise behind this Staff proposed project is that AIM category limits slated to go in effect July 1, 2006 are adequate with the exception of the specific proposed revisions. NPCA and its member companies brought up a number of issues at the February 14 and 15 2006 meetings with Staff; many of which have not been resolved or adequately addressed by Staff since. Said issues have a direct impact on both Aesthetics and Cultural Resources.

Designated historic and landmark structures are explicitly protected at the state, local and federal level. They qualify as Cultural Resources as defined by CEQA: "A historical resource includes an object, building, structure, site, area, place, record, or manuscript that has been determined eligible for listing on the California Register or Historic Resources and/or a local register or historical resources...".

2-12
(con't)

The demonstrated future unavailability of high quality, durable products designed to protect historic buildings from water, atmospheric pollutants and graffiti should be a baseline consideration of the Environmental Assessment. Specifically, after July 1, 2006, effective water repellents for historic terra cotta and marble structures will be unavailable in the SCAQMD. Conservator proven consolidation treatments for degraded concrete and masonry structures have already been eliminated in previous revisions of Rule 1113, along with proven chemistries that afford decades of protection for limestone, dolomite and travertine structures.

On the subject of Aesthetics, Staff states that "The purpose of AIM coatings is to improve the visual character and protect the surface of the substrate upon which the coating is applied." Staff further states that defects in appearance of low VOC coating which could be less aesthetically pleasing are not expected. Conversely, NPCA members presented Staff with information on the technology limits of future compliant coatings, their typical failure mechanisms and the aesthetic and substrate degradation that occurs upon failure. These issues have not been adequately addressed by Staff since the February, 2006 meeting or in the Environmental Assessment.

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NPCA member companies have provided specific examples of projects completed in the District with current and past compliant coatings products and pointed out the unavailability of adequate future compliant coatings to recoat them in the future. There are projects on the books for future construction for which adequate coatings will be unavailable. The net effect will be a substantially degraded civic environment as prominent and historic suffer aesthetic damage due to moisture, biological and atmospheric soiling, substrate degradation and graffiti.

Staff discussion also posits that work practices would not be altered by the proposed amendments by for example causing work to be done at night because lower materials would be more susceptible to being adversely impacted by sunlight and day time temperatures. Staff, however, has not completed any comprehensive study regarding substrate and ambient air temperature ranges for the hundreds of coatings products impacted by the rulemaking.

2-12
(con't)

In advance, thank you for the opportunity to comment. Please contact us with any questions you might have concerning our comments.

Sincerely,

/s/

David F. Darling, P.E.
Director, Environmental Affairs
Affairs

/s/

Jim Sell, Esq.
Senior Counsel, Government

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COMMENT LETTER NO. 2
NATIONAL PAINT AND COATING ASSOCIATION

David F. Darling, P.E. / Jim Sell, Esq.
May 19, 2006

Response 2-1

The National Paint and Coatings Association (NPCA) has worked with the SCAQMD on past amendments to Rule 1113 and has contributed valuable information and input during this latest Rule 1113 amendment proposal process. The SCAQMD appreciates the participation of the NPCA at the Ad Hoc Board Committee meetings to address industry concerns regarding architectural coatings and staff will consider any material submitted by the public in crafting the rule amendments as well as evaluating environmental impacts from these amendments. The issues outlined in this comment are discussed in further detail in the following responses.

Response 2-2

The three year sell-through provision, as currently written, is only available to coatings in small containers provided they were manufactured prior to the July 1, 2006 effective date and meet the VOC limit of 350 g/l in the Table of Standards. The three year sell-through provision is not available for all other products with a VOC content exceeding that of the Table of Standards. In an effort to assist manufacturers with the transition and alleviate the need for a product variance, staff is proposing a one year sell-through provision for coatings in small containers above the current VOC limit of 350 g/l to allow time for the products to be sold and used after the exemption expires on July 1, 2006. That one year sell-through was to apply to clear wood finishes in small containers that were manufactured and distributed before July 1, 2006, provided certain records were maintained. Further, staff has amended the proposal to change the applicability for these coatings from manufacture and distribution prior to the expiration of the exemption to simply manufacture prior to the date of expiration of the exemption. In addition, the recordkeeping and reporting requirements have been amended to require the same reporting requirements for the one year sell-through that has been required of manufacturers to maintain their small container exemption.

Staff does not agree that the small container exemption provides no air quality benefit. The elimination of the small container exemption was promulgated in 2003 and is not part of the current rule amendments. According to the staff report prepared for the 2003 amendments to Rule 1113, the elimination of the small container exemption would result in a VOC emission reduction of 1,660 pounds per day. After more data refinement and further survey of the small container products, the VOC emission reductions were updated to 1,820 pounds per day. The same 2003 staff report also reported that 420 pounds per day of VOC emissions would be reduced when clear wood varnishes comply with the lower VOC content limit of 275 grams per liter on July 1, 2006.

Response 2-3

Based on the potential, but unknown toxicity of TBAc, the proposed limited exemption of TBAc is more health protective compared to the complete exemption while providing the coating manufacturers with flexibility in formulating compliant products with the future limits of PAR 1113 for IM coatings. IM coatings have exceptionally long durability, typically require personal protection equipment during application, and some are required to adhere to stringent MWD criteria. With regard to expanding the exemption to other coatings, according to 2001 CARB survey results as listed in Table 2 of the 2005 Annual Status report, some coatings have already recorded high sales data of coatings complying with the lower future VOC content limit. For example, 36 percent of the clear wood finishes had already achieved the future lower VOC content limit. Further, applicators of other coating categories do not typically wear personal protection equipment worn by professionals who apply IM coatings. Staff is opposed to allowing TBAc use in residential applications until final conclusions regarding the toxicity of TBAc have been concluded.

There has been a wide debate among interested parties whether TBAc is considered a "drop in" substitute or whether a complex reformulation needs to take place. If TBAc is a "drop in" substitution, then extending the compliance date for IM coatings to meet the lower VOC content limit is not necessary. The strong desire to use TBAc to comply with the lower VOC content limit requirement for IM coatings implies that TBAc has been already tested and has proven to assist IM coatings in successfully complying with the lower VOC content limit requirement. Current availability of future compliant IM coatings is evident according to a web search compiled in Table 4 of the 2005 Annual Status report, and according to the store sales data in the 2001 CARB survey as listed in Table 2 of the Annual Status report, 11 percent market penetration of IM coatings meeting the 100 grams per liter VOC content limit has already occurred. The current percentage of IM coatings complying with 100 grams per liter is expected to have increased over the five years since the survey revealed 11 percent market penetration. The Essential Public Service Agency's technology assessment included satisfactory performance fom number comliant IM coatings that did not use TBAc, but also highlighted the need for TBAc for coatings with exceptionally long service life. The recently completed UMR study also found superior performing IM coating systems that meet future lower VOC limits. Discussions with new material suppliers indicate that resins and additives can be delivered in exempt solvents, like TBAc, if demanded by the OEMS. Finally, IM coating manufacturers can use the three-year sell-through provision, product averaging and variance if they need additional time to reformulate.

