

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**Final Environmental Assessment for Proposed Amended Rule (PAR) 1143 –
Consumer Paint Thinners and Multi-Purpose Solvents**

November 2010

**SCAQMD No. 100820JK
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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents. The Draft EA was released for a 45-day public review and comment period from September 30, 2010 to November 16, 2010. No comment letters were received on the Draft EA.

To ease in identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~striethrough~~. None of the modifications alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to the draft document. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5. This document constitutes the Final EA for Proposed Amended Rule (PAR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents.

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LIST OF ACRONYMS & TERMS

AAM = annual arithmetic mean
AB = Assembly Bill
AB2588 = Air Toxics Hot Spots Information and Assessment Act of 1987
ACMI = Artist Creative Materials Institute
AHM = acutely hazardous material
ANPR = Advance Notice of Proposed Rulemaking
APE = area of potential effect
AQMP = Air Quality Management Plan
ATCM = Airborne Toxic Control Measure
Basin = South Coast Air Basin
CAA = Clean Air Act
CalEPA = California Environmental Protection Agency
CARB = California Air Resources Board
CEC = California Energy Commission
CEQA = California Environmental Quality Act
CFCs = chlorofluorocarbons
CH₄ = methane
CO₂ = carbon dioxide
CO₂eq = carbon dioxide equivalent
CO = carbon monoxide
Co = county
COHb = carboxyhemoglobin
CM = control measure
District = South Coast Air Quality Management District (area of jurisdiction)
EA = Environmental Assessment
e.g. = example
EIR = Environmental Impact Report
etc. = et cetera
FR = Federal Register
g/L = grams per liter
gal = gallons
GHG = greenhouse gases
GMC = Growth Management Chapter
HAPs = hazardous air pollutants
HCFCs = hydrochlorofluorocarbons
HFC = hydrofluorocarbon
HI = Hazard Index
HNO₃ = nitric acid
hr = hour
i.e. = that is
IM = industrial/maintenance
kW = kilowatt
LADWP = Los Angeles Department of Water and Power
lb = pound
LHAMA = Labeling of Hazardous Art Materials Act
MDAB = Mojave Desert Air Basin

LIST OF ACRONYMS & TERMS (Cont.)

MEK = methyl ethyl ketone
MICR = maximum individual cancer risk
mmBTU = million British Thermal Units
MSDS = Material Safety Data Sheet
Mton = metric ton
MW = megawatt
N₂ = nitrogen
N₂O = nitrous oxide
NAAQS = National Ambient Air Quality Standards
NAMTA = National Art Materials and Trade Association
NESHAP = National Emission Standard for Hazardous Air Pollutants
NOC = Notice of Completion
NOP/IS = Notice of Preparation/Initial Study
NO_x = oxides of nitrogen
O₃ = ozone
OPR = Office of Planning and Research
PAR = proposed amended rule
PCBTf = parachlorobenzotrifluoride
PFC = perfluorocarbon
PM = particulate matter
PM_{2.5} = particulate matter with an aerodynamic diameter of 2.5 microns or less
PM₁₀ = particulate matter with an aerodynamic diameter of 10 microns or less
ppm = parts per million
PST = Pacific Standard Time
PVC = polyvinyl chloride
RCPG = Regional Comprehensive Plan Guide
REL = Reference Exposure Level
SB = San Bernardino
SB = Senate Bill
SCAB = South Coast Air Basin
SCAG = Southern California Association of Governments
SCAQMD = South Coast Air Quality Management District
SCE = Southern California Edison
SEA = Supplemental Environmental Assessment
SF₆ = sulfur hexafluoride
SO₂ = sulfur dioxide
SO_x = oxides of sulfur
SSAB = Salton Sea Air Basin
TAC = toxic air contaminant
TAO = Technology Advancement Office
TCA = 1,1,1-trichloroethane
µg/m³ = micrograms per cubic meter
USEPA = United States Environmental Protection Agency
USPS = United States Postal Service
VOC = Volatile Organic Compounds

CHAPTER 1

EXECUTIVE SUMMARY

Introduction

California Environmental Quality Act

Previous CEQA Documentation for PAR 1143

Intended Uses of this Document

Areas of Controversy

Executive Summary

INTRODUCTION

Consumer products are the largest source of VOC emissions in the South Coast Air Basin (Basin). The California Air Resources Board (CARB) estimates that consumer products in the state of California account for approximately 245 tons per day of VOC emissions. The 2007 Air Quality Management Plan (AQMP) highlights the growing impact of VOC emissions from consumer products, which include cleaning products and solvents. Taking into account population growth and planned VOC reductions by CARB, the AQMP estimates that the annual average VOC emissions for the consumer product category will be 107 tons per day by the year 2014, and will likely increase to 112.1 tons per day by the year 2020.

One subcategory of the paint thinner and multi-purpose solvent category is artist solvents and thinners. Artist solvents and thinners have been formulated and refined to eliminate impurities normally found in commercial grade solvents and thinners. CARB staff surveyed artist solvents and thinners during their 2006 Consumer and Commercial Products Survey¹ and found VOC emissions from the artist solvents and thinners sub-category were small compared to the overall VOC emissions from the consumer products category. CARB staff also found that artist solvents and thinners are required to meet the Labeling of Hazardous Art Materials Act (LHAMA) within the Federal Hazardous Substances Act, which requires that any art material, including solvents, must meet the requirements in ASTM D-4236-94 (reapproved 2005), the standard Practice for Labeling Art Materials for Chronic Health Hazards, to protect consumers of any age from potential health hazards from these products. CARB staff was unable to identify technology that would allow artist solvents and thinners to be reformulated to meet lower VOC content limits and meet performance requirements. As a result, CARB staff exempted artist solvents and thinners, which they call artist's solvents/thinners,² from the requirements of their Consumer Products Regulations, provided that they are labeled to meet ASTM D4236-94 and are individually packaged in containers having a total capacity equal to or less than one liter.

Adopting Proposed Amended Rule (PAR) 1143 would incorporate the CARB VOC content limit exemption for artist solvents and thinners provided they are labeled as such and are individually packaged in a container equal to or less than one liter. Artist solvents and thinners would be defined as any liquid product labeled to meet the requirements of ASTM D4236-94 (Reapproved 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards, and refined to remove impurities for artist use to reduce the viscosity of, or remove, art coating compositions or components. Artist solvents and thinners do not include commercial-grade solvents or thinners.

The Initial Study, prepared pursuant to the California Environmental Quality Act (CEQA), identified air quality as the only environmental topic that may have significant adverse impacts from the proposed project. This ~~Draft~~ Final Environmental Assessment (EA) has been prepared to analyze further the potential impacts to air quality.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments to Rule 1143 are considered a “project” as defined by CEQA. CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented if feasible. The purpose of the CEQA process is to inform the SCAQMD's Governing Board, public agencies, and all interested parties of the potential adverse

¹ CARB, 2006 Consumer and Commercial Products Survey, 2009, <http://www.arb.ca.gov/regact/2009/cpmthd310/cpmthdisor.pdf>.

² CARB, Consumer Products Regulation, September 2009, <http://www.arb.ca.gov/consprod/regs/regs.htm>.

environmental impacts that could result from implementing the proposed project and to identify feasible mitigation measures or alternatives, when an impact is significant.

California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents 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 Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110 (the rule which implements the SCAQMD's certified regulatory program). CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified.

The SCAQMD as Lead Agency for the proposed project, prepared a Notice of Preparation/Initial Study (NOP/IS) which identified the environmental topic to be analyzed in a Draft Environmental Assessment (EA). The NOP/IS provided information about the proposed project to other public agencies and interested parties prior to the intended release of the Draft EA. The NOP/IS was distributed to responsible agencies and interested parties for a 30-day review and comment period from August 24, 2010 to September 22, 2010. The initial evaluation in the NOP/IS identified only air quality as having potentially adverse impacts from the proposed project. During that public comment period, the SCAQMD received one comment letter. The letter and the responses to comments can be found in Appendix D of this document. In addition, the NOP/IS, is attached to this ~~Draft~~ Final EA as Appendix C.

This ~~Draft~~ Final EA, prepared pursuant to CEQA, ~~evaluates~~ evaluates air quality as the only area that may be adversely affected by the proposed project. Based on the conclusions in the NOP/IS prepared for the proposed project, no other environmental topic areas were analyzed in this ~~Draft~~ Final EA.

~~Any comments received during the public comment period from September 30, 2010 to November 16, 2010, on the analysis presented in this Draft EA will be responded to and included in the Final EA. The Draft EA was circulated for public review from September 30, 2010 to November 16, 2010, no comments were received.~~ Prior to making a decision on the proposed amendments to PAR 1143, the SCAQMD Governing Board must review and certify the Final EA as providing adequate information on the potential adverse environmental impacts of the proposed amendments to Rule 1143.

PREVIOUS CEQA DOCUMENTATION FOR PAR 1143

This ~~Draft~~ Final EA is a comprehensive environmental document that analyzes potential environmental impacts from the proposed amendments to Rule 1143. SCAQMD rules, as ongoing regulatory programs, have the potential to be revised over time due to a variety of factors (e.g., regulatory decisions by other agencies, new data, and lack of progress in advancing the effectiveness of control technologies to comply with requirements in technology forcing rules, etc.). Several previous environmental analyses have been prepared to analyze past amendments to Rule 1143. The following paragraphs summarize these previously prepared CEQA documents and are included for informational purposes only. The current ~~Draft~~ Final EA focuses on the currently proposed amendments to Rule 1143 and does not rely on these previously prepared CEQA documents. The following documents can be obtained by submitting a Public Records Act request to the SCAQMD's Public Records Unit. In addition, a link for downloading files from the SCAQMD's website is provided for these CEQA documents. The following is a summary of the contents of these documents.

Final Environmental Assessment for Proposed Amended; February 2009 (SCAQMD No. 11112008BAR, State Clearinghouse No. 2008111052): The objective of proposed Rule (PR) 1143 was to implement Control Measure CTS-04 in the 2007 AQMP by reducing VOC emissions from the use of consumer paint thinners and multi-purpose solvents that are typically sold through retail outlets or through any persons acquiring a consumer product for resale of these materials within SCAQMD's jurisdiction. The adoption of PR 1143: 1) effective January 1, 2010, established an interim material VOC limit of 300 grams per liter for all consumer paint thinners and multi-purpose solvents; 2) effective January 1, 2011, established a material VOC limit of 25 grams per liter for all consumer paint thinners and multi-purpose solvents; 3) provided a sell-through period of one year for products manufactured prior to the effective date; 4) required manufacturers to provide a list of distributors and to submit annual quantity emission reports; 5) prohibited the sale of non-compliant products; 6) exempted solvents used to clean-up equipment provided they are labeled and designated for polyaspartic and polyurea coatings, and thinners labeled and designated for the thinning of specific industrial maintenance coatings; and, 7) prohibited consumer paint thinners and multi-purpose solvents that contain an excess of 0.1 percent of Group II exempt compounds as listed in SCAQMD Rule 102 – Definition of Terms, except cyclic, branched, or linear, completely methylated siloxanes. PR 1143 was estimated to reduce VOC emissions by 9.75 tons per day, with 5.94 tons per day by January 1, 2010 and then by an additional 3.81 tons per day for the final limit, effective January 1, 2011. A Draft EA for the proposed adoption of Rule 1143 was released for a 30-day public review and comment period from November 13, 2008, to December 12, 2008. Three comment letters were received from the public on the Draft EA on or before the close of the comment period of the Draft EA. In addition, one comment letter was received from the public relative to both the proposed rule and the Draft EA on December 30, 2008. After circulation of the Draft EA, a Final EA was prepared, which included the comment letters and responses to comments, and was certified by the SCAQMD Governing Board on March 6, 2009. The environmental analysis in the Final EA concluded that PR 1143 would not generate any significant adverse environmental impacts. On April 1, 2010, the Los Angeles Superior Court upheld this Final EA with respect to the interim 300 gram per liter VOC content limit requirement against CEQA challenges raised by W.M. Barr. However, the Court struck down the final VOC content limit of 25 grams per liter because the Final EA did not adequately address flammability impacts. This document can be obtained by visiting the following website at:

<http://www.aqmd.gov/ceqa/documents/2009/aqmd/finalEA/FEA-1143.pdf>

Notice of Exemption From CEQA for Proposed Amended Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents; June 2010: The proposed amendments to Rule 1143 consisted of rescinding the VOC limit of 25 grams per liter for paint thinners and multi-purpose solvents to comply with the judgment issued by the Los Angeles County Superior Court on April 1, 2010. Because the SCAQMD had no discretion with regard to the proposed project, it was considered to be ministerially exempt. Therefore, pursuant to CEQA Guidelines §15268 – Ministerial Projects, the proposed project was determined to be exempt from CEQA and a Notice of Exemption was prepared. This document is available for downloading by visiting the following website at: <http://www.aqmd.gov/ceqa/noe.html>

Final Environmental Supplemental Assessment for Proposed Amended; June 2010 (SCAQMD No. 11112008BAR, State Clearinghouse No. 2008111052):

On July 9, 2010, the SCAQMD Governing Board adopted proposed amendments to Rule 1143 that: 1) re-established the 25 grams per liter VOC limit; 2) added consumer warning requirements for all flammable and extremely flammable products; 3) added requirements for conducting public education and outreach with local fire departments to consumers regarding the

reformulation of potentially more flammable paint thinners; 4) clarified the intent of the exemption for thinners for industrial/maintenance (IM) coatings, zinc-rich IM primers, and high-temperature IM coatings as well as clean-up solvents for polyaspartic and polyurea coatings; and, 5) made other minor clarifications. Of these proposed changes, only the re-establishment of the 25 grams per liter VOC content limit was expected to result in physical changes that would require an additional CEQA analysis relative to fire hazards. To comply with the court order to make the previously prepared CEQA document adequate with respect to the aforementioned fire hazard issue in accordance with CEQA Guidelines §15163(b), SCAQMD prepared the Final Supplemental EA to specifically analyze the effects of the proposed amendments with respect to fire hazards from replacing formulations that contain combustible solvents like mineral spirits with formulations that may contain flammable and extremely flammable solvents, such as acetone. Because the remainder of the Final EA that was prepared at the time of adoption of Rule 1143 was either not challenged or was upheld by the court, no other environmental topics were considered in the Final Supplemental EA. The Final Supplemental EA concluded that the proposed amendments would not generate a significant fire hazard. This document can be obtained by visiting the following website at: <http://www.aqmd.gov/ceqa/documents/2010/aqmd/finalEA/1143FSEA.PDF>. The CEQA document for these proposed amendments is currently under litigation.