Response 2-4

The rule proposals are based on information exchanged during the rule development process. At the July 8, 2005 Ad Hoc Committee Meeting with SCAQMD Governing Board and Los Angeles County Supervisor Michael Antonovich, Councilwoman Jan

Perry, NPCA President Andy Doyle agreed, in response to a question from SCAQMD Executive Officer Barry Wallerstein, that the industry (rule) proposal would be "emissions neutral." This dialogue was noted in both the July 8, 2005, meeting minute notes as well as in the Annual Status Report on Rule 1113 submitted to the SCAQMD Governing Board on February 3, 2006. Thus, it appeared that both the SCAQMD and NPCA recognize the extreme air quality needs of the region by suggesting rule proposals that would achieve the same overall VOC emission reductions while providing the industry flexibility to meet future limits. Subsequently, at both the August 10, 2005, and September 14, 2005, subcommittee meetings, the NPCA proposed subdividing five coating categories into interior and exterior applications and moving the compliance date up for the interiors at the current final VOC content limit. The exteriors would presumably be allowed to stay at a higher VOC content limit creating permanent forgone emission reductions. Implementation and enforcement concerns have been raised with regard to properly classifying interior and exterior coatings so this suggestion has not been included as part of the current proposed amendments to Rule 1113. At those same meetings, NPCA suggested additional reductions by lowering the VOC content limit for concrete curing compounds, dry fog coatings, and traffic coatings. Being a feasible suggestion and a proposal that will reduce emissions, the SCAQMD has included this suggestion as part of the proposed project.

Waterborne acrylic dry-fog coatings are an environmentally acceptable alternative to traditional solvent-based ceiling coatings. They emit a very low odor during application, and have a low flash point. Waterborne acrylic dry-fog coatings are especially well suited for spaces with pre-cast concrete or steel beam ceilings. They can save time and make application easier in an occupied space. After staff contacted and met with manufacturers of dry-fog coatings, the main issues discussed were potential slower dry times associated with low-VOC coatings especially during high humidity conditions and adherence of the coating to dirty surfaces. It was generally agreed that low-VOC dry-fog coatings might require more substrate preparation than a solventborne coating.

Response 2-5

Fire-retardant coatings retard ignition and flame spread. The coating has to be fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The coating must be tested in accordance with ASTM Test Method E-89 or listed by Underwriter's Laboratories, Inc. as a fire-retardant coating with a flame spread index of less than 25. Staff has identified several low-VOC fire-retardant coatings with comparable performance to their higher VOC counterpart. Additionally, staff was contacted by several coating manufacturers expressing concern regarding the abuse of this category due to significantly high VOC limits. Their concern was confirmed by SCAQMD compliance staff through a recent enforcement action.

To determine if the fire-retardant low-VOC products performed as well as high-VOC products, AQMD contracted with SGS U.S. Testing Company, Inc. to perform ASTM Test Method E-84 – Standard Test Method for Surface Burning Characteristics of Building Materials on four fire-retardant coating systems. Refer to the Staff Report for PAR 1113 for details of that study and the conclusions.

Response 2-6

As explained in Response 2-4, NPCA did mention at both the August 10, 2005, meeting and the September 14, 2005, meeting several rule proposal options which were later included in the current rule proposal. There were reasons why certain suggestions were included and why others were not. With regard to commentator's opinion that further additional consultation with industry before the January 26, 2006, public workshop, the SCAQMD staff did meet and discuss the proposed limits with the coating manufacturers after reviewing market penetration and availability of compliant products. The public workshop rule proposal relied on NPCA's suggestions as an expert opinion which could be seriously considered as feasible rule proposal options.

Both the SCAQMD and NPCA discussed the importance of proposing an "emission neutral" rule amendment early in the rule development process. In this spirit of cooperation and negotiation, NPCA proposed the lowering of limits of certain coating categories which the SCAQMD has incorporated into the current rule proposal. The NPCA has changed their stance regarding an emission neutral proposal and the SCAQMD has determined that coatings complying with future lower VOC content limits for certain coatings are commercially available. Thus, based on the technical data and commercial availability, the SCAQMD is proposing to lower the VOC content limit for certain coatings.

The SCAQMD has a responsibility to the public, legislative decision-makers as well as the affected industry to set goals and reach those targets. The SCAQMD has adjusted emission reductions goals for a number of rules, including Rule 1113, in the past and it is unfounded that SCAQMD is not being willing to adjust our goals. By allowing the delay of compliance dates causes a delay in emission reductions which adjusts our emission reductions goals. Compliance dates have been adjusted a number of times during the 23 amendments to Rule 1113 since its adoption in 1977. The proposed lowering of the VOC content limits affect coatings that currently comply with the future proposed VOC content limits.

As long as there are commercially available coatings that meet the lower VOC content limits, the proposed rule amendment to lower the VOC content limit does not constitute "technology forcing." After the NPCA first identified potential coating categories with lower VOC coatings, staff researched and found that many coatings with VOC content limits below the proposed limits are currently available on the market. The staff report for proposed amended Rule 1113 shows that the lower VOC limits for the five affected coating categories are "potential cost-effective means of offsetting the VOC emissions

foregone due to the delay in implementation." This observation does not directly contradict the nature of technology forcing limits since the staff conducted a comprehensive technology assessment, which demonstrated that coatings meeting the future VOC limits were commercially available. Further, a list of coating categories showing that lower VOC content limits are feasible was provided by NPCA. Staff conducted a preliminary evaluation of the emission inventory and available VOC technology for these five categories which strongly indicates potential significant cost-effective emission reductions.

Response 2-7

The SCAQMD recognizes there are technical hurdles to overcome to develop a successful coating product when reformulating to achieve a lower VOC content limit, including dirt pickup. The one year extension for the high gloss category is being proposed to allow manufacturers to take advantage of the latest resin and additive technologies in overcoming the performance challenges identified and transition to the new limits. The gloss of 70 in the definition of high gloss was based on CARB's SCM so in order to maintain consistency in regulating and enforcing that definition is not proposed to be changed.

Response 2-8

The decision to propose the extension of compliance dates is based on the technology assessment and Annual Report to the SCAQMD Governing Board. According to the market penetration data in Tables 2 and 4 of the Annual Status report, compliant coatings that already meet the lower VOC content are commercially available and being sold in local stores. Given an additional year to achieve compliance, the remaining quick dry enamels will also achieve compliance with the lower VOC content limit.

Further, the SCAQMD is fully aware of the characteristics the coatings are expected to demonstrate in order to be successful and be a marketable product. Field exposure testing beyond lab testing is essential and if a manufacturer needs additional time to test and research, a variance from rule compliance should be requested from the SCAQMD Hearing Board. The consequences for failure are not considered a potential adverse impact since it is not expected that coatings manufacturers will produce and market a coating that will knowingly fail. If it is unknown whether or not a coating will fail, the analysis would be speculative.

Response 2-9

The rule defines this category as coatings intended to seal fire, smoke or water damage, or to condition excessively chalky surfaces. Many of the coatings that fall within other categories, such as primer, sealer, undercoaters (PSUs), have characteristics similar to

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

Response 2-10

As noted in Response 2-4, tthe NPCA proposed subdividing five coating categories into interior and exterior applications and moving the compliance date up for the interiors at the current final VOC content limit. The exteriors would presumably be allowed to stay at a higher VOC content limit creating permanent forgone emission reductions. Implementation and enforcement concerns have been raised with regard to properly classifying interior and exterior coatings so this suggestion has not been included as part of the current proposed amendments to Rule 1113.