Notice of Preparation/Initial Study of Draft Environmental Assessment for the Proposed Amended Rule 1143; August 2010: The proposed project would add a new definition of and exempt artist solvents and thinners from the VOC content limit requirements of Rule 1143. The proposed project would also align the existing Rule 1143 with CARB’s Consumer Products Regulations, which provides an exemption for artist solvents and thinners. The IS identifies only the topic of air quality that may be adversely affected by the proposed project. The IS was released for a 30-day public comment period from August 24, 2010 to September 22, 2010. This document is included as Appendix C of this ~~Draft~~-Final EA.

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 ~~Draft~~-Final 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.

There are no permits or other approvals required to implement the project. Moreover, the project is not subject to any other related environmental review or consultation requirements.

To the extent that local public agencies, such as cities, county planning commissions, et cetera, are responsible for making land use and planning decisions related to projects that must comply with the requirements in the proposed project, 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 project may rely on this EA.

AREAS OF CONTROVERSY

CEQA Guidelines §15123(b)(2) requires a public agency to identify the areas of controversy in the CEQA document, including issues raised by agencies and the public. Over the course of developing the proposed project, the only one comment was received related to environmental concerns from representatives of other agencies, industry and environmental groups, either in public meetings or in written comments, regarding the proposed project. The comment was letter on the NOP/IS that asked SCAQMD staff to consider avoidance, when significant cultural resources are discovered during the course of project planning and implementation. Since PAR 1143 would only exempt artist solvents and thinners from the requirements of Rule 1143, no construction is required, and usage is expected to occur within existing structures in small quantities; no cultural resource impacts are expected. Therefore, the comment does not apply to PAR 1143 and is not considered controversial. The comment letter and response to comments are addressed in Appendix D of this EA.

Pursuant to CEQA Guidelines §15131(a), “Economic or social effects of a project shall not be treated as significant effects on the environment.” CEQA Guidelines §15131(b) states further, “Economic or social effects of a project may be used to determine the significance of physical changes caused by the project.” Physical changes caused by the proposed project have been evaluated in Chapter 4 of this EA. No direct or indirect physical changes resulting from economic or social effects have been identified as a result of implementing the proposed project.

To date, no controversial issues have been raised as a part of developing the proposed project.

EXECUTIVE SUMMARY

CEQA Guidelines §15123 requires a CEQA document to include a brief summary of the proposed actions and their consequences. In addition, areas of controversy including issues raised by the public must also be included in the executive summary (see preceding discussion). This ~~Draft-Final~~ EA consists of the following chapters: Chapter 1 – Executive Summary; Chapter 2 – Project Description; Chapter 3 – Existing Setting, Chapter 4 – Potential Environmental Impacts and Mitigation Measures; Chapter 5 – Project Alternatives; Chapter 6 - Other CEQA Topics and various appendices. The following subsections briefly summarize the contents of each chapter.

Summary of Chapter 1 – Executive Summary

Chapter 1 includes a discussion of the legislative authority that allows the SCAQMD to amend and adopt air pollution control rules, identifies general CEQA requirements and the intended uses of this CEQA document, and summarizes the remaining five chapters that comprise this ~~Draft-Final~~ EA.

Summary of Chapter 2 - Project Description

The proposed project includes adding a new definition to Rule 1143 for artist solvents and thinners as any liquid product labeled to meet ASTM D4236 – 95 (Reapproved 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards; and refined to removed impurities for artistic use to reduce the viscosity of, or remove, art coating compositions or

components. Artist solvents and thinners do not include commercial-grade solvents or thinners. PAR 1143 would also align Rule 1143 with CARB’s Consumer Products Regulations relative to artist solvents and thinners by exempting artist solvents and thinners provided that they are labeled and designated exclusively to reduce the viscosity of, or remove, art coating compositions or component and are individually packaged in containers having a total capacity equal to or less than one liter from the VOC content limit requirements of Rule 1143.

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 the proposed project as identified in the NOP/IS (Appendix C). The following subsection briefly highlights the existing setting for air quality, which is the only environmental topic with potentially significant adverse impacts.

Air Quality

The air quality in the SCAQMD's jurisdiction has shown substantial improvement over the last two decades. Nevertheless, some federal and state air quality standards are still exceeded frequently and by a wide margin. Of the National Ambient Air Quality Standards (NAAQS) established for seven criteria pollutants (ozone, lead, sulfur dioxide, nitrogen dioxide, carbon monoxide, PM10 and PM2.5), the area within the SCAQMD's jurisdiction is only in attainment with carbon monoxide, sulfur dioxide, and nitrogen dioxide standards. Air monitoring for PM10 indicates that SCAQMD has attained the NAAQS but USEPA has not yet approved the SCAQMD’s request for re-designation. The Los Angeles County portion of the SCAQMD's jurisdiction is proposed to be designated as non-attainment for the new federal standard for lead, based on emissions from two specific facilities. 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 exposure to each criteria pollutant. In addition, this section includes a discussion on greenhouse gases (GHGs), climate change and toxic air contaminants.

Summary of Chapter 4 - Environmental Impacts

CEQA Guidelines §15126(a) requires that a CEQA document shall 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.

The Initial Study identified and described the environmental topic where the proposed project could cause significant adverse environmental impacts (i.e., air quality). Analysis of air quality revealed that potentially significant adverse impacts may result from VOC emission reductions foregone from exempting artist solvents and thinners. The following summarizes the analysis of potential adverse environmental impacts from the implementation of the proposed project:

Air Quality

PAR 1143 would result in 113.7 pounds of VOC emissions foregone per day, which exceeds the SCAQMD operational VOC significant threshold of 55 pounds per day. Since the operational VOC emissions would exceed the significance threshold; VOCs are an ozone precursor, and the district is not in attainment for ozone; PAR 1143 may contribute to an existing or projected air quality violation. Since the proposed project would result in VOC emissions reductions foregone from the existing Rule 1143 that exceed the operational VOC significant threshold of 55 pounds per day, it may diminish an existing air quality rule or future compliance requirement resulting in a significant increase in an air pollutant. No mitigation measures were identified by SCAQMD staff to reduce VOC emissions.

Even though the proposed project would cause significant adverse increase in VOC emissions foregone during operations, the net increase in operational VOC emissions foregone combined with the total permanent emission reductions achieved by Rule 1143 would not interfere with the air quality progress and attainment demonstration projected in the AQMP. Therefore, cumulative air quality impacts from the proposed project, 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.

Artist solvents and thinners may contain toxic air contaminants (TACs). SCAQMD staff identified the following conventional solvent TACs: isopropyl alcohol, xylene, ethyl benzene, toluene, methyl ethyl ketone, and hexane in artist solvents and thinners. None of these TACs have carcinogenic health risk values, so the carcinogenic health risk was not quantified. The chronic and acute non-carcinogenic health risk was estimated from these TACs using the SCAQMD Rules 1401/212 Tier 2 Health Risk Assessment Procedure (<http://www.aqmd.gov/prdas/Risk%20Assessment/RiskAssessment.html>). The chronic and acute non-carcinogenic hazard index is less than the SCAQMD significance threshold of 1.0 presented in Table 4-1; therefore, PAR 1143 is not considered significant for chronic non-carcinogenic health risk.

Greenhouse gas (GHG) emissions and odors were evaluated in the NOP and were found not to be significant; therefore, they were not further evaluated in this ~~Draft~~ Final EA.

Potential Environmental Impacts Found Not To Be Significant

The Initial Study for the proposed project includes an environmental checklist of approximately 17 environmental topics to be evaluated for potential adverse impacts from a proposed project. Review of the proposed project at the NOP/IS stage identified air quality as the only environmental topic for further review in the ~~Draft~~ Final EA. Where the Initial Study concluded that the project would have no significant direct or indirect adverse effects on the remaining environmental topics, of the comments received on the NOP/IS or at the public meetings, none of the comments changed this conclusion. The screening analysis concluded that the following environmental areas would not be significantly adversely affected by the proposed project:

- aesthetics
- agriculture and forestry resources
- biological resources
- cultural resources
- energy
- geology/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

The NOP/IS for the proposed project was circulated for a 30-day review and comment period from August 24, 2010 to September 22, 2010.

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 Air Resources Board (CARB), 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 proposed project is considered to be consistent with SCAG’s RCPG because it does not interfere with achieving any of the goals identified in any of the RCPG policies.

Other CEQA Topics

CEQA documents are required to address the potential for irreversible environmental changes, growth-inducing impacts and inconsistencies with regional plans. Consistent with the Final Program Environmental Impact Report (EIR) prepared for the 2007 AQMP, 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 Chapter 5 - Alternatives

Two alternatives to the proposed project are summarized in Table 1-1: Alternative A (No Project) and Alternative B (VOC Limit). Pursuant to the requirements in CEQA Guidelines §15126.6 (b) to mitigate or avoid the significant effects that a project may have on the environment, a comparison of the potentially significant adverse air quality impacts from each of the project alternatives for the individual rule components that comprise the proposed project is provided in Table 1-2. No other potentially significant adverse impacts were identified for the proposed project or any of the project alternatives. The proposed project is considered to provide the best balance between emission reductions and the adverse environmental impacts due to construction and operation activities while meeting the objectives of the project. Therefore, the proposed project is preferred over the project alternatives.

**Table 1-1
Proposed Project and Alternatives**

Proposed Project	Alternative A: No Project	Alternative B: VOC Content Limit
<p>The proposed project would exempt any artist solvent or thinner labeled and designed exclusively to reduce the viscosity of, remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than one liter. Artist solvents and thinners would be defined as any liquid labeled to meet ASTM D4236-94 (Reapproved 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards, and refined to remove impurities for artistic use to reduce the viscosity of, or remove, art coating compositions or components. This proposal would align the existing Rule 1143 with CARB’s artist solvent and thinner exemption in their Consumer Products Regulation.</p>	<p>The proposed project is not adopted and existing Rule 1143 would remain in effect, which requires any artist solvents and thinners manufactured after the compliance dates would need to meet the 300 gram per liter VOC content limit on or after January 1, 2010 and the 25 gram per liter VOC content limit on or after January 1, 2011. Existing Rule 1143 allows the artist solvents and thinners manufactured prior to the implementation dates to meet the 300 gram per liter VOC content limit by January 1, 2011 and the 25 gram per liter VOC content limit by January 1, 2012. The one-year sell through provision is provided for both the interim and final VOC content limits.</p>	<p>Establish a VOC content limit of 880 grams per liter by January 1, 2013 for artist solvents and thinners.</p>

Table 1-2
Comparison of Adverse Environmental Impacts of the Proposed Project and Alternatives

Category	Proposed Project	Alternative A: No Project	Alternative B: VOC Content Limit
Air Quality	A minimum of 113.7 pounds of VOC emission reductions foregone per day.	Decrease in VOC emissions January 1, 2011 and January 1, 2012 when sell through provisions expire.	Qualitative reduction in VOC emissions foregone per day, since highest VOC content for artist solvents and thinners would be prohibited. However, since VOC emission reductions foregone are estimated based on a high VOC content limit, a maximum of 113.7 pounds of VOC emission reductions foregone per day are still expected.
Air Quality Impacts Significant?	<ul style="list-style-type: none"> • No construction impacts. • Significant, a minimum of 113.7 pounds of VOC emissions foregone per day exceeds the SCAQMD operational significance threshold of 55 pounds of VOC per day. 	<ul style="list-style-type: none"> • Existing setting. • Achieves 2007 AQMP and Rule 1143 VOC emission reductions. 	<ul style="list-style-type: none"> • No construction impacts. • Significant, a maximum of 113.7 pounds of VOC emissions foregone per day exceeds the SCAQMD operational significance threshold of 55 pounds of VOC per day.