Response 2-11

Please refer to Response to 2-1 with regard to the mission and goals set forth by the Ad Hoc Committee. SCAQMD staff has carefully considered NPCA proposals. However, SCAQMD cannot simply adopt whatever industry proposes merely because it would avoid litigation. SCAQMD would like to eliminate unnecessary litigation, but also remains committed to obtaining feasible emission reductions and obtaining substantial public health benefits.

The SCAQMD does not agree that the NPCA proposals would achieve substantial emission reductions when lower VOC content limits are not reached. This would generate a permanent emission reduction foregone backsliding from the goals of Rule 1113, the AQMP, and attainment with the state and federal ambient air quality standards. The four proposals offered by the NPCA were not “emissions neutral” but did provide elements used in crafting the current amendments to Rule 1113. Federal consent decree permits the SCAQMD to support proposals that delay emission reductions by more than two years and not be offset.

Response 2-12

Anti-graffiti coatings are a subset of the IM coatings and are generally divided into sacrificial or non-sacrificial coatings. Sacrificial coatings are usually water based modified wax emulsions while non-sacrificial coatings are usually based on acrylic and polyurethane resins. Sacrificial coatings are removed from the substrate along with the graffiti. Anti-graffiti coatings are primarily non-penetrating forming a film to protect the substrate to prevent penetration of spray paint, marking pens, chemical attacks, crayons, etc. Most of the anti-graffiti coatings require the substrate to be sealed, usually with penetrating sealers, prior to application to prevent moisture from being trapped inside. During meetings with manufacturers comments were made that anti-graffiti coatings at 100 g/l or less VOC can not be produced that are penetrating and breathable. Staff has identified both types of anti-graffiti coatings at 100 g/l or less that are breathable allowing water vapor transmission.

Coatings subject to PAR 1113 for use on an architectural structure is anticipated to improve the aesthetic view of that structure, improve the visual character and protect the surface of the substrate upon which the coating is applied. With regard to aesthetics, the baseline assumption is that a coating product will properly perform a function or the product will not be used. In addition, an anti-graffiti coating is not the cause of the aesthetic issue but rather the graffiti itself which is not being generated by PAR 1113.

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

PAR 1113 is not expected to affect archeological or cultural sites because reformulation of architectural coatings won't require major construction activities such as grading, trenching, etc. The application of architectural coatings typically occurs after site preparation and construction of structures has been completed. As a result, it is expected that archaeological resources would have already been assessed or if the new structure is at an existing residential, commercial or industrial site, then they have already been disturbed or protected. The proposed revisions to Rule 1113 are, therefore, not anticipated to result in any activities, or promote any programs that could have a significant adverse impact on cultural resources in the district.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for:

Proposed Amended Rule 1113 - Architectural Coatings

May 23, 2006

SCAQMD No. 060405MK

Author:	Michael Krause	Air Quality Specialist
Technical Assistance:	Dan Russell	Air Quality Specialist
Reviewed by:	Steve Smith, Ph.D.	Program Supervisor
	Larry Bowen	Planning and Rules Manager
	Ed Muehlbacher	Air Quality Analysis and Compliance Supervisor
	Barbara Baird	Principal Deputy District Counsel
	Frances Keeler	Senior Deputy District Counsel

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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JAMES SILVA
Supervisor, Second District
Orange County Representative

CYNTHIA VERDUGO-PERALTA
Governor's Appointee

DENNIS YATES
Mayor, City of Chino
Cities Representative, San Bernardino County

EXECUTIVE OFFICER:

BARRY R. WALLERSTEIN, D.Env.

PREFACE

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

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

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

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INTRODUCTION

Rule 1113 - Architectural Coatings, was originally adopted by the South Coast Air Quality Management District (SCAQMD) on September 2, 1977, to regulate the volatile organic compounds (VOC) emissions from the application of architectural coatings, and has since undergone numerous amendments. Future VOC limits for many coating categories are to take effect on July 1 of 2006, 2007 and 2008. The SCAQMD's 2003 Air Quality Management Plan (AQMP) concluded that major reductions in criteria pollutant emissions, such as oxides of nitrogen (NOx), and precursor pollutants, such as VOCs, are necessary to attain the state and national ambient air quality standards for ozone, and coarse and fine particulate matter (PM10 and PM2.5).

The current rule contains a requirement for staff to conduct a technology assessment prior to implementation of the lower limits. As a result of the comprehensive technology assessment, summarized in the 2005 Annual Status Report on Rule 1113 – Architectural Coatings[1] (Status Report), staff has developed the currently proposed amendments to Rule (PAR) 1113 to implement the recommendations from the Status Report. Public comments on the Status Report were considered in preparing the recommendations for amendments to Rule 1113.

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

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

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

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

LEGISLATIVE AUTHORITY

The California Legislature created the SCAQMD in 1977[2] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an AQMP demonstrating compliance with all federal and state ambient air quality standards for the areas over which the SCAQMD has jurisdiction[3]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[4]. The 2003 AQMP concluded that major reductions in emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) are necessary to attain the air quality standards for ozone and coarse and fine particulate matter (PM10 and PM2.5). While the proposed project will delay anticipated VOC emission reductions, ultimately the proposed project will recover foregone VOC emission reductions and achieve additional VOC emission reductions when the new lower VOC content limits becomes effective. As a result, PAR 1113 will contribute to attainment of the state and national ambient air quality standards for ozone by the timeframes mandated under state and federal law.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

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

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

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

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

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

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

CEQA DOCUMENTATION FOR RULE 1113 - ARCHITECTURAL COATINGS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The 1990 Court Order

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

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

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

Other Rule 1113 Amendments

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

- **July 9, 2004** - The amendments addressed SIP approvability issues identified by the USEPA relative to the alternative compliance option of the rule, the averaging compliance option (ACO). Amendments included requiring specific records to be kept by manufacturers choosing to use the ACO to comply with VOC limits, establishing additional criteria for violations of the ACO program and making other changes to the rule to enhance clarity and enforceability. The SCAQMD committed to periodically evaluating the ACO program to determine if emission reductions committments are met as specified in the State Implementation Plan (SIP).

- **March 8, 1996 -** These amendments established a definition for aerosol coatings consistent with the CARB definition, revised the definition of exempt compounds by referencing Rule 102 - Definition of Terms, and created an exemption for aerosol coatings.

- **September 6, 1991 -** These amendments created a new coating category, low-solids stain, and also incorporated a calculation method for determining VOC content on a materials basis. The amendment also

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

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

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

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

INTENDED USES OF THIS DOCUMENT

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

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

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

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

AREAS OF CONTROVERSY

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

TABLE 1-1

Areas of Controversy

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

TABLE 1-1 (CONTINUED)

Areas of Controversy

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

TABLE 1-1 (CONTINUED)

Areas of Controversy

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

[5] http://www.arb.ca.gov/research/reactivity/reactivityhistory.htm

TABLE 1-1 (CONTINUED)

Areas of Controversy

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

TABLE 1-1 (CONTINUED)

Areas of Controversy

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

TABLE 1-1 (CONCLUDED)

Areas of Controversy

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

EXECUTIVE SUMMARY

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

Summary of Chapter 1 – Legislative Authority and Executive Summary

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

Summary of Chapter 2 – Project Description

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

- Amend the definition for floor coatings to include clear floor coatings, except for IM coatings and clear wood finishes. This clarification is necessary to keep the intent of the original definition which included both opaque and clear coatings.

- Add a new definition for nonflat high gloss by separating this category from the general nonflat category.

- Modify the definition of VOC to exclude TBAc when used in formulating IM coatings and zinc-rich industrial maintenance primers.

- Eliminate the fire retardant coating category and impose the same VOC content limit as similar coating types (e.g., primer, sealer, flat, nonflat).

- Establish a high gloss subcategory to nonflat coatings and extend the 50 g/l VOC limit effective date for nonflat high gloss coatings from July 1, 2006, to July 1, 2007.

- Require an interim VOC limit of 150 g/l for quick-dry enamels that would become effective upon adoption and delay the effective date of 50 g/l VOC limit one year from July 1, 2006, to July 1, 2007.

- In the Table of Standards in paragraph (c)(2), effective July 1, 2007, reduce the VOC content limits to 100 g/l for concrete-curing compounds (not used for roadways, bridges and bridge decks) and traffic coatings, and 150 g/l for dry-fog coatings.

- Require an interim VOC limit of 250 g/l for specialty primers that would become effective upon adoption and delay the effective date of 100 g/l VOC limit one year from July 1, 2006, to July 1, 2007.

- Remove the requirement to submit an annual report to the Executive Officer for the following specialty coating categories: clear brushing lacquers and rust preventative coatings.

- Add metallic pigmented coating category to the Averaging Compliance Option.

- Add a labeling requirement for concrete-curing compounds manufactured and used for roadways, bridges and bridge decks to include the statement "For Roadways, Bridges and Bridge Decks Only" that shall be prominently displayed effective July 1, 2007.

- Update administrative requirements such as outdated labeling requirements for brushing lacquers, technology assessments and acronyms.

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

Summary of Chapter 3 - Existing Setting

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

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

Air Quality

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

Summary of Chapter 4 – Environmental Impacts and Mitigation Measures

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

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

Air Quality

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

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

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

TABLE 1-2

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

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

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

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

Mitigation

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

TABLE 1-3

Environmental Impacts from PAR 1113

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

Environmental Impacts Found Not To Be Significant

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

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

Other CEQA Topics

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

Summary of Chapter 5 – Project Alternatives

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

TABLE 1-4

PAR 1113 and Project Alternatives

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

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

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

TABLE 1-5

Comparison of Adverse Environmental Impact to PAR 1113 and Alternatives

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

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

TABLE 1-6

Ranking of Alternatives

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

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

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

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

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

C H A P T E R 2

P R O J E C T D E S C R I P T I O N

Project Location

Background

Project Objective

Project Description

PROJECT LOCATION

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

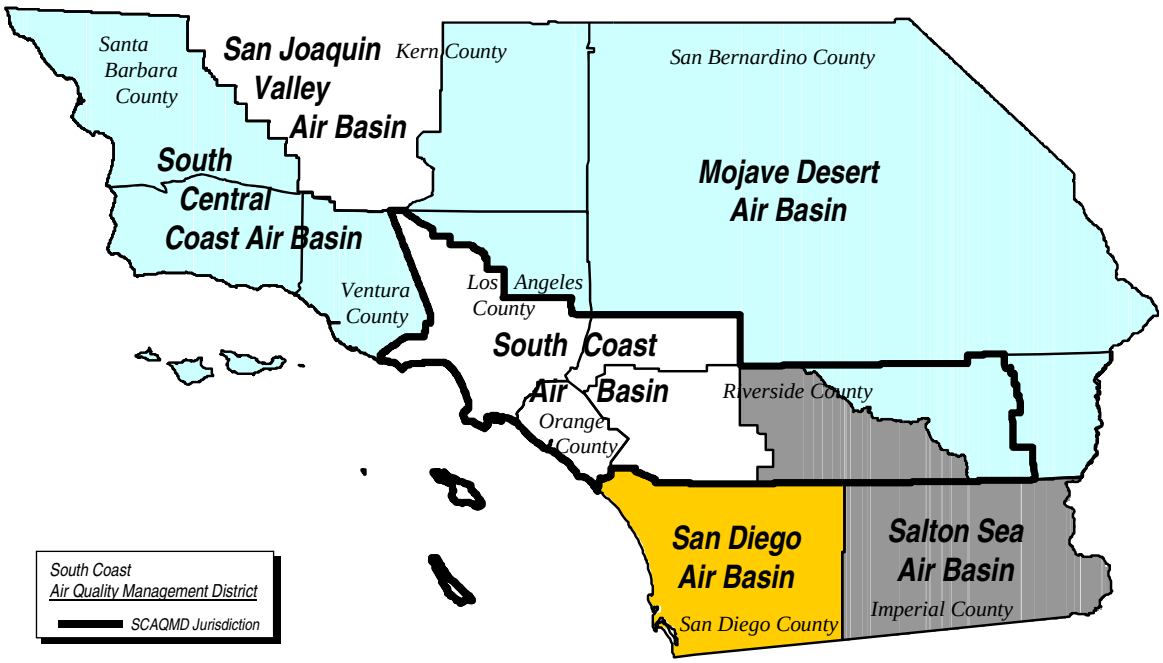

FIGURE 2-1

South Coast Air Quality Management District

BACKGROUND

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

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

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

VOCs react photochemically with NOx to form ozone. Ozone is a strong oxidizer that irritates the human respiratory system and damages plant life and property. VOCs also react in the atmosphere to form PM2.5 and PM10, pollutants that adversely affect human health and limits visibility. Because these small particulates penetrate into the deepest regions of the lung, they affect pulmonary function and have been linked to an increased morbidity and mortality.

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

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

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

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

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

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

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

Technology Assessment

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

Highlights of the Annual Status Report on Rule 1113

Industrial Maintenance Coatings and the Use of TBAc Formulations

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

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

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

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

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

1) Low-VOC "immersion" (immersion in water) IM coatings meeting the 2006 VOC content limits and conforming to MWD's stringent performance standards are currently available.

2) MWD continues to search for "atmospheric" IM products that comply with the 2006 VOC content limits and also meet the stringent performance standards.

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

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

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

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

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

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

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

New High Gloss Subcategory of Non Flat Coatings

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

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

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

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

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

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

Quick-Dry Enamels

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

PROJECT OBJECTIVES

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

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

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

DESCRIPTION OF AFFECTED ARCHITECTURAL COATING CATEGORIES

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

Concrete-Curing Compounds

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

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

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

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

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

Dry-Fog Coatings

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

Fire-Retardant Coatings

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

Specialty Primers

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

Traffic Coatings

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

PROJECT DESCRIPTION

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

(a) Purpose and Applicability

No changes are proposed to this subdivision at this time.