CHAPTER 2

PROJECT DESCRIPTION

Project Location

Project Background

Project Objective

Project Description

Technology for Artist Solvents and Thinners

PROJECT LOCATION

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 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).

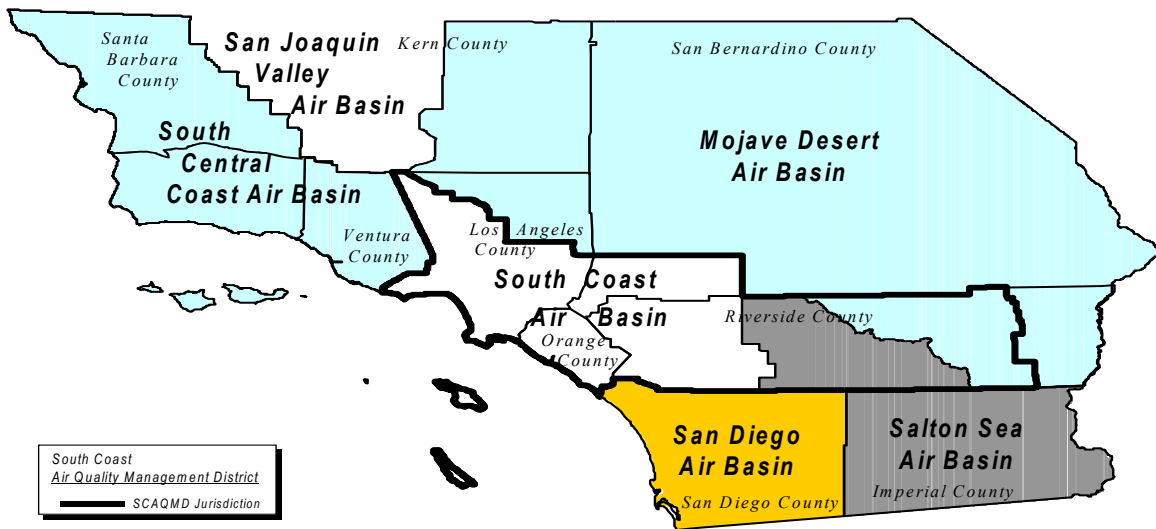


Figure 2-1
Boundaries of the South Coast Air Quality Management District

PROJECT BACKGROUND

Rule 1143– Consumer Paint Thinners and Multi-Purpose Solvents

Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents, adopted by the SCAQMD Governing Board on March 6, 2009, implements AQMP Control Measure 2007CTS-04 by reducing the VOC contents of these consumer products sold by suppliers, distributors, and retailers to consumers. As part of the rule adoption, the SCAQMD Governing Board also certified the environmental analysis prepared pursuant to the California Environmental Quality Act (CEQA), Final EA for Proposed Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents, February 2009, SCAQMD No. 11112008BAR, State Clearinghouse No. 2008111052.

On April 1, 2009, W.M. Barr initiated a lawsuit challenging the SCAQMD’s environmental analysis in the CEQA document prepared supporting its original March 6, 2009 adoption of Rule

1143. The case, *W.M. Barr v. South Coast Air Quality Management District*, Los Angeles Superior Court Case No. BS 119869, was heard by the court on December 7, 2009. The court upheld the SCAQMD’s Final Environmental Assessment (EA) against all challenges except one. The court found that the SCAQMD’s Final EA failed to address the issue of “whether acetone-based thinner is a significantly higher fire risk than mineral-based paint thinner.”

In constructing the appropriate remedy, the court ultimately allowed the SCAQMD to maintain Rule 1143’s interim VOC limit of 300 grams per liter but ordered the SCAQMD to vacate the final VOC limit of 25 grams per liter for consumer paint thinners and multi-purpose solvents. The court expressly found that the SCAQMD “presents uncontradicted evidence that no one, including Barr, was concerned about the fire hazard associated with the 300 grams per liter [interim limit].” The court also reiterated its earlier ruling that “the Environmental Assessment was adequate except with respect to the fire hazard issue.”

On June 4, 2010, the SCAQMD Governing Board approved amendments to Rule 1143 that rescinded the 25 grams per liter VOC limit. Because the SCAQMD had no discretion with regard to the rescission of this portion of Rule 1143, the action was considered to be ministerially exempt from CEQA pursuant to CEQA Guidelines §15268 – Ministerial Projects. Thus, a Notice of Exemption was prepared pursuant to CEQA Guidelines §15062 - Notice of Exemption. The Notice of Exemption was filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

On July 9, 2010, the SCAQMD Governing Board adopted proposed amendments to Rule 1143, which: 1) devise definitions; re-establish a VOC limit of 25 grams per liter for consumer paint thinners and multi-purpose solvents; 2) add consumer warning requirement for all flammable and extremely flammable products, as well as modify labeling for exempt thinners and solvents; 3) conduct outreach with local fire departments to consumers regarding potentially more flammable paint thinners; 4) and make clarifications to enhance enforceability. Of these proposed changes, only the re-establishment of the 25 grams per liter VOC limit resulted in physical changes that required an additional CEQA analysis relative to fire hazards in the Final Supplemental EA for Proposed Amended Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents, June 2010, SCAQMD No. 11112008BAR, State Clearinghouse No: 2008111052. The CEQA document for the July 9, 2010 amendments is currently under litigation.

CARB Artist Solvent and Thinner Category

CARB staff surveyed artist solvents and thinners during their 2006 Consumer and Commercial Products Survey. CARB staff found that VOC emissions from the artist solvents and thinners subcategory were small compared to the overall VOC emissions from the consumer products category. CARB staff also found that artist solvents and thinners are required to meet the Labeling of Hazardous Art Materials Act (LHAMA) within the Federal Hazardous Substances Act, which requires that any art material, including solvents, must meet the requirements in ASTM D-4236-94 (Reapproved 2005), the standard Practice for Labeling Art Materials for Chronic Health Hazards, to protect consumers of any age from potential health hazards from these products. CARB staff was unable to identify technology that would allow artist solvents and thinners to be reformulated to meet lower VOC content limits and meet performance requirements. As a result, CARB staff exempted artist solvents and thinners, which they call artist solvents/thinners, from the requirements of their Consumer Products Regulations, provided that they are labeled to meet ASTM D4236-94 and packaged in containers having a total capacity equal to or less than one liter.

Artist Solvent and Thinner Products in District

There are approximately 19 paint thinner and solvent manufacturers that manufacture products exclusively for the artist industry in the district. No manufacturing of artist solvents or thinners in the district was identified (i.e., all artist solvents or thinners are imported into the district). Artist solvents and thinners are typically sold through hobby shops, craft and air material store outlets, and through internet sites. SCAQMD staff worked with CARB staff to evaluate the impact the artist solvents and thinners would have on the CARB Consumer Products Regulations. CARB has provided an exemption for artist solvents and thinners sold in capacities of one liter or less.³ SCAQMD staff also consulted with two artist trade organizations: the Artist Creative Materials Institute (ACMI) and the National Art Materials and Trade Association (NAMTA), both requested an exemption for artist solvents and thinners.

SCAQMD staff had a meeting with artist trade industry representatives to hear their concerns with Rule 1143 and their request for an exemption for artist solvents and thinners. The trade industry representatives stated that:

- 1) Artist solvents and thinners are specifically formulated, refined, and purified to eliminate impurities for artist applications.
- 2) Artist solvents are used to restore antique oil paintings found in museums. The paintings are protected by a coating of varnish, which ages as varnish ages, and must be removed before a new coat of varnish can be applied. Specialty artist solvents that remove the varnish but do not attack the original painting oils are used.
- 3) Turpentine, tinted with paint, is used to make special layering effects on oil paintings.
- 4) Turpentine is also used for dissolving Damar varnish, which is an essential solvent for artists. The Damar resin only dissolves in gum turpentine.
- 5) Artists use handmade brushes that can cost \$50 to \$150 per brush. Brushes are cleaned with turpentine and then oil (typically vegetable oil) is used to preserve brushes while they are not in use. Brushes are cleaned with turpentine to remove oil from the brush hairs before they are used again. The artist industry contends that an artist oil painting brush cannot be cleaned using soap and water because the soap will dry out the hairs and may affect paint chemistry. Mechanical methods of brush cleaning are also unacceptable because they cause the hairs to break.

PROJECT OBJECTIVE

The objects of the proposed project include the following:

- Add a new definition to Rule 1143 for artist solvents and thinners as any liquid product labeled to meet ASTM D4236 – 95 (Reapproved 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards, and refined to remove impurities for artistic use to reduce the viscosity of, or remove, art coating compositions or components;
- Align Rule 1143 with CARB’s Consumer Products Regulations relative to artist solvents and thinners; and
- Exempt artist solvents and thinners from the VOC content limit requirements of Rule 1143 provided they are labeled and designated exclusively to reduce the viscosity of, or remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than one liter.

³ During the September 15, 2010 Public Workshop for PAR 1143, CARB staff, SCAQMD staff and members of the public discussed changing the 32 fluid ounce limit in the exemption to one liter because European containers are one liter in size. CARB staff agreed that the exemption should be increased to one liter.

- Clarify that the existing exemption for solvents labeled and designated exclusively for clean-up of polyaspartic and poly urea coatings applies to VOC content limit requirements only.
- Clarify that the existing exemption for thinners labeled and designated exclusively for the thinning of Industrial Maintenance (IM) coatings, Zinc-Rich IM Primers and High Temperature IM Coatings applies to VOC content limit requirements only.

PROJECT DESCRIPTION

PAR 1143 would provide an exemption from the VOC content limits for artist solvents and thinners labeled and designated exclusively to reduce the viscosity of, or remove, art coating compositions or components that are individually packaged in containers having a total capacity equal to or less than one liter. The following summarizes these requirements. A copy of PAR 1143 is included in Appendix A.

Purpose (Subdivision (a))

No change.

Applicability (Subdivision (b))

No change.

Definitions (Subdivision (c))

Artist solvents and thinners would be defined as any liquid product labeled to meet ASTM D4236-94 (Reapproved 2005); and have been refined to remove impurities for artistic use to reduce the viscosity of, or remove, art coating compositions or components. Artistic solvents and thinners do not include commercial-grade solvents and thinners.

Requirements (Subdivision (d))

The current requirement that states, “Any consumer paint thinner or multi-purpose solvent that is manufactured prior to the implementation date, may be sold, supplied, offered for sale, or used for up to one year after the specified effective date” has been changed to “Any consumer paint thinner or multi-purpose solvent that is manufactured prior to the effective date of the applicable limit specified in paragraph (d)(1), 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 used for up to one year after the specified effective date.”

Administrative Requirements (Subdivision (e))

No change.

Recordkeeping (Subdivision (f))

The current requirement that states “Effective April 1, 2010, each manufacturer shall, on or before April 1 of each subsequent calendar year, submit an annual quantity and emissions report to the Executive Officer” has been changed to “On or before April 1, 2010, and each subsequent April 1 (the official due date), each manufacturer subject to this rule shall submit an annual quantity and emissions report to the Executive Officer.”

Compliance Dates (Subdivision (g))

No change.

Information Exempt from Disclosure (Subdivision (h))

No change.

Test Methods (Subdivision (i))

No change.

Exemptions (Subdivision (j))

- The following existing exemption has been modified to clarify its applicability is only from the VOC content limits of Rule 1143, “Solvents provided that they are labeled and designated exclusively for the clean-up of polyaspartic and polyurea coatings application equipment. This exemption does not apply if there are any additional use claims on the label or any other product literature. This exemption does not apply to any person selling or using the otherwise exempt solvent for a non-exempt purpose.”
- The following existing exemption has been modified to clarify its applicability is only from the VOC content limits of Rule 1143, “Thinners provided that they are labeled and designated exclusively for the thinning of Industrial Maintenance (IM) coatings, Zinc-Rich IM Primers, and High Temperature IM Coatings. This exemption does not apply if there are any additional use claims on the label or any other product literature. This exemption does not apply to any person selling or using the otherwise exempt thinner for a non-exempt purpose.”
- PAR 1143 would exempt artist solvents and thinners from the VOC content limit requirements of Rule 1143 provided they are labeled and designated exclusively to reduce the viscosity of, or remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than one liter.

TECHNOLOGY FOR ARTIST SOLVENTS AND THINNERS

Low- or No-VOC Reformulation

Artist solvents and thinners are manufactured for a variety of art-related uses and are specially formulated to remove the impurities normally found in commercial-grade paint thinners and multi-purpose solvents. Specially formulated artist solvents and thinners are needed, because the commercially available solvents and thinners may cause damage to artwork and art equipment being cleaned.

Originally, SCAQMD staff believed that artist products could be reformulated using low and zero-VOC formulations. These formulations include: 1) Aqueous technology which includes formulations made from water, detergents, chelating agents, alkaline builders and various blends of surfactants and is typically used for multi-purpose cleaning agents, 2) Exempt solvents including acetone, PCBTF, and methyl acetate, as well as blends of the three, and, 3) Bio-based technology including methyl esters is currently available for a variety of uses, including lowering the volatility of exempt solvents. Non- and low-VOC solvents and thinners have not met the performance requirements needed by artists, such as no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes. Therefore, the proposed exemption would allow artists to continue using existing products described below:

Turpentine

Turpentine is the traditional solvent that is manufactured from tree resins and has been used for oil-on-canvas painting for many years. Turpentine has a fast evaporation rate, but releases harmful vapors thus posing a health risk to the artist. Artist quality turpentines are manufactured with additional processing to remove impurities that are typically present in hardware store general consumer use turpentines that can create deposits in paint. This is important for

restoration and conservation of antique oil paintings. Turpentine is also known as spirit of turpentine, oil of turpentine, genuine turpentine, english turpentine, distilled turpentine, double rectified turpentine, and simply “turps.”