(b) Definitions

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

(c) Requirements

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

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

- Require an interim VOC content limit at 250 grams per liter or less for specialty primers and extend current compliance date one year to July 1, 2007 to comply with the VOC content limit to 100 grams per liter or less [paragraph I(2)] (Table of Standards).

- Establish a new VOC content limit for traffic coatings at 100 grams per liter or less by July 1, 2007 [paragraph I(2)] (Table of Standards).

- Allow metallic pignmented coating category eligible for the Averaging Compliance Option [subparagraph I(6)(A)]

(d) Administrative Requirements

- Add a labeling requirement for concrete-curing compounds manufactured and used for roadways, bridges and bridge decks to include the statement "For Roadways, Bridges and Bridge Decks Only" that shall be prominently displayed effective July 1, 2007 [paragraph (d)(7)].

- Eliminate the current labeling requirements for clear brushing lacquers [paragraph (d)(7)].

- Eliminate for manufacturers of clear brushing lacquer and rust preventative the requirement of submitting an annual report [paragraph (d)(8)].

(e) Test Methods

No changes are proposed to this subdivision at this time.

(f) Technology Assessment

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

(g) Exemptions

No changes are proposed to this subdivision at this time.

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

PROJECTED EMISSIONS REDUCTIONS

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

TABLE 2-1

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

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

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

CHAPTER 3

EXISTING SETTING

Existing Setting

Architectural Coating Industry

Air Quality

EXISTING SETTING

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

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

ARCHITECTURAL COATING INDUSTRY

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

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

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

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

VOCs react photochemically with NOx to form ozone. Ozone is a strong oxidizer that irritates the human respiratory system and damages plant life and property. VOCs also react in the atmosphere to form PM2.5 and PM10, pollutants that adversely affect human health and limits visibility. Because these small particulates penetrate into the deepest regions of the lung, they affect pulmonary function and have been linked to an increased morbidity and mortality.

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

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

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

VOC Emission Inventory for Affected Coating Categories

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

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

TABLE 3-1

2000 California and SCAQMD Adjusted Emission Inventory

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

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

AIR QUALITY

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

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

TABLE 3-2

State and Federal Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
	CONCENTRATION, AVERAGING TIME		
Carbon Monoxide (CO)	20 ppm, 1-hour average > 9.0 ppm, 8-hour average >	35 ppm, 1-hour average > 9.5 ppm, 8-hour average >=	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and, (d) Possible increased risk to fetuses.
Ozone (O_3)	0.09 ppm, 1-hour average >	0.12 ppm, 1-hour average > 0.08 ppm, 8-hour average >	(a) Short-term exposures: 1) Pulmonary function decrements and localized lung edema in humans and animals; and, 2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; and, (d) Property damage.
Nitrogen Dioxide (NO_2)	0.25 ppm, 1-hour average >	0.0534 ppm, AAM >	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and, (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm, 1-hour average > 0.04 ppm, 24-hour average >	0.03 ppm, AAM > 0.14 ppm, 24-hour average > 0.50 ppm, 3-hour average >	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.

KEY:

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

TABLE 3-2 (CONCLUDED)

State and Federal Ambient Air Quality Standards

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

KEY:

ppm = parts per million parts of air, by volume	AAM = Annual Arithmetic Mean
µg/m^3 = micrograms per cubic meter	AGM = Annual Geometric Mean

TABLE 3-3

2004 Air Quality Data – South Coast Air Quality Management District

CARBON MONOXIDE (CO)					No. Days Standard Exceeded[a]	
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hour)	Max. Conc. (ppm, 8-hour)	Federal > 9.5 ppm, 8-hour	State > 9.0 ppm, 8-hour
LOS ANGELES COUNTY (Co)						
1	Central Los Angeles	361	4	3.2	0	0
2	Northwest Coast Los Angeles Co	360	4	2.3	0	0
3	Southwest Coast Los Angeles Co1	90*	6*	4.4*	0*	0*
3	Southwest Coast Los Angeles Co2	260*	4*	3.0	0*	0*
4	South Coast Los Angeles Co1	366	4	3.4	0	0
4	South Coast Los Angeles Co2	--	--	--	--	--
6	West San Fernando Valley	366	5	3.5	0	0
7	East San Fernando Valley	366	5	3.7	0	0
8	West San Fernando Valley	361	7	3.4	0	0
9	East San Gabriel Valley 1	366	3	2.0	0	0
9	East San Gabriel Valley 2	361	2	2.0	0	0
10	Pomona/Walnut Valley	366	4	3.1	0	0
11	South San Gabriel Valley	366	5	3.6	0	0
12	South Central Los Angeles Co	366	10	6.7	0	0
13	Santa Clarita Valley	363	5	3.7	0	0
ORANGE COUNTY						
16	North Orange County	364	7	4.0	0	0
17	Central Orange County	366	5	4.1	0	0
18	North Coastal Orange County	366	5	4.1	0	0
19	Saddleback Valley	366	2	1.6	0	0
RIVERSIDE COUNTY						
22	Norco/Corona	--	--	--	--	--
23	Metropolitan Riverside County 1	364	4	3.0	0	0
23	Metropolitan Riverside County 2	366	4	2.1	0	0
24	Perris Valley	--	--	--	--	--
25	Lake Elsinore	353	2	0.9	0	0
29	Banning Airport	--	--	--	--	--
30	Coachella Valley 1**	366	2	1.0	0	0
30	Coachella Valley 2**	--	--	--	--	--
SAN BERNARDINO COUNTY						
32	NW San Bernardino Valley	366	3	2.1	0	0
33	SW San Bernardino Valley	--	--	--	--	--
34	Central San Bernardino Valley 1	313*	3*	2.1*	0*	0*
34	Central San Bernardino Valley 2	366	4	3.3	0	0
35	East San Bernardino Valley	--	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			10	6.7	0	0
SOUTH COAST AIR BASIN			10	6.7	0	0

KEY:

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

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

TABLE 3-3 (CONTINUED)