Mineral Spirits

Mineral spirits is a commonly used solvent that is manufactured from petroleum products and has a moderate evaporation rate that releases harmful vapors thus posing a health risk to the artist. Mineral spirits are generally less expensive than turpentine and are a stronger solvent than odorless mineral spirits. Mineral spirits are also known as white spirits.

Odorless Mineral Spirits

Odorless mineral spirits is also a commonly used solvent that is manufactured from petroleum products and has a moderate evaporation rate that releases harmful vapors thus posing a health risk to the artist. Odorless mineral spirits are marginally more expensive than mineral spirits but have been manufactured with less of the harmful aromatic solvents found in mineral spirits.

Citrus Based Thinners

Citrus based thinners are manufactured from food-grade citrus oils combined with nontoxic, nonflammable solvents.

Artist Mediums

Artist mediums are used to modify artist oil paint straight from the tube. The mediums can be used to lengthen the drying time of the paint, make the paint thinner or alter the character of the paint from what comes out of the tube. Mediums can also be used to make the paint transparent or opaque and can also be used to alter gloss or matte sheen of the paint. Mediums are used for oil-on-canvas paintings to influence the color of a pigment.

Artist Brush Cleaners

Artist brush cleaners are used to clean artist paint brushes that were used to apply the oil-based paint. Artist paint brush bristles are made from animal hair such as hog’s bristles, mongoose hair, red sable (weasel hair) and Siberian mink. The hair possesses several important properties for the artist such as maintaining a superfine point, smooth handling, and good memory (where the bristles return to their original point between brush strokes). There are also synthetic brushes available which can offer durability and cost effectiveness. Cleaning a brush by mechanical means causes the hairs to break changing brush performance. Soap and water will also dry out the hairs of brushes used for oil-based paints. For brush storage, artists will clean the brush in turpentine and then use oil to preserve the brush while it’s not in use.

VOC Emission Control Systems

VOC emission control systems consist of two parts: capture of VOC emissions and control of the VOC emissions. Devices such as fume hoods or paint spray booths capture VOC emissions, which are then vented to devices that either destroy or adsorb the VOC emissions.

Capture of VOC Emissions

The thinners and mediums are used frequently when working at close proximity to a piece of art (such as at the artist’s easel) and would not benefit from a control device such as a bench top paint spray booth or a fume hood. Clean-up solvents, on the other hand, can be used with a control device such as the paint spray booth or fume hood since the use of clean-up solvents

often involves cleaning paint brushes and related paint application tools that would be easily moved to the control device for clean-up operations.

Fume hoods are typically enclosures around five sides of a work area, the bottom of which is most commonly located at waist height. Fume hoods are designed to remove vapors from the breathing space of users. Fume hoods are available ducted or ductless (recirculating). Fume hoods are suited for artist clean-up operations such as the clean-up of paint brushes and other related paint application tools that can be cleaned under the hood due to its design to control fumes.

Bench top paint spray booths are intended to be set up on a table, desk or bench. Paint booths are designed to capture overspray and particulate from paint operations using spray equipment such as an air brush or paint aerosol cans (i.e., emissions propelled toward a direction).

Since artist solvents and thinners are not typically sprayed, but instead result in emissions from evaporation, fume hoods are a better technology for artist solvents and thinners.

Control of VOC Emissions

VOC emissions can either be destroyed by combustion or adsorbed to activated carbon. VOC emissions are typically destroyed by boilers, internal combustion engines or thermal oxidizers. If the vapor concentration fluctuates substantially from the process controlled, an auxiliary fuel, such as natural gas, is required to ensure that enough fuel is available to maintain combustion at all times. Since the emissions from artist solvents and thinners are expected to be used in small quantities (i.e., only containers equal to or less than one liter would be exempt from the VOC content limits of Rule 1143) and only the cleaning operations would be captured by fume hoods; the combustion devices would be almost completely fueled by the auxiliary fuel. It is likely that the emissions from operating the combustion devices would exceed the emissions from the artist solvents and thinners. Therefore, combustion technology is not practical to control VOC emissions from artist solvents and thinners.

Carbon adsorption could be used to control VOC emissions from artist solvents and thinners captured by fume hoods. Activated carbon filters could be used to adsorb VOC emission vented from the fume hood. Since activated carbon can adsorb VOC emissions in small concentrations, it is a more applicable technology than combustion for controlling VOC emissions from artist solvents and thinners vented from a fume hood.

While VOC emission control systems are technically feasible for operations that can be performed within them, they were deemed not to be cost effective in the air quality section of Chapter 4 of this EA.

CHAPTER 3

EXISTING SETTING

Introduction

Existing Setting

Air Quality

INTRODUCTION

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 NOP/IS is published. The CEQA Guidelines define "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 NOP/IS 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).

The following sections summarize the existing setting for aesthetics, air quality, energy, hazards and hazardous materials, hydrology and water quality, and transportation and traffic which are the only environmental areas identified in the NOP/IS that may be adversely affected by the proposed project. The Final Program EIR for the 2007 AQMP contains more comprehensive information on existing and projected environmental settings for all environmental areas discussed in this chapter. Copies of the referenced documents are available from the SCAQMD's Public Information Center by calling (909) 396-2039.

EXISTING SETTING

There are approximately 19 paint thinner and solvent manufacturers that manufacture products exclusively for the artist industry in the District. Artist solvents and thinners are typically sold through hobby shops, craft and air material store outlets, and through internet sites. SCAQMD staff worked with CARB staff to evaluate the impact that artist solvents and thinners would have on the CARB Consumer Products Regulations. CARB has provided an exemption for artist solvents and thinners sold in capacities equal to or less than one liter. SCAQMD staff has also consulted with two artist trade associations: ACMI and NAMTA, both have requested an exemption for artist solvents and thinners.

AIR QUALITY

This section provides an overview of air quality in the District. A more detailed discussion of current and projected future air quality in the District, with and without additional control measures can be found in the Final Program EIR for the 2007 AQMP (Chapter 3).

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), particulate matter less than 2.5 microns (PM_{2.5}) 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 sulfates, visibility reducing particles, 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 3-1. The SCAQMD monitors levels of various criteria pollutants at 34 monitoring stations. The 2008 air quality data from SCAQMD's monitoring stations are presented in Table 3-2.

**Table 3-1
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 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 (O3)	0.09 ppm, 1-hour average > 0.07 ppm, 8-hour average >	0.12 ppm, 1-hour average > 0.075 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 (NO2)	0.18 ppm, 1-hour average > 0.030 ppm, annual 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 (SO2)	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.
Suspended Particulate Matter (PM10)	20 µg/m ³ , AAM > 50 µg/m ³ , 24-hour average >	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 > 35 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 >=	0.15 µg/m ³ , rolling three-month average >	(a) Increased body burden; and, (b) Impairment of blood formation and nerve conduction.

KEY:

ppm = parts per million parts of air, by volume	AAM = Annual Arithmetic Mean
µg/m ³ = micrograms per cubic meter	

Table 3-1 (concluded)
State and Federal Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
	CONCENTRATION, AVERAGING TIME		
Sulfates (SO _x)	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	Insufficient 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.
Vinyl Chloride	0.010 ppm, 24-hour average >=		Known carcinogen.
Hydrogen Sulfide	0.03 ppm, 1-hour average >=		Odor annoyance.

KEY:

ppm = parts per million parts of air, by volume	AAM = Annual Arithmetic Mean
µg/m ³ = micrograms per cubic meter	

Table 3-2
2008 Air Quality Data – South Coast Air Quality Management District

CARBON MONOXIDE (CO)						
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. ppm, 1-hour	Max. Conc. ppm, 8-hour	No. Days Standard Exceeded ^a	
					Federal > 9.0 ppm, 8-hour	State > 9.0 ppm, 8-hour
LOS ANGELES COUNTY (Co)						
1	Central Los Angeles	366	3	2.1	0	0
2	Northwest Coast Los Angeles Co	366	3	2.0	0	0
3	Southwest Coast Los Angeles Co	358	4	2.5	0	0
4	South Coastal Los Angeles Co1	366	3	2.6	0	0
4	South Coastal Los Angeles Co2	--	--	--	--	--
6	West San Fernando Valley	366	4	2.9	0	0
7	East San Fernando Valley	366	3	2.6	0	0
8	West San Gabriel Valley	366	3	2.1	0	0
9	East San Gabriel Valley 1	366	2	1.6	0	0
9	East San Gabriel Valley 2	366	3	3.0	0	0
10	Pomona/Walnut Valley	366	3	2.0	0	0
11	South San Gabriel Valley	357	3	2.1	0	0
12	South Central LA County	310*	6*	4.3*	0	0
13	Santa Clarita Valley	363	2	1.1	0	0
ORANGE COUNTY						
16	North Orange County	366	5	2.9	0	0
17	Central Orange County	366	4	3.6	0	0
18	North Coastal Orange County	366	3	2.0	0	0
19	Saddleback Valley	365	2	1.1	0	0
RIVERSIDE COUNTY						
22	Norco/Corona	--	--	--	--	--
23	Metropolitan Riverside County 1	366	3	2.0	0	0
23	Metropolitan Riverside County 2	366	7	2.0	0	0
23	Mira Loma	366	3	1.9	0	0
24	Perris Valley	--	--	--	--	--
25	Lake Elsinore	365	1	1.0	0	0
29	Banning Airport	--	--	--	--	--
30	Coachella Valley 1**	366	1	0.6	0	0
30	Coachella Valley 2**	--	--	--	--	--
SAN BERNARDINO COUNTY						
32	NW San Bernardino Valley	365	2	1.6	0	0
33	SW San Bernardino Valley	--	--	--	--	--
34	Central San Bernardino Valley 1	363	2	1.9	0	0
34	Central San Bernardino Valley 2	366	2	1.8	0	0
35	East San Bernardino Valley	--	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM		366	7	4.3	0	0
SOUTH COAST AIR BASIN			7	4.3	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 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded, either.

Table 3-2 (continued)
2008 Air Quality Data – South Coast Air Quality Management District

OZONE (O ₃)											
Source/Receptor Area		No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	No. Days Standard Exceeded					
						Health Advisory ≥ 0.15 ppm 1-hour	Federal ^{b)}		State ^{c)}		
							> 0.12 ppm 1-hour	> 0.08 ppm 8-hour	> 0.075 ppm 8-hour	> 0.09 ppm 1-hour	> 0.070 ppm 8-hour
No.	Location										
LOS ANGELES COUNTY											
1	Central LA	356	0.109	0.090	0.073	0	0	1	3	3	7
2	Northwest Coastal LA County	366	0.11	0.097	0.073	0	0	1	2	3	8
3	Southwest Coastal LA County	360	0.086	0.075	0.065	0	0	0	0	0	1
4	South Coastal LA County 1	366	0.093	0.074	0.064	0	0	0	0	0	1
4	South Coastal LA County 2	--	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	366	0.123	0.103	0.095	0	0	14	25	23	40
7	East San Fernando Valley	366	0.133	0.109	0.092	0	1	8	17	20	35
8	West San Gabriel Valley	366	0.122	0.100	0.091	0	0	6	16	16	26
9	East San Gabriel Valley 1	366	0.135	0.111	0.101	0	7	14	28	34	39
9	East San Gabriel Valley 2	366	0.156	0.118	0.112	2	12	25	45	48	61
10	Pomona/Walnut Valley	366	0.141	0.110	0.100	0	5	19	35	32	47
11	South San Gabriel Valley	366	0.107	0.093	0.077	0	0	1	5	7	13
12	South Central LA County	310*	0.078*	0.060*	0.055*	0*	0*	0*	0*	0*	0*
13	Santa Clarita Valley	363	0.160	0.131	0.108	2	8	35	60	54	81
ORANGE COUNTY											
16	North Orange County	366	0.104	0.084	0.078	0	0	0	5	7	15
17	Central Orange County	366	0.105	0.086	0.076	0	0	1	4	2	10
18	North Coastal Orange County	366	0.094	0.079	0.075	0	0	0	3	0	6
19	Saddleback Valley	365	0.118	0.104	0.092	0	0	6	15	9	25
RIVERSIDE COUNTY											
22	Norco/Corona	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	366	0.146	0.116	0.111	0	8	38	64	54	88
23	Metropolitan Riverside County 2	--	--	--	--	--	--	--	--	--	--
23	Mira Loma	366	0.135	0.107	0.104	0	4	23	47	38	62
24	Perris Valley	366	0.142	0.114	0.106	0	4	41	77	65	94
25	Lake Elsinore	365	0.139	0.118	0.108	0	6	32	69	49	92
29	Banning Airport	365	0.149	0.120	0.108	0	10	45	74	57	95
30	Coachella Valley 1**	366	0.11	0.101	0.098	0	0	20	51	26	70
30	Coachella Valley 2**	355	0.12	0.092	0.090	0	0	11	27	11	44
SAN BERNARDINO COUNTY											
32	Northwest San Bernardino Valley	365	0.155	0.122	0.111	2	9	30	50	51	65
33	Southwest San Bernardino Valley	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	364	0.162	0.124	0.111	1	8	35	58	55	82
34	Central San Bernardino Valley 2	366	0.157	0.122	0.113	2	11	43	62	62	90
35	East San Bernardino Valley	366	0.154	0.120	0.112	1	12	50	75	72	100
37	Central San Bernardino Mountains	362	0.176	0.126	0.120	2	16	67	97	78	115
38	East San Bernardino Mountains	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM		366	0.176	0.131	0.120	2	17	75	97	79	115
SOUTH COAST AIR BASIN			0.176	0.131	0.120	7	28	80	120	102	140

KEY:

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

b) The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard effective June 15, 2005. USEPA has revised the federal 8-hour ozone standard from 0.084 ppm to 0.075 ppm, effective May 27, 2008.

c) The 8-hour average California ozone standard of 0.070 ppm was established effective May 17, 2006.

Table 3-2 (continued)
2008 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. ^{d)} ppm, 1-hour	Annual Average ^{d)} AAM Conc. ppm
LOS ANGELES COUNTY (Co)				
1	Central Los Angeles	343	0.12	0.0275
2	Northwest Coastal Los Angeles Co	364	0.09	0.0184
3	Southwest Coastal Los Angeles Co	359	0.10	0.0143
4	South Coastal Los Angeles Co1	366	0.13	0.0208
4	South Coastal Los Angeles Co2	--	--	--
6	West San Fernando Valley	366	0.09	0.0180
7	East San Fernando Valley	364	0.11	0.0285
8	West San Gabriel Valley	365	0.11	0.0235
9	East San Gabriel Valley 1	366	0.10	0.0230
9	East San Gabriel Valley 2	366	0.10	0.0182
10	Pomona/Walnut Valley	366	0.11	0.0302
11	South San Gabriel Valley	341	0.10	0.0263
12	South Central LA County	305*	0.12*	0.0301*
13	Santa Clarita Valley	363	0.07	0.0165
ORANGE COUNTY				
16	North Orange County	361	0.09	0.0206
17	Central Orange County	366	0.09	0.0203
18	North Coastal Orange County	365	0.08	0.0132
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	366	0.09	0.0192
23	Metropolitan Riverside County 2	70*	0.09*	0.0258*
23	Mira Loma	366	0.10	0.0174
24	Perris Valley	--	--	--
25	Lake Elsinore	362	0.06	0.0129
29	Banning Airport	366	0.08	0.0128
30	Coachella Valley 1**	366	0.05	0.0093
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest SB Valley	365	0.09	0.0235
33	Southwest SB Valley	--	--	--
34	Central SB Valley 1	364	0.10	0.0207
34	Central SB Valley 2	366	0.09	0.0217
35	East SB Valley	--	--	--
37	Central SB Mountains	--	--	--
38	East SB Mountains	--	--	--
DISTRICT MAXIMUM			0.13	0.0302
SOUTH COAST AIR BASIN			0.13	0.0302

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 federal standard is annual arithmetic mean NO₂ > 0.534 ppm. CARB has revised the NO₂ 1-hour standard from 0.25 ppm to 0.18 ppm and has established a new annual standard of 0.030 ppm, effective March 20, 2008.

Table 3-2 (continued)
2008 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 Conc. ^{e)} ppm, 1-hour	Maximum Conc. ^{e)} ppm, 24-hour	Annual Average, AAM ppm
LOS ANGELES COUNTY					
1	Central Los Angeles	366	0.01	0.002	0.0003
2	Northwest Coast Los Angeles County	--	--	--	--
3	Southwest Coast Los Angeles County	357	0.02	0.005	0.0014
4	South Coastal Los Angeles County 1	366	0.09	0.012	0.0022
4	South Coastal Los Angeles County 2	--	--	--	--
6	West San Fernando Valley	--	--	--	--
7	East San Fernando Valley	366	0.01	0.003	0.0008
8	West San Gabriel 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 LA County	--	--	--	--
13	Santa Clarita Valley	--	--	--	--
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	--	--	--	--
18	North Coastal Orange County	366	0.01	0.003	0.0011
19	Saddleback Valley	--	--	--	--
RIVERSIDE COUNTY					
22	Norco/Corona	--	--	--	--
23	Metropolitan Riverside County 1	366	0.01	0.003	0.0009
23	Metropolitan Riverside County 2	--	--	--	--
23	Mira Loma	--	--	--	--
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	364	0.01	0.003	0.0018
34	Central San Bernardino Valley 2	--	--	--	--
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM			0.09	0.012	0.0022
SOUTH COAST AIR BASIN			0.09	0.012	0.0022

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	

- e) The state standards are 1-hour average SO₂ > 0.25 ppm and 24-hour average SO₂ > 0.04 ppm. The federal standards are annual arithmetic mean SO₂ > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. The federal and state SO₂ standards were not exceeded.

Table 3-2 (continued)
2008 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM10 ^{f)}						
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. $\mu\text{g}/\text{m}^3$, 24-hour	No. (%) Samples Exceeding Standard		Annual Average ^{g)} AAM Conc. $\mu\text{g}/\text{m}^3$
				Federal > 150 $\mu\text{g}/\text{m}^3$, 24-hour	State > 50 $\mu\text{g}/\text{m}^3$, 24-hour	
LOS ANGELES COUNTY						
1	Central Los Angeles	42*	66*	0*	3(7%)*	32.2*
2	NW Coastal Los Angeles County	--	--	--	--	--
3	SW Coast Los Angeles County2	60	50	0	0(0%)	25.6
4	South Coastal Los Angeles County1	57	62	0	1(2%)	29.1
4	South Coastal Los Angeles County2	58	81	0	9(16%)	35.8
6	West San Fernando Valley	--	--	--	--	--
7	East San Fernando Valley	54	66	0	7(13%)	35.6
8	West San Fernando Valley	--	--	--	--	--
9	East San Gabriel Valley 1	49	98	0	13(27%)	35.3
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	--	--	--	--	--
12	South Central LA County	--	--	--	--	--
13	Santa Clarita Valley	57	91	0	2(4%)	25.8
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	58	61	0	3(5%)	28.6
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	55	42	0	0(0%)	22.6
RIVERSIDE COUNTY						
22	Norco/Corona	61	86	0	9(15%)	34.4
23	Metropolitan Riverside County 1	119	115	0	49(41%)	47.0
23	Metropolitan Riverside County 2	61	135	0	35(57%)	57.4
23	Mira Loma	--	--	--	--	--
24	Perris Valley	45*	85*	0*	12(27%)*	38.3*
25	Lake Elsinore	--	--	--	--	--
29	Banning Airport	56	51	0	1(2%)	26.1
30	Coachella Valley 1**	52	75	0	4(8%)	24.0
30	Coachella Valley 2**	114	128	0	27(24%)	39.9
SAN BERNARDINO COUNTY-						
32	NW San Bernardino Valley	--	--	--	--	--
33	SW San Bernardino Valley	62	90	0	15(24%)	38.8
34	Central San Bernardino Valley 1	60	75	0	14(23%)	40.3
34	Central San Bernardino Valley 2	60	76	0	19(32%)	42.7
35	East San Bernardino Valley	61	58	0	4(7%)	29.0
37	Central San Bernardino Mountains	46	46	0	0(0%)	25.0
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			135	0	59	57.4
SOUTH COAST AIR BASIN			135	0	68	57.4

KEY:

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter of air	* Less than 12 full months of data. May not be representative.
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin
-- = Pollutant not monitored	

- f) PM10 samples were collected every 6 days at all sites except for Station Number 4144 and 4157 where samples were collected every 3 days.
- g) Federal annual PM 10 standard (AAM > 50 $\mu\text{g}/\text{m}^3$) was revoked effective December 17, 2006. State standard is annual average (AAM) >20 $\mu\text{g}/\text{m}^3$.

Table 3-2 (continued)
2008 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM _{2.5} ^{h)}								
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. $\mu\text{g}/\text{m}^3$, 24-hour	98 th Percentile Conc. in $\mu\text{g}/\text{m}^3$ 24-hr	No. (%) Samples Exceeding Federal Standard ⁱ⁾		Annual Averages ^{j)}	
					Current $> 35 \mu\text{g}/\text{m}^3$, 24-hour	Old $> 65 \mu\text{g}/\text{m}^3$, 24-hour	AAM Conc. $\mu\text{g}/\text{m}^3$	
LOS ANGELES COUNTY (Co)								
1	Central Los Angeles	337	78.3	40.4	10(3.0)	1(0.3)	15.7	
2	Northwest Coastal Los Angeles Co	--	--	--	--	--	--	
3	Southwest Coastal Los Angeles Co	--	--	--	--	--	--	
4	South Coastal Los Angeles Co 1	346	57.2	38.9	8(2.3)	0	14.2	
4	South Coastal Los Angeles County	2	349	60.9	36.4	7(2.0)	0	13.7
6	West San Fernando Valley	113	50.5	26.2	2(1.8)	0	11.9	
7	East San Fernando Valley	116	57.5	34.6	2(1.7)	0	14.1	
8	West San Gabriel Valley	118	66.0	32.1	2(1.7)	1(0.9)	12.9	
9	East San Gabriel Valley 1	321	53.1	34.8	5(1.6)	0	14.1	
9	East San Gabriel Valley 2	--	--	--	--	--	--	
10	Pomona/Walnut Valley	--	--	--	--	--	--	
11	South San Gabriel Valley	114	47.3	38.0	4(3.5)	0	15.0	
12	South Central LA County	118	44.2	36.5	3(2.5)	0	15.5	
13	Santa Clarita Valley	--	--	--	--	--	--	
ORANGE COUNTY								
16	North Orange County	--	--	--	--	--	--	
17	Central Orange County	336	67.9	39.4	13(3.9)	1(0.3)	13.7	
18	North Coastal Orange County	--	--	--	--	--	--	
19	Saddleback Valley	120	32.6	27.1	0	0	10.4	
RIVERSIDE COUNTY								
22	Norco/Corona	--	--	--	--	--	--	
23	Metropolitan Riverside County 1	348	57.7	41.5	14(4.0)	0	16.4	
23	Metropolitan Riverside County 2	116	43.0	39.1	4(3.4)	0	13.4	
23	Mira Loma	111	50.9	47.1	10(9.0)	0	18.2	
24	Perris Valley	--	--	--	--	--	--	
25	Lake Elsinore	--	--	--	--	--	--	
29	Banning Airport	--	--	--	--	--	--	
30	Coachella Valley 1**	110	18.1	17.1	0	0	7.2	
30	Coachella Valley 2**	113	21.6	18.8	0	0	8.4	
SAN BERNARDINO COUNTY								
32	Northwest San Bernardino Valley	--	--	--	--	--	--	
33	Southwest San Bernardino Valley	113	54.2	45.0	6(5.3)	0	15.8	
34	Central San Bernardino Valley1	112	49.0	47.1	6(5.4)	0	15.4	
34	Central San Bernardino Valley2	110	43.5	40.1	3(2.7)	0	13.5	
35	East San Bernardino Valley	--	--	--	--	--	--	
37	Central San Bernardino Mountains	--	--	--	--	--	--	
38	East San Bernardino Mountains	58	36.8	33.3	1(1.7)	0	9.2	
DISTRICT MAXIMUM			78.3	47.1	14	1	18.2	
SOUTH COAST AIR BASIN			78.3	47.1	28	2	18.2	

KEY:

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter of air	* Less than 12 full months of data. May not be representative.
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin
-- = Pollutant not monitored	

- h) PM_{2.5} samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 077, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.
- i) USEPA has revised the federal 24-hour PM_{2.5} standard from 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$; effective December 17, 2006.
- j) Federal PM_{2.5} standard is annual average (AAM) $> 15 \mu\text{g}/\text{m}^3$. State standard is annual average (AAM) $> 12 \mu\text{g}/\text{m}^3$.