2004 Air Quality Data – South Coast Air Quality Management District

Source Rec. Area No.	Location of Air Monitoring Station	OZONE (O_3) No. Days of Data	Max. Conc. (ppm, 1-hr)	Max. Conc. (ppm, 8-hr)	Fourth Highest Conc. (ppm, 8-hr)	Health Advisory $\geq$ 0.15 ppm, 1-hr	No. Days Standard Exceeded: Federal > 0.12 ppm, 1-hr	Federal > 0.08 ppm, 8-hr	State[b] > 0.09 ppm, 1-hr	State[b] > 0.07 ppm, 1-hr
LOS ANGELES (LA) COUNTY (Co)										
1	Central LA	366	0.110	0.092	0.079	0	0	1	7	7
2	NW Coast LA Co	366	0.107	0.089	0.078	0	0	1	5	6
3	SW Coast LA Co1	90*	0.069*	0.060*	0.056*	0*	0*	0*	0*	0*
3	SW Coast LA Co2	262*	0.120*	0.100	0.086*	0*	0*	4*	4*	13*
4	South Coast LA Co1	366	0.090	0.075	0.071	0	0	0	0	0
4	South Coast LA Co2	--	--	--	--	--	--	--	--	
6	W San Fernando Valley	366	0.131	0.116	0.102	0	2	29	54	65
7	E San Fernando Valley	366	0.137	0.109	0.089	0	2	7	27	37
8	W San Fernando Valley	365	0.130	0.103	0.093	0	1	9	27	31
9	E San Gabriel Valley 1	366	0.134	0.104	0.094	0	2	10	28	26
9	E San Gabriel Valley 2	366	0.134	0.108	0.095	0	4	16	42	35
10	Pomona/Walnut Valley	366	0.131	0.102	0.097	0	4	13	31	25
11	S San Gabriel Valley	366	0.104	0.084	0.080	0	0	0	7	7
12	South Central LA Co	366	0.084	0.072	0.065	0	0	0	0	0
13	Santa Clarita Valley	360	0.158	0.133	0.108	1	13	52	69	81
ORANGE (OR) COUNTY (Co)										
16	North OR Co	364	0.099	0.080	0.078	0	0	0	6	6
17	Central OR Co	366	0.120	0.097	0.088	0	0	6	35	35
18	North Coastal OR Co	366	0.104	0.087	0.076	0	0	1	5	5
19	Saddleback Valley	366	0.116	0.089	0.086	0	0	2	20	20
RIVERSIDE (RV) COUNTY (Co)										
22	Norco/Corona	--	--	--	--	--	--	--	--	--
23	Metropolitan RV Co 1	366	0.141	0.117	0.112	0	8	35	75	75
23	Metropolitan RV Co 2	--	--	--	--	--	--	--	--	--
24	Perris Valley	365	0.128	0.103	0.097	0	2	19	47	47
25	Lake Elsinore	353	0.130	0.116	0.103	0	2	21	51	51
29	Banning Airport	349	0.156	0.116	0.112	1	7	40	69	69
30	Coachella Valley 1**	366	0.125	0.108	0.099	0	1	31	55	55
30	Coachella Valley 2**	366	0.111	0.102	0.098	0	0	18	51	51
SAN BERNARDINO (SB) COUNTY										
32	Northwest SB Valley	366	0.138	0.105	0.103	0	2	18	31	31
33	Southwest SB Valley	--	--	--	--	--	--	--	--	--
34	Central SB Valley 1	366	0.149	0.123	0.112	0	7	28	54	54
34	Central SB Valley 2	366	0.157	0.130	0.113	1	9	38	58	58
35	East SB Valley	366	0.160	0.137	0.122	1	12	53	76	76
37	Central SB Mountains	364	0.163	0.145	0.124	1	9	66	96	96
38	East SB Mountains	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM			0.163	0.145	0.124	1	13	66	96	96
SOUTH COAST AIR BASIN			0.163	0.148	0.124	4	28	90	148	148

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

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

TABLE 3-3 (CONTINUED)

2004 Air Quality Data – South Coast Air Quality Management District

NITROGEN DIOXIDE (NO_2)				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hour[c])	Annual Average[c] AAM Conc. (ppm)
LOS ANGELES COUNTY				
1	Central Los Angeles	359	0.16	0.0328
2	Northwest Coast Los Angeles County	355	0.09	0.0198
3	Southwest Coast Los Angeles County1	89*	0.08*	0.0310*
3	Southwest Coast Los Angeles County2	230*	0.09*	0.0136*
4	South Coast Los Angeles County1	356	0.12	0.0280
4	South Coast Los Angeles County2	--	--	--
6	West San Fernando Valley	365	0.08	0.0214
7	East San Fernando Valley	356	0.12	0.0332
8	West San Fernando Valley	355	0.12	0.0270
9	East San Gabriel Valley 1	351	0.10	0.0204
9	East San Gabriel Valley 2	353	0.12	0.0240
10	Pomona/Walnut Valley	364	0.11	0.0314
11	South San Gabriel Valley	353	0.12	0.0305
12	South Central Los Angeles County	362	0.10	0.0301
13	Santa Clarita Valley	358	0.09	0.0204
ORANGE COUNTY				
16	North Orange County	341	0.12	0.0252
17	Central Orange County	361	0.12	0.0199
18	North Coastal Orange County	357	0.10	0.0151
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	363	0.09	0.0172
23	Metropolitan Riverside County 2	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	339	0.06	0.0151
29	Banning Airport	334	0.08	0.0165
30	Coachella Valley 1**	353	0.07	0.0130
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	365	0.11	0.0305
33	Southwest San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	346	0.06	0.0273
34	Central San Bernardino Valley 2	363	0.12	0.0261
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			0.16	0.0332
SOUTH COAST AIR BASIN			0.16	0.0332

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

c) The state standard is 1-hour average NO_2> 0.25ppm. The federal standard is annual arithmetic mean NO_2> 0.0534 ppm. No location exceeded the standards.

TABLE 3-3 (CONTINUED)

2004 Air Quality Data – South Coast Air Quality Management District

SULFUR DIOXIDE (SO_2)				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Concentration[d)]	
			(ppm, 1-hour)	(ppm, 24-hour)
LOS ANGELES COUNTY				
1	Central Los Angeles	364	0.08	0.0015
2	Northwest Coast Los Angeles County	--	--	--
3	Southwest Coast Los Angeles County1	89*	0.03*	0.004*
3	Southwest Coast Los Angeles County2	261*	0.02*	0.007*
4	South Coast Los Angeles County1	361	0.04	0.012
4	South Coast Los Angeles County2	--	--	--
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	348	0.02	0.010
8	West San Fernando Valley	--	--	--
9	East San Gabriel Valley 1	--	--	--
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	--	--	--
12	South Central Los Angeles County	--	--	--
13	Santa Clarita Valley	--	--	--
ORANGE COUNTY				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
18	North Coastal Orange County	364	0.03	0.008
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	331	0.02	0.015
23	Metropolitan Riverside County 2	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	--	--	--
29	Banning Airport	--	--	--
30	Coachella Valley 1**	--	--	--
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	--	--	--
33	Southwest San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	360	0.01	--
34	Central San Bernardino Valley 2	--	--	0.006
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			0.08	0.015
SOUTH COAST AIR BASIN			0.08	0.015

KEY:

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

d) The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. No location exceeded SO_2 standards.