Table 3-2 (continued)
2008 Air Quality Data – South Coast Air Quality Management District

TOTAL SUSPENDED PARTICULATES TSP ^{k)}				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. $\mu\text{g}/\text{m}^3$, 24-hour	Annual Average AAM Conc. $\mu\text{g}/\text{m}^3$
LOS ANGELES COUNTY (Co)				
1	Central Los Angeles	63	112	65.6
2	Northwest Coastal Los Angeles Co	56	88	45.9
3	Southwest Coastal Los Angeles Co	54	85	42.4
4	South Coastal Los Angeles Co 1	61	117	55.7
4	South Coastal Los Angeles Co 2	59	130	61.2
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	--	--	--
8	West San Gabriel Valley	55	108	46.7
9	East San Gabriel Valley 1	59	146	74.9
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	57	119	63.2
12	South Central LA County	51	103	70.4
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	59	222	100.6
23	Metropolitan Riverside County 2	63	130	69.4
23	Mira Loma	--	--	--
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	54	87	52.2
33	SW San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	57	139	80
34	Central San Bernardino Valley 2	59	166	83.6
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			222	100.6
SOUTH COAST AIR BASIN			222	100.6
KEY:				
$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter of air		-- = Pollutant not monitored		
AAM = Annual Arithmetic Mean		** Salton Sea Air Basin		

k) Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

Table 3-2 (concluded)
2008 Air Quality Data – South Coast Air Quality Management District

Source Receptor Area No.	Location of Air Monitoring Station	LEAD ^{k)}		SULFATES (SO _x) ^{k)}	
		Max. Monthly Average Conc. ^{l)} µg/m ³	Max. Quarterly Average Conc. ^{l)} µg/m ³	Max. Conc. µg/m ³ , 24-hour	No. (%) Samples Exceeding State Standard ≥ 25 µg/m ³ , 24-hour
LOS ANGELES COUNTY (Co)					
1	Central Los Angeles	0.02	0.02	14.4	0
2	Northwest Coastal Los Angeles Co	--	--	11.1	0
3	Southwest Coastal Los Angeles Co	0.01	0.01	14.0	0
4	South Coastal Los Angeles Co 1	0.01	0.01	11.0	0
4	South Coastal Los Angeles Co 2	0.01	0.01	13.2	0
6	West San Fernando Valley	--	--	--	--
7	East San Fernando Valley	--	--	--	--
8	West San Gabriel Valley	--	--	14.1	0
9	East San Gabriel Valley 1	--	--	18.7	0
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	0.02	0.02	10.1	0
12	South Central LA County	0.03	0.02	10.6	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	0.01	0.01	9.1	0
23	Metropolitan Riverside County 2	0.01	0.01	7.1	0
23	Mira Loma	--	--	--	--
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	0.01	0.01	8.4	0
33	SW San Bernardino Valley	--	--	--	--
34	Central San Bernardino Valley 1	--	--	9.5	0
34	Central San Bernardino Valley 2	0.02	0.02	8.6	0
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM		0.03	0.02	18.7	0
SOUTH COAST AIR BASIN		0.03	0.02	18.7	0

KEY:

µg/m ³ = micrograms per cubic meter of air	** Salton Sea Air Basin
-- = Pollutant not monitored	

l) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. USEPA has established the federal standard of 0.15 µg/m³, rolling 3-month average, as of October 15, 2008.

Criteria Pollutants**Carbon Monoxide**

CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, carbon monoxide occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline. In 2002, approximately 98 percent of the CO emitted into the Basin's atmosphere was from mobile sources. Consequently, CO concentrations are generally highest in the vicinity of major concentrations of vehicular traffic.

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO in the Basin exhibit large spatial and temporal variations due to variations in the rate at which CO is emitted and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable portion of the day.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities.

Carbon monoxide concentrations were measured at 25 locations in the Basin and neighboring SSAB areas in 2008. Carbon monoxide concentrations did not exceed the standards in 2008. The highest one-hour average carbon monoxide concentration recorded (7.0 ppm in the South Central Los Angeles County area) was 20 percent of the federal one-hour carbon monoxide standard of 35 ppm. The highest eight-hour average carbon monoxide concentration recorded (4.3 ppm in the South Central Los Angeles County area) was 48 percent of the federal eight-hour carbon monoxide standard of 9.0 ppm. The state one-hour standard is also 9.0 ppm. The highest eight-hour average carbon monoxide concentration is 35 percent of the state eight-hour carbon monoxide standard of 20 ppm.

The 2003 AQMP revisions to the SCAQMD's CO Plan served two purposes: it replaced the 1997 attainment demonstration that lapsed at the end of 2000; and it provided the basis for a CO maintenance plan in the future. In 2004, the SCAQMD formally requested the USEPA to re-designate the Basin from non-attainment to attainment with the CO National Ambient Air Quality Standards. On February 24, 2007, USEPA published in the Federal Register its proposed decision to re-designate the Basin from non-attainment to attainment for CO. The comment period on the re-designation proposal closed on March 16, 2007 with no comments received by the USEPA. On May 11, 2007, USEPA published in the Federal Register its final decision to approve the SCAQMD's request for re-designation from non-attainment to attainment for CO, effective June 11, 2007.

Ozone

Ozone (O₃), a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas ozone concentrations are normally very low (0.03-0.05 ppm).

While ozone is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity which accounts for its damaging effects on materials, plants, and human health at the earth's surface.

The propensity of ozone for reacting with organic materials causes it to be damaging to living cells and ambient ozone concentrations in the Basin are frequently sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection.

Individuals exercising outdoors, children and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. Elevated ozone levels are also associated with increased school absences.

Ozone exposure under exercising conditions is known to increase the severity of the abovementioned observed responses. Animal studies suggest that exposures to a combination of pollutants which include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

In 2008, the SCAQMD regularly monitored ozone concentrations at 29 locations in the Basin and SSAB. All areas monitored were below the stage 1 episode level (0.20 ppm), but the maximum concentrations in the Basin exceeded the health advisory level (0.15 ppm). Maximum

ozone concentrations in the SSAB areas monitored by the SCAQMD were lower than in the Basin and were below the health advisory level.

In 2008, the maximum ozone concentrations in the Basin continued to exceed federal standards by wide margins. Maximum one-hour and eight-hour average ozone concentrations were 0.176 ppm and 0.131 ppm (the maximum one-hour was recorded in Central San Bernardino Mountains area, the eight-hour maximum was recorded in Santa Clarita Valley). The federal one-hour ozone standard was revoked and replaced by the eight-hour average ozone standard effective June 15, 2005. USEPA has revised the federal eight-hour ozone standard from 0.84 ppm to 0.075 ppm, effective May 27, 2008. The maximum eight-hour concentration was 175 percent of the new federal standards. The maximum eight-hour concentration was 187 percent of the eight-hour state ozone standard of 0.070 ppm.

The objective of the 2007 AQMP is to attain and maintain ambient air quality standards. Based upon the modeling analysis described in the Program Environmental Impact Report for the 2007 AQMP implementation of all control measures contained in the 2007 AQMP is anticipated to bring the District into compliance with the federal eight-hour ozone standard by 2024 and the state eight-hour ozone standard beyond 2024.

Nitrogen Dioxide

NO₂ is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen (N₂) and oxygen (O₂) in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO₂. NO₂ is responsible for the brownish tinge of polluted air. The two gases, NO and NO₂, are referred to collectively as NO_x. In the presence of sunlight, NO₂ reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO₃) which reacts further to form nitrates, components of PM_{2.5} and PM₁₀.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. More recent studies have found associations between NO₂ exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms and emergency room asthma visits.

In animals, exposure to levels of NO₂ considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO₂.

In 2008, nitrogen dioxide concentrations were monitored at 25 locations. No area of the Basin or SSAB exceeded the federal or state standards for nitrogen dioxide. The Basin has not exceeded the federal standard for nitrogen dioxide (0.0534 ppm) since 1991, when the Los Angeles County portion of the Basin recorded the last exceedance of the standard in any county within the United

States. In 2008, the maximum annual average concentration was recorded at 0.0302 ppm in the Pomona/Walnut Valley area.

In addition, the nitrogen dioxide state one-hour standard was not exceeded at any SCAQMD monitoring location in 2008. Effective March 20, 2008, CARB has revised the nitrogen dioxide one-hour standard from 0.25 ppm to 0.18 ppm and established a new annual standard of 0.30 ppm. The highest one-hour average concentration recorded (0.13 ppm in South Coastal Los Angeles County) was 72 percent of the new state one-hour standard. NO_x emission reductions continue to be necessary because it is a precursor to both ozone and PM (PM_{2.5} and PM₁₀) concentrations.

Sulfur Dioxide

SO₂ is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid, which contributes to acid precipitation, and sulfates, which are components of PM₁₀ and PM_{2.5}. Most of the SO₂ emitted into the atmosphere is produced by burning sulfur-containing fuels.

Exposure of a few minutes to low levels of SO₂ can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO₂. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂.

Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

No exceedances of federal or state standards for sulfur dioxide occurred in 2008 at any of the seven SCAQMD locations monitored. The maximum one-hour sulfur dioxide concentration was 0.09 ppm. The maximum 24-hour sulfur dioxide concentration was 0.012 ppm. The maximum annual average was 0.0022 ppm. All maximums were recorded in south Coastal Los Angeles County. The federal sulfur dioxide standards are 0.03 ppm for the annual arithmetic mean, 0.14 for the 24-hour average and 0.50 ppm for the three-hour average. The state standards are 0.25 ppm for the one-hour average and 0.04 ppm for the 24-hour average. Though sulfur dioxide concentrations remain well below the standards, sulfur dioxide is a precursor to sulfate, which is a component of fine particulate matter, PM₁₀, and PM_{2.5}. Standards for PM₁₀ and PM_{2.5} were both exceeded in 2008. Sulfur dioxide was not measured at SSAB sites in 2008. Historical measurements showed concentrations to be well below standards and monitoring has been discontinued.

Particulate Matter (PM₁₀ and PM_{2.5})

Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter) can accumulate in the respiratory system and aggravate health problems such as

asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM10 and PM2.5.

A consistent correlation between elevated ambient fine particulate matter (PM10 and PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long term exposure to air pollution dominated by fine particles (PM2.5) and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter.

The elderly, people with pre-existing respiratory and/or cardiovascular disease and children appear to be more susceptible to the effects of PM10 and PM2.5.

The SCAQMD monitored PM10 concentrations at 21 locations in 2008. The federal 24-hour PM10 standard (150 $\mu\text{g}/\text{m}^3$) was not exceeded at any of the locations monitored in 2008. The maximum 24-hour PM10 concentration of 135 $\mu\text{g}/\text{m}^3$ was recorded in Metropolitan Riverside County. The maximum 24-hour PM10 concentration in Metropolitan Riverside County is 90 percent of the federal standards. The much more stringent state 24-hour PM10 standard (50 $\mu\text{g}/\text{m}^3$) was exceeded in all but two of the 21 monitoring stations. The maximum annual average PM10 concentration of 57.4 $\mu\text{g}/\text{m}^3$ was recorded in Metropolitan Riverside County. The maximum annual average PM10 concentration in Metropolitan Riverside County is 478 percent of the state standard. The federal annual PM10 standard has been revoked.

In 2008, PM2.5 concentrations were monitored at 20 locations throughout the District. USEPA revised the federal 24-hour PM2.5 standard from 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$, effective December 17, 2006. In 2008, the maximum PM2.5 concentrations in the Basin exceeded the new federal 24-hour PM2.5 standards in all but three locations. The maximum 24-hour PM2.5 concentration of 78.3 $\mu\text{g}/\text{m}^3$ was recorded in Central Los Angeles, which represents 138 percent of the federal standard of 35 $\mu\text{g}/\text{m}^3$. The maximum annual average concentration of 18.2 $\mu\text{g}/\text{m}^3$ was recorded in Mira Loma, which represents 121 percent of the federal standard of 15 $\mu\text{g}/\text{m}^3$ and 151 percent of the state standard of 12 $\mu\text{g}/\text{m}^3$.

Similar to PM10 concentrations, PM2.5 concentrations were higher in the inland valley areas of San Bernardino and Metropolitan Riverside counties. However, PM2.5 concentrations were also high in Central Los Angeles County. The high PM2.5 concentrations in Los Angeles County are mainly due to the secondary formation of smaller particulates resulting from mobile and stationary source activities. In contrast to PM10, PM2.5 concentrations were low in the Coachella Valley area of SSAB. PM10 concentrations are normally higher in the desert areas due to windblown and fugitive dust emissions.

Lead

Lead in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out

of leaded gasoline, there was a dramatic reduction in atmospheric lead in the Basin over the past 28 years.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures, and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

The federal and state standards for lead were not exceeded in any area of the SCAQMD in 2008. There have been no violations of the standards at the SCAQMD's regular air monitoring stations since 1982, as a result of removal of lead from gasoline. The maximum quarterly average lead concentration ($0.02 \mu\text{g}/\text{m}^3$ at monitoring stations in Central Los Angeles, South San Gabriel Valley, South Central Los Angeles County, and Central San Bernardino Valley No. 2) was 1.3 percent of the federal quarterly average lead standard ($1.5 \mu\text{g}/\text{m}^3$). The maximum monthly average lead concentration ($0.03 \mu\text{g}/\text{m}^3$ in South Central Los Angeles County), measured at special monitoring sites immediately adjacent to stationary sources of lead was two percent of the state monthly average lead standard. No lead data were obtained at SSAB and Orange County stations in 2008, and because historical lead data showed concentrations in SSAB and Orange County areas to be well below the standard, measurements have been discontinued.

On November 12, 2008, USEPA published new national ambient air quality standards for lead, which became effective January 12, 2009. The existing national lead standard, $1.5 \mu\text{g}/\text{m}^3$, was reduced to $0.15 \mu\text{g}/\text{m}^3$, averaged over a rolling three-month period. The new federal standard was not exceeded at any source/receptor location in 2008. Nevertheless, USEPA has proposed to designate the Los Angeles County portion of the Basin as non-attainment for the new lead standard, based on emissions from two battery recycling facilities. The proposed designation is expected to become final in October 2010. However, the SCAQMD is in the process of adopting Proposed Rule 1420.1 to ensure that lead emissions do not exceed the new federal standard.

Sulfates

Sulfates (SO_x) are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM₁₀. Most of the sulfates in the atmosphere are produced by oxidation of SO₂. Oxidation of sulfur dioxide yields sulfur trioxide which reacts with water to form sulfuric acid, which contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields sulfates, a component of PM₁₀ and PM_{2.5}.

Most of the health effects associated with fine particles and SO₂ at ambient levels are also associated with SO_x. Thus, both mortality and morbidity effects have been observed with an increase in ambient SO_x concentrations. However, efforts to separate the effects of SO_x from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

In 2008, the state 24-hour sulfate standard ($25 \mu\text{g}/\text{m}^3$) was not exceeded in any of the monitoring locations in the Basin. No sulfate data were obtained at SSAB and Orange County stations in 2008. Historical sulfate data showed concentrations in the SSAB and Orange County areas to be well below the standard; thus, measurements in these areas have been discontinued. There are no federal sulfate standards.

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.

The visibility standard is based on the distance that atmospheric conditions allow a person to see at a given time and location. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter. Visibility degradation occurs when visibility reducing particles are produced in sufficient amounts such that the extinction coefficient is greater than 0.23 inverse kilometers (to reduce the visual range to less than 10 miles) at relative humidity less than 70 percent, 8-hour average (10 am – 6 pm) according to the state standard. Future-year visibility in the Basin is projected empirically using the results derived from a regression analysis of visibility with air quality measurements. The regression data set consisted of aerosol composition data collected during a special monitoring program conducted concurrently with visibility data collection (prevailing visibility observations from airports and visibility measurements from District monitoring stations). A full description of the visibility analysis is given in Technical Report V-C of the 1994 AQMP.

With future year reductions of PM_{2.5} from implementation of all proposed emission controls for 2015, the annual average visibility would improve from 12 miles (calculated for 2005) to over 20 miles at Rubidoux, for example. Visual range in 2021 at all other Basin sites is expected to equal or exceed the Rubidoux visual range. Visual range is expected to double from the 2005 baseline due to reductions of secondary PM_{2.5}, directly emitted PM_{2.5} (including diesel soot) and lower nitrogen dioxide concentrations as a result of 2007 AQMP controls.

Vinyl Chloride

Vinyl chloride is a colorless compound that is highly toxic and a known carcinogen that causes a rare cancer of the liver (USEPA, 2001). At room temperature, vinyl chloride is a gas with a sickly sweet odor that is easily condensed. However, it is stored as a liquid. Due to the hazardous nature of vinyl chloride to human health there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polymer polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form PVC is sold to companies that heat and mold the PVC into end products such

as PVC pipe and bottles. The SCAQMD does not monitor for vinyl chloride at their air monitoring stations.

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. VOCs 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 Pollutants

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 Health and Safety Code §41700 to control emissions of air contaminants and prevent endangerment to public health. Additionally, state law requires the SCAQMD to implement airborne toxic control measures (ATCM) adopted by CARB, and to implement the Air Toxics "Hot Spots" Act. As a result, 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.

Greenhouse Gases

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 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.

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), comparable to a greenhouse, which captures and traps radiant energy. GHGs are emitted by natural processes and human activities. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature. Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy emitted by the Earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the Earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect." Emissions from human activities such as electricity production and vehicles have elevated the concentration of these gases in the atmosphere.

CO₂ is an odorless, colorless natural greenhouse gas. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO₂ are from burning coal, oil, natural gas, and wood. CO₂ emissions in the Basin were determined for the year 2002, which was the base year used in determining GHG emissions for the 2007 AQMP. The total CO₂ emissions in the SCAB were estimated to be about 153 million metric tons (SCAQMD, 2007 AQMP) of which:

- 48 percent was contributed by on-road mobile sources;
- 34 percent was contributed by point sources;
- 12 percent was contributed by area sources; and
- 6 percent was contributed off-road mobile sources.

CH₄ is a flammable gas and is the main component of natural gas. N₂O, also known as laughing gas, is a colorless greenhouse gas. Some industrial processes such as fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions also contribute to the atmospheric load of N₂O. HFCs are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (whose production was stopped as required by the Montreal Protocol) for automobile air conditioners and refrigerants. The two main sources of PFCs are primary aluminum production and semiconductor manufacture. SF₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Scientific consensus, as reflected in recent reports issued by the United Nations Intergovernmental Panel on Climate Change, is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHGs in the atmosphere due to human activities. Industrial activities, particularly increased consumption of fossil fuels (e.g., gasoline, diesel, wood, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHGs emissions (CEC, 2006). The most

recent GHG inventory for California is presented in Table 3-3 (CARB, 2007). Approximately 80 percent of GHGs in California are from fossil fuel combustion and over 70 percent of GHG-CO₂ equivalent emissions are CO₂ emissions (see Table 3-3).

Table 3-3
California GHG Emissions and Sinks Summary
(Million MTon CO₂eq)

Categories Included in the Inventory	1990	2004
ENERGY	386.41	420.91
<i>Fuel Combustion Activities</i>	381.16	416.29
Energy Industries	157.33	166.43
Manufacturing Industries & Construction	24.24	19.45
Transport	150.02	181.95
Other Sectors	48.19	46.29
Non-Specified	1.38	2.16
<i>Fugitive Emissions from Fuels</i>	5.25	4.62
Oil and Natural Gas	2.94	2.54
Other Emissions from Energy Production	2.31	2.07
INDUSTRIAL PROCESSES & PRODUCT USE	18.34	30.78
Mineral Industry	4.85	5.90
Chemical Industry	2.34	1.32
Non-Energy Products from Fuels & Solvent Use	2.29	1.37
Electronics Industry	0.59	0.88
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.97
Other Product Manufacture & Use Other	3.18	1.60
Other	5.05	5.74
AGRICULTURE, FORESTRY, & OTHER LAND USE	19.11	23.28
Livestock	11.67	13.92
Land	0.19	0.19
Aggregate Sources & Non-CO ₂ Emissions Sources on Land	7.26	9.17
WASTE	9.42	9.44
Solid Waste Disposal	6.26	5.62
Wastewater Treatment & Discharge	3.17	3.82
EMISSION SUMMARY		
Gross California Emissions	433.29	484.4
Sinks and Sequestrations	-6.69	-4.66
Net California Emissions	426.60	479.74

Source: CARB, 2007

In June 2005, Governor Schwarzenegger signed Executive Order #S-3-05 which established the following greenhouse gas reduction targets:

- By 2010, reduce GHGs to 2000 emission levels,
- By 2020, reduce GHGs to 1990 emission levels, and
- By 2050, reduce GHGs to 80 percent below 1990 emission levels.

On September 27, 2006, Assembly Bill (AB) 32, the California Global Warming Solutions Act, of 2006 was enacted by the State of California and signed by Governor Schwarzenegger. AB 32 expanded on Executive Order #S-3-05. The legislature stated that “global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California.” AB 32 represents the first enforceable state-wide program in the United States to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue

of global warming, AB 32 lays out a program to inventory and reduce greenhouse gas emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB 32 requires CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions by January 1, 2008;
- Adopt mandatory reporting rules for significant sources of GHG by January 1, 2008;
- Adopt an emissions reduction plan by January 1, 2009, indicating how emissions reductions will be achieved via regulations, market mechanisms, and other actions; and
- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions of GHG by January 1, 2011.

The combination of Executive Order #S-3-05 and AB 32 will require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

Consistent with the requirement to develop an emission reduction plan, CARB prepared a Scoping Plan indicating how GHG emission reductions will be achieved through regulations, market mechanisms, and other actions. The Scoping Plan was released for public review and comment in October 2008 and approved by CARB on December 11, 2008. The Scoping Plan calls for reducing greenhouse gas emissions to 1990 levels by 2020. This means cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 15 percent from today's levels. Key elements of CARB staff's recommendations for reducing California's greenhouse gas emissions to 1990 levels by 2020 contained in the Scoping Plan include the following:

- Expansion and strengthening of existing energy efficiency programs and building and appliance standards;
- Expansion of the Renewables Portfolio Standard to 33 percent;
- Development of a California cap-and-trade program that links with other Western Climate Initiative Partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gases and pursuing policies and incentives to achieve those targets;
- Adoption and implementation of existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Targeted fees, including a public good charge on water use, fees on high global warming potential gases and a fee to fund the state's long-term commitment to AB 32 administration.

In response to the comments received on the Draft Scoping Plan and at the November 2008 public hearing, CARB made a few changes to the Draft Scoping Plan, primarily to:

- State that California "will transition to 100 percent auction" of allowances and expects to "auction significantly more [allowances] than the Western Climate Initiative minimum;"
- Make clear that allowance set-asides could be used to provide incentives for voluntary renewable power purchases by businesses and individuals and for increased energy efficiency;
- Make clear that allowance set-asides can be used to ensure that voluntary actions, such as renewable power purchases, can be used to reduce greenhouse gas emissions under the cap;

- Provide allowances are not required from carbon neutral projects; and
- Mandate that commercial recycling be implemented to replace virgin raw materials with recyclables.

On August 24, 2007, Governor Schwarzenegger signed into law Senate Bill (SB) 97 – CEQA: Greenhouse Gas Emissions stating, “This bill advances a coordinated policy for reducing greenhouse gas emissions by directing the Office of Planning and Research (OPR) and the Resources Agency to develop CEQA guidelines on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions.” Specifically, SB 97 requires OPR, by July 1, 2009, to prepare, develop, and transmit guidelines to the Resources Agency for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency would be required to certify and adopt those guidelines by January 1, 2010. The OPR would be required to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to the California Global Warming Solutions Act of 2006. SB 97 also identifies a limited number of types of projects that would be exempt under CEQA from analyzing GHG emissions. Finally, SB 97 will be repealed on January 1, 2010.

Consistent with SB 97, on June 19, 2008, OPR released its “Technical Advisory on CEQA and Climate Change,” which was developed in cooperation with the Resources Agency, the California Environmental Protection Agency (CalEPA), and the CARB. According to OPR, the “Technical Advisory” offers the informal interim guidance regarding the steps lead agencies should take to address climate change in their CEQA documents, until CEQA guidelines are developed pursuant to SB 97 on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions.

According to OPR, lead agencies should determine whether greenhouse gases may be generated by a proposed project, and if so, quantify or estimate the GHG emissions by type and source. Second, the lead agency must assess whether those emissions are individually or cumulatively significant. When assessing whether a project’s effects on climate change are “cumulatively considerable” even though its GHG contribution may be individually limited, the lead agency must consider the impact of the project when viewed in connection with the effects of past, current, and probable future projects. Finally, if the lead agency determines that the GHG emissions from the project as proposed are potentially significant, it must investigate and implement ways to avoid, reduce, or otherwise mitigate the impacts of those emissions.

On July 30, 2008, USEPA released a draft Advance Notice of Proposed Rulemaking (ANPR) “Regulating Greenhouse Gas Emissions Under the Clean Air Act.” The ANPR solicits public comments, which must be received on or before November 28, 2008, and presents the following relevant information:

- Reviews the various CAA provisions that may be applicable to regulate GHGs;
- Examines the issues that regulating GHGs under those provisions may raise;
- Provides information regarding potential regulatory approaches and technologies for reducing GHG emissions; and
- Raises issues relevant to possible legislation and the potential for overlap between legislation and CAA regulation.

The SCAQMD has established a policy, adopted by the SCAQMD Governing Board at its September 5, 2008 meeting, to actively seek opportunities to reduce emissions of criteria, toxic, and climate change pollutants. The policy includes the intent to assist businesses and local governments implementing climate change measures, decrease the agency's carbon footprint, and provide climate change information to the public. The SCAQMD will take the following actions:

1. Work cooperatively with other agencies/entities to develop quantification protocols, rules, and programs related to greenhouse gases;
2. Share experiences and lessons learned relative to the Regional Clean Air Incentives Market to help inform state, multi-state, and federal development of effective, enforceable cap-and-trade programs. To the extent practicable, staff will actively engage in current and future regulatory development to ensure that early actions taken by local businesses to reduce greenhouse gases will be treated fairly and equitably. SCAQMD staff will seek to streamline administrative procedures to the extent feasible to facilitate the implementation of AB 32 measures;
3. Review and comment on proposed legislation related to climate change and greenhouse gases, pursuant to the 'Guiding Principles for SCAQMD Staff Comments on Legislation Relating to Climate Change' approved at the Board Special Meeting in April 2008;
4. Provide higher priority to funding Technology Advancement Office (TAO) projects or contracts that also reduce greenhouse gas emissions;
5. Develop recommendations through a public process for an interim greenhouse gas CEQA significance threshold, until such time that an applicable and appropriate statewide greenhouse gas significance level is established. Provide guidance on analyzing greenhouse gas emissions and identify mitigation measures. Continue to consider GHG impacts and mitigation in SCAQMD lead agency documents and in comments when SCAQMD is a responsible agency;
6. Revise the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning to include information on greenhouse gas strategies as a resource for local governments. The Guidance Document will be consistent with state guidance, including CARB's Scoping Plan;
7. Update the Basin's greenhouse gas inventory in conjunction with each Air Quality Management Plan. Information and data used will be determined in consultation with CARB, to ensure consistency with state programs. Staff will also assist local governments in developing greenhouse gas inventories;
8. Bring recommendations to the Board on how the agency can reduce its own carbon footprint, including drafting a Green Building Policy with recommendations regarding SCAQMD purchases, building maintenance, and other areas of products and services. Assess employee travel as well as other activities that are not part of a GHG inventory and determine what greenhouse gas emissions these activities represent, how they could be reduced, and what it would cost to offset the emissions;
9. Provide educational materials concerning climate change and available actions to reduce greenhouse gas emissions on the SCAQMD website, in brochures, and other venues to help cities and counties, businesses, households, schools, and others learn about ways to reduce their electricity and water use through conservation or other efforts, improve energy efficiency, reduce vehicle miles traveled, access alternative mobility resources, utilize low emission vehicles and implement other climate friendly strategies; and

10. Conduct conferences, or include topics in other conferences, as appropriate, related to various aspects of climate change, including understanding impacts, technology advancement, public education, and other emerging aspects of climate change science.