TABLE 3-3 (CONTINUED)

2004 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM10 [e)]				No. (%) Samples Exceeding Standard		
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. ($\mu g/m^3$, 24-hour)	Federal > 150 $\mu g/m^3$, 24-hour	State > 50 $\mu g/m^3$, 24-hour	Annual Average[h)] AAM Conc. ($\mu g/m^3$)
LOS ANGELES COUNTY (Co)						
1	Central Los Angeles	61	72	0	5(8.2)	32.7
2	NW Coast Los Angeles County	--	--	--	--	--
3	SW Coast Los Angeles County1	15*	52*	0*	2(13.3)*	30.9*
3	SW Coast Los Angeles County2	37*	47*	0*	0*	25.1
4	South Coast Los Angeles County1	60	72	0	4(6.7)	33.1
4	South Coast Los Angeles County2	59	83	0	12)20.3)	38.1
6	West San Fernando Valley	--	--	--	--	--
7	East San Fernando Valley	60	74	0	7(11.7)	37.5
8	West San Fernando Valley	--	--	--	--	--
9	East San Gabriel Valley 1	55	83	0	8(14.5)	35.4
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	--	--	--	--	--
12	South Central Los Angeles County	--	--	--	--	--
13	Santa Clarita Valley	60	54	0	2.(3.3)	28.1
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	61	74	0	7(11.5)	34.1
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	57	47	0	0	23.7
RIVERSIDE COUNTY						
22	Norco/Corona	57	76	0	11(19.3)	38.0
23	Metropolitan Riverside County 1	119	137	0	72(60.5)	55.5
23	Metropolitan Riverside County 2	--	--	--	--	--
24	Perris Valley	59	83	0	15(25.4)	41.4
25	Lake Elsinore	--	--	--	--	--
29	Banning Airport	61	82	0	7(11.5)	29.3
30	Coachella Valley 1**	59	79	0	2(3.4)	26.4
30	Coachella Valley 2**	118+	83+	0+	23(19.5)+	39.3+
SAN BERNARDINO COUNTY-						
32	NW San Bernardino Valley	--	--	--	--	--
33	SW San Bernardino Valley	58	93	0	17(29.3)	42.8
34	Central San Bernardino Valley 1	61	106	0	29(47.5)	47.7
34	Central San Bernardino Valley 2	58	118	0	28(48.3)	48.6
35	East San Bernardino Valley	60	88	0	20(33.3)	38.6
37	Central San Bernardino Mountains	57	52	0	1(1.8)	26.4
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			137	0	72	55.5
SOUTH COAST AIR BASIN			137	0	81	55.5

KEY: $\mu g/m^3$ = micrograms per cubic meter; -- = Pollutant not monitored

AAM = Annual Arithmetic Mean; ** Salton Sea Air Basin

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

h) Federal PM10 standard is annual average (AAM) > 50 $\mu g/ m^3$. State standard is annual average (AAM) > 20 $\mu g/ m^3$ (changed from AGM > 20 $\mu g/ m^3$, effective July 5, 2003)

\+ The data for the samples collected on high-wind day (161 $\mu g/ m^3$ on 10/09/04 was excluded in accordance with EPA's Natural Event Policy.

TABLE 3-3 (CONTINUED)

2004 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM2.5 [f]				No. (%) Samples Exceeding Standard	Annual Averages[i]
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. ($\mu g/m^3$, 24-hour)	Federal > 65 $\mu g/m^3$, 24-hour	AAM Conc. ($\mu g/m^3$)
LOS ANGELES COUNTY					
1	Central Los Angeles	318	75.0	2(0.6)	19.6
2	Northwest Coast Los Angeles County	--	--	--	--
3	Southwest Coast Los Angeles Co1	--	--	--	--
3	Southwest Coast Los Angeles Co2	--	--	--	--
4	South Coast Los Angeles County1	323	66.6	1(0.3)	17.6
4	South Coast Los Angeles County2	327	59.7	0	16.6
6	West San Fernando Valley	106	56.2	0	15.6
7	East San Fernando Valley	109	60.1	0	19.2
8	West San Fernando Valley	113	59.4	0	16.6
9	East San Gabriel Valley 1	279	75.6	1(0.4)	18.4
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	108	60.7	0	19.9
12	South Central Los Angeles County	115	55.8	0	18.5
13	Santa Clarita Valley	--	--	--	--
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	319	58.9	0	16.8
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	111	49.4	0	12.1
RIVERSIDE COUNTY					
22	Norco/Corona	--	--	--	--
23	Metropolitan Riverside County 1	342	91.7	5(1.5)	22.1
23	Metropolitan Riverside County 2	110	93.8	2(1.8)	20.8
24	Perris Valley	--	--	--	--
25	Lake Elsinore	--	--	--	--
29	Banning Airport	--	--	--	--
30	Coachella Valley 1**	112	27.1	0	9.0
30	Coachella Valley 2**	110	28.5	0	10.7
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	--	--	--	--
33	Southwest San Bernardino Valley	112	86.1	2(1.8)	20.9
34	Central San Bernardino Valley1	104	71.4	1(1.0)	20.0
34	Central San Bernardino Valley2	106	93.4	4(3.8)	22.0
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	52	28.6	0	9.5
DISTRICT MAXIMUM			93.8	5	22.1
SOUTH COAST AIR BASIN			93.8	7	22.1

KEY: $\mu g/m^3$ = micrograms per cubic meter; -- = Pollutant not monitored

AAM = Annual Arithmetic Mean; ** Salton Sea Air Basin

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

i) Federal PM2.5 Standard is annual average (AAM) 50 $\mu g/m^3$. State standard is annual average (AAM) > 12 $\mu g/m^3$ (state standard was established on July 5, 2003).

TABLE 3-3 (CONTINUED)

2004 Air Quality Data – South Coast Air Quality Management District

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

KEY:

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

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

TABLE 3-3 (CONTINUED)

2004 Air Quality Data – South Coast Air Quality Management District

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

KEY: ** Salton Sea Air Basin $\mu g/m^3$ = micrograms per cubic meter -- = Pollutant not monitored

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

j) The federal standard (quarterly average lead > 1.5 $\mu g/m^3$) & state standard (monthly average lead $\geq$ 1.5 $\mu g/m^3$). No locations exceed lead standards. The max monthly & qtrly lead concentrations at special monitoring sites immediately downwind of stationary lead sources were 0.59 $\mu g/m^3$ & 0.30 $\mu g/m^3$, both recorded at SE LA Co.

Criteria Pollutants

Carbon Monoxide

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

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

Ozone

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

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

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

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

The national ozone ambient air quality standard is exceeded far more frequently in the SCAQMD's jurisdiction than almost every other area in the United States[6]. In the past few years, ozone air quality has been the cleanest on record in terms of maximum concentration and number of days exceeding the standards and episode levels. Ozone levels were monitored at 29 locations in 2004. Maximum one-hour average and eight-hour average ozone concentrations in 2004 (0.163 ppm and 0.145 ppm) were 136 percent and 181 percent of the federal one-hour and eight-hour standards, respectively. Ozone concentrations exceeded the one-hour state standard at all but three of the monitored locations in 2004.

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

Nitrogen Dioxide

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

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

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

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

Sulfur Dioxide

SO2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children. In 2004, eight locations monitored SO2 levels and neither the state nor the federal standards were exceeded. Though SO2 concentrations have been reduced to levels well below state and federal standards, further reductions in emissions of SO2 are needed because it is a precursor for sulfates, PM10, and PM2.5.

Particulate Matter (PM10)

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

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

Particulate Matter (PM2.5)

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

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

Lead

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

Sulfates

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

Visibility Reducing Particles

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

Volatile Organic Compounds

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

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

Non-Criteria Pollutant Emissions

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

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

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

Ozone Depletion and Global Warming

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

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

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

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

Toxic Air Contaminants

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

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

Control of TACs Under the TAC Identification and Control Program

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

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

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

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

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

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

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

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

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

Control of TACs With Risk Reduction Audits and Plans

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

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

Cancer Risks from Toxic Air Contaminants

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

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

Health Effects

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

Non-Cancer Health Risks from Toxic Air Contaminants

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

CHAPTER 4

ENVIRONMENTAL IMPACTS AND MITIGATION

INTRODUCTION

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

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

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

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

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

AIR QUALITY

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

Significance Criteria

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

TABLE 4-1

SCAQMD Air Quality Significance Thresholds

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

TABLE 4-1 (CONCLUDED)

SCAQMD Air Quality Significance Thresholds

Toxic Air Contaminants (TACs) and Odor Thresholds	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Ambient Air Quality for Criteria Pollutants [(a)]	
NO_2 1-hour average annual average	In attainment; significant if project causes or contributes to an exceedance of any standard: 0.25 ppm (state) 0.053 ppm (federal)
PM10 24-hour annual geometric mean	10.4 $\mu g/m^3$ (recommended for construction) [(b)] 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$ 20 $\mu g/m^3$
Sulfate 24-hour average	25 $\mu g/m^3$
CO 1-hour average 8-hour average	In attainment; significant if project causes or contributes to an exceedance of any standard: 20 ppm (state) 9.0 ppm (state/federal)

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

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

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

Construction Air Quality Impacts

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

Operational Air Quality Impacts – Criteria Pollutants

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

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

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

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

TABLE 4-2

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

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

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

Operational Air Quality Impacts – Non-Criteria Pollutants

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

the increased use could have potentially significant adverse public health impacts. When EPA delisted TBAc as a VOC, the Federal Register[7] stated, "However, given the potential for increased use of TBAc, EPA does believe that further toxicity testing is warranted to resolve the uncertainty associated with the limited evidence that is currently available." The reason for the uncertainty regarding the potential toxicity of TBAc is that, although TBAc has not undergone specific noncancer chronic toxicity testing, it has been demonstrated to metabolize into tert-butyl alcohol (TBA), a substance that has been shown to produce tumors in rats. As a result, the Federal Register notice delisting TBAc as a VOC stated, "In response to these concerns Lyondell has agreed to work with EPA to perform the toxicity testing needed to resolve the current [toxicity] uncertainty."

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

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

Acute (Non-Cancer) Health Effects

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

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

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

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

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

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

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

<u>Carcinogenic Effects</u>

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

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

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

TABLE 4-3

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

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

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

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

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

Odor Analysis

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

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

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

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

TABLE 4-4

VOC Concentrations and Odor Thresholds

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

a) Haz-Map National Institutes of Health, http://hazmap.nlm.nih.gov unless otherwise noted.
b) MANA, MSDS for OXSOL100 (PCBTF), June 16, 2005

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

PROJECT SPECIFIC MITIGATION MEASURES: None identified.

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

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

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

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

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

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

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

ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

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

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

Aesthetics

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

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

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

Agricultural Resources

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

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

Biological Resources

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

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

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

Cultural Resources

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

Energy

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

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

Geology and Soils

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

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

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

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

Hazards and Hazardous Materials

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

TABLE 4-5

Chemical Characteristics for Typical IM Coating Solvents

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

*National Fire Protection Association

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

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

Hydrology and Water Quality

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

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

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

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

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

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

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

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

TABLE 4-6

Projected POTW Impact From Implementing PAR 1113

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

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

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

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

mgd = millions of gallons per day

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

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

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

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

TABLE 4-7

Projected Water Demand from Implementing PAR 1113

Year	Projected Population[a] (millions of people)	Projected Water Demand[b] (bgy)	Projected Coating Sales[c] (mgy)	Projected Mfgr Demand[d] (mgy)	Projected Cleanup Demand[e] (mgy)	PAR 1113 Total Demand[f] (mgy)	Total Impacts[g] (% Increase)
2006	17.04	1,414.84	3.02	3.02	3.02	6.04	0.0004

[a] Population projections obtained from SCAG's 1998 RTP.

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

[c] Obtained from Table 2-2 in this Initial Study.

[8] From Metropolitan Water District, Annual Progress Report to the California's State Legislature, February 2002.

[d] Assumes that one gallon of water will be used to manufacture one gallon of coating applied. Also assumes as a "worst-case" scenario, that all affected coatings used in the SCAQMD's jurisdiction were manufactured here.
[e] Assumes that one gallon of water will be used to clean-up equipment for every gallon of coating applied. Also assumes as a "worst-case" scenario, that full conversion of affected coating categories to water-borne formulations occurs in 2006.
[f] Total amount of manufacturer and clean-up water demand.
[g] The percentage increase in water demand as a result of the incremental increase due to water clean-up of water-borne coating material.

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

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

Land Use and Planning

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

Mineral Uses

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

Noise

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

Population and Housing

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

Public Services

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

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

Recreation

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

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

Solid/Hazardous Waste

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

Transportation/Traffic

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

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

OTHER CEQA TOPICS

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

Irreversible Environmental Changes

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

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

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

Potential Growth-Inducing Impacts

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

CONSISTENCY

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

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

Consistency with the Air Quality Management Plan

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

Consistency with Regional Comprehensive Plan and Guide (RCPG) Policies

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

Improve the Regional Standard of Living

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

Provide Social, Political and Cultural Equity

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

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

Improve the Regional Quality of Life

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

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

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

CHAPTER 5

PROJECT ALTERNATIVES

INTRODUCTION

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

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

ALTERNATIVES REJECTED AS INFEASIBLE

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

Low Vapor Pressure (Low Volatility) Exemption

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

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

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

Performance-Based Standards

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

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

Reactivity-Based Alternative

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

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

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

Seasonal Regulation

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

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

DESCRIPTION OF ALTERNATIVES

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

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

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

Alternative A - No Project

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

Alternative B – NPCA Proposal

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

Settlement Agreement

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

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

TABLE 5-1

PAR 1113 and Project Alternatives

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

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

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

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

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

Alternative C – No TBAc Delisting; Delay IM Limit

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

Least Toxic Alternative

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

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

COMPARISON OF THE ALTERNATIVES

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

Air Quality

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

Alternative A - No Project

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

Alternative B – NPCA Proposal

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

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

Alternative C – No TBAc Delisting; Delay IM Limit

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

TABLE 5-2

Comparison VOC Emission Reductions From PAR 1113 and Project Alternatives (pounds per day)

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

1- Includes Lacquers, Sanding Sealers, and Varnish

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

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

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

TABLE 5-3

Comparison of Adverse Environmental Impact to PAR 1113 and Alternatives

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

TABLE 5-4

Ranking of Alternatives

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

Notes: The ranking scale is such that 1 represents the least impacts and subsequent higher number represent increasingly worse or more substantial adverse impacts.
The same two numbers in brackets means that these proposals would have the same impacts if implemented.
An ***x*** denotes either a project-specific or cumulative significant adverse impact.
A ✓ denotes no project-specific or no cumulative significant adverse impact.

Comparison of Alternatives to PAR 1113

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

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

Environmentally Superior Alternative

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

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

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

APPENDIX A

PROPOSED AMENDED RULE 1113

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

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

APPENDIX B

NOTICE OF PREPARATION AND INITIAL STUDY FOR PROPOSED AMENDED RULE 1113