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. SCAQMD's recommended interim GHG significance threshold proposal uses a tiered approach to determining significance. Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. Tier 2 consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. Tier 3 establishes a screening significance threshold level to determine significance using a 90 percent emission capture rate approach, which corresponds to 10,000 metric tons of CO₂ equivalent emissions per year. Tier 4, to be based on performance standards, is yet to be developed. Under Tier 5 the project proponent would allow offsets to reduce GHG emission impacts to less than the proposed screening level. If CARB adopts statewide significance thresholds, SCAQMD staff plans to report back to the Governing Board regarding any recommended changes or additions to the SCAQMD's interim threshold.

On April 13, 2009, OPR submitted to the Natural Resources Agency its proposed amendments to the CEQA Guidelines for GHG emissions. The proposed amendments provided guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The Natural Resources Agency conducted a formal rulemaking process and on December 20, 2009, they adopted amendments to the CEQA Guidelines for GHG emissions as directed by SB97. On February 16, 2010, the Office of Administrative Law approved the amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The amendments became effective on March 18, 2010.

Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. Historical records have shown that temperature changes have occurred in the past, such as during previous ice ages. Some data indicate that the current temperature record differs from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of greenhouse gases at 400 to 450 ppm carbon dioxide-equivalent concentration is required to keep global mean warming below two degrees Celsius, which is assumed to be necessary to avoid dangerous climate change.

The potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (i.e., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global

warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

The impacts of climate change will also affect projects in various ways. Effects of climate change are specifically mentioned in AB 32 such as rising sea levels and changes in snow pack. The extent of climate change impacts at specific locations remains unclear. However, it is expected that California agencies will more precisely quantify impacts in various regions of the State. As an example, it is expected that the California Department of Water Resources will formalize a list of foreseeable water quality issues associated with various degrees of climate change. Once state government agencies make these lists available, they could be used to more precisely determine to what extent a project creates global climate change impacts.

Toxic Air Contaminants

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

Historically, the SCAQMD has regulated criteria air pollutants using either a technology-based or an emissions limit approach. The technology-based approach defines specific control technologies that may be installed to reduce pollutant emissions. The emission limit approach establishes an emission limit, and allows industry to use any emission control equipment, as long as the emission requirements are met. The regulation of toxic air contaminants (TACs) often uses a health risk-based approach, but may also require a regulatory approach similar to criteria pollutants, 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 AB1807, is a two-step program in which substances are identified as TACs, and 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 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 each 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 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 District 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 1,000 feet of a school (a state law requirement under AB 3205), 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 in the following discussion), 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 TAC non-carcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. CalEPA's 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 non-cancer 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).

Baseline Emission Inventory

Criteria Pollutants

CARB staff estimates the statewide VOC contribution from artist solvent and thinners to be about 252.7 pounds per day. Based on statewide population, SCAQMD staff estimates that 45 percent of the total statewide emissions occur within SCAQMD's jurisdiction.

$$252.7 \text{ pounds per day} * 0.45 = 113.7 \text{ pounds per day, and} \\ 113.7 \text{ pounds per day} * 1 \text{ ton}/2000 \text{ pounds} = 0.057 \text{ ton per day}$$

Toxic Air Contaminants

Artist solvents and thinners may contain toxic air contaminants (TACs). The February 2009 Final EA for PR 1143 stated that previous CEQA analyses of the potential toxic impacts from the rules anticipated to use reformulated solvents (acetone, methyl acetate, and parachlorobenzotrifluoride (PCBTF)) have determined that the toxicity of conventional (acetone, denatured alcohol, isopropyl alcohol, lacquer thinner, methyl ethyl ketone (MEK), mineral spirits, paint thinner, toluene, turpentine, varnish makers & printers naphtha, and xylene) solvent replacements were generally offset by the toxicity of the solvents that they would replace. Acetone, which was expected to be the most common replacement, was considered the least toxic of all of the potential replacement solvents. Similarly, conventional solvents tended to have cancer and non-cancer health effects associated with them, unlike the replacement solvents. Therefore, toxic air contaminant impacts were not expected to change significantly from existing conditions at that time. With regard to cancer and noncancer health risks, none of the

replacement solvents identified in the February 2009 Final EA for PR 1143 were found on any cancer lists at the time (acetone, methyl acetate, and PCBTF). Considering the toxicity of conventional solvents used at the time, no substantive evidence was identified that showed the use of the solvents identified as possible replacements would result in significant adverse toxic air contaminant impacts.

CHAPTER 4

ENVIRONMENTAL IMPACTS

Introduction

Potential Environmental Impacts and Mitigation Measures

Air Quality

Potential Environmental Impacts Found Not to Be Significant

Significant Irreversible Environmental Changes

Potential Growth-Inducing Impacts

Consistency

INTRODUCTION

The CEQA Guidelines require 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].

CEQA Guidelines indicate 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~~ Final EA analyzes impacts on a regional level and impacts on the level of individual industries or individual facilities only where feasible.

The categories of environmental impacts to be studied in a CEQA document are established by CEQA [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 approximately 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 proposed project are further analyzed in the appropriate CEQA document.

POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to CEQA, an Initial Study, including an environmental checklist, was prepared for this project (see Appendix C). Of the 17 potential environmental impact categories, air quality was the only environmental topic identified as being potentially adversely affected by the proposed project. One comment letter was received on the Initial Study. This comment letter and responses to the comments can be found in Appendix D of this document.

The environmental impact area (i.e, air quality) that was identified as potentially significant in the Initial Study is further evaluated in detail in this ~~Draft~~ Final EA. The environmental impact analysis for the environmental topic incorporates a “worst-case” approach. This approach 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 ensures that all potential effects of the proposed project are documented for the decision-makers and the public. Accordingly, the following analyses use a conservative “worst-case” approach for analyzing the potentially significant adverse environmental impacts associated with the implementation of the proposed project.

Subsequent to the release of the NOP/IS for public review, modifications were made to two existing exemptions. The exemptions for solvents labeled and designed exclusively for clean-up

of polyaspartic and poly urea coatings and for thinners labeled and designated exclusively for the thinning of Industrial Maintenance (IM) coatings, Zinc-Rich IM Primers and High Temperature IM Coatings were clarified to exempt these solvents and thinners only from the VOC content limits of Rule 1143. These clarifications would subject these solvents and thinners to administrative and recordkeeping requirements. Minor clarifications were also made to the sell-through provision and annual emissions reporting requirement. These modifications to the original proposal were included as part of the proposed project evaluated in this ~~Draft~~ Final EA.

The only provision of the proposed project that could generate environmental (i.e., air quality) impacts is the artist solvent and thinner exemption, which are analyzed below. Other amendments such as the clarification to the existing exemptions are not expected to generate adverse impacts to any environmental topic.

AIR QUALITY

Significance Criteria

To determine whether air quality impacts from adopting and implementing the proposed project are significant, impacts will be evaluated and compared to the following criteria. If impacts exceed any of the significance thresholds in Table 4-1, they will be considered significant. All feasible mitigation measures will be identified and implemented to reduce significant impacts to the maximum extent feasible. The proposed 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.

The SCAQMD makes significance determinations for construction impacts based on the maximum or peak daily emissions during the construction period, which provides a “worst-case” analysis of the construction emissions. Similarly, significance determinations for operational emissions are based on the maximum or peak daily allowable emissions during the operational phase.

Air Quality Impacts

Construction Emissions

As noted in the NOP/IS for the proposed project, no construction is expected from PAR 1143; therefore, construction was determined to be less than significant and is not further evaluated in this ~~Draft~~ Final EA.

Operational Emissions

Criteria Pollutant Emissions

Rule 1143 was developed to require two different VOC content limit reductions over time, an interim and a final VOC content limit reduction. The interim VOC content limit, which is currently in effect, as of January 1, 2010, limits the VOC content of any consumer paint thinner and multi-purpose solvent to 300 grams per liter, but offers a sell-through provision up to December 31, 2010 for high-VOC content traditional solvents provided they were manufactured prior to January 1, 2010. When fully implemented, the interim VOC emission reduction is expected to be 5.94 tons per day.

**Table 4-1
SCAQMD Air Quality Significance Thresholds⁴**

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
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants and Odor Thresholds		
Toxic Air Contaminants (TACs) Accidental Release of Acutely Hazardous Materials (AHMs)	MICR \geq 10 in 1 million ; HI \geq 1.0 (project increment) CAA §112(r) threshold quantities	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants^(a)		
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 $\mu\text{g}/\text{m}^3$ (construction) ^(b) & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$	
PM2.5 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^(b) & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate 24-hour average	1 $\mu\text{g}/\text{m}^3$	
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) 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.

KEY: MICR = maximum individual cancer risk HI = Hazard Index
 $\mu\text{g}/\text{m}^3$ = microgram per cubic meter ppm = parts per million
 AHM = acutely hazardous material; TAC = toxic air contaminant

⁴ CEQA Air Quality Handbook, SCAQMD, November 1993.

The final VOC content limit of 25 grams of per liter will become effective on January 1, 2011. Any consumer paint thinner and multi-purpose solvent manufactured prior to January 1, 2011, will have a sell-through allowance for products containing up to 300 grams per liter VOC content, provided that the products were manufactured prior to January 1, 2011. In addition, any consumer paint thinner and multi-purpose solvent that displays on the container label multi-purpose uses including industrial maintenance thinning and was manufactured prior to July 9, 2010 will be allowed a sell-through allowance until April 1, 2011 for products that contain in excess of 300 grams per liter VOC content. When Rule 1143 is fully implemented, the VOC content limit of 25 grams per liter is expected to reduce VOC emissions by another 3.81 tons per day thus resulting in a combined VOC emission reduction of 9.75 tons per day.

No artist solvent and thinner manufacturers within SCAQMD's jurisdiction were identified by SCAQMD staff (i.e., all artist solvents and thinners are imported into the district). Since there is no manufacturing of artist solvents or thinners, all artist solvent and thinner emissions are related only to use of affected products by consumers or institutions.

CARB staff estimates the statewide VOC contribution from artist solvent and thinners to be approximately 252.7 pounds per day. Based on statewide population, SCAQMD staff estimates that 45 percent of the total statewide emissions occur within SCAQMD jurisdiction.

$$252.7 \text{ pounds per day} * 0.45 = 113.7 \text{ pounds per day, and} \\ 113.7 \text{ pounds per day} * 1 \text{ ton}/2000 \text{ pounds} = 0.057 \text{ ton per day}$$

Therefore, the VOC emissions forgone to the SCAQMD jurisdiction would be approximately 113.7 pounds per day, which exceeds the SCAQMD operational VOC significant threshold of 55 pounds per day. Since the operational VOC emissions would exceed the significance threshold, VOCs are an ozone precursor, and the district is not in attainment for ozone; PAR 1143 may contribute to an existing or projected air quality violation. Since the proposed project would result in VOC emissions reductions foregone from the existing Rule 1143 that exceed the operational VOC significant threshold of 55 pounds per day, it may diminish an existing air quality rule or future compliance requirement resulting in a significant increase in an air pollutant.

Toxic Air Contaminants

Artist solvents and thinners may contain toxic air contaminants (TACs). As summarized in Chapter 3, the February 2009 Final EA for PR 1143 determined toxic air contaminant impacts would not be expected to change significantly from existing conditions with the use of non- or low-VOC replacement solvents (acetone, methyl acetate, and PCBTF) in lieu of conventional solvents (acetone, denatured alcohol, isopropyl alcohol, lacquer thinner, MEK, mineral spirits, paint thinner, toluene, turpentine, varnish makers and printers naphtha, and xylene). This conclusion was based on a sample of consumer paint thinners and multi-purpose solvents, which is broader than the artist solvents and thinners sub-category affected by PAR 1143.

The average VOC content for artist solvents and thinners is estimated to be 800 grams per liter, which is equivalent to 6.7 pounds per gallon. Based on 114 pounds per day of VOC emissions foregone, and the average VOC content for artist solvents and thinners, approximately 17 gallons of artist solvents and thinners are used in the Basin per day. SCAQMD staff identified 34 affected institutional facilities within the district. If the total amount of artist solvents and thinners used in the Basin is divided by 34 affected institutional facilities, approximately 0.5

gallon of artist solvents and thinners would be used at a single institutional facility. This is a conservative estimate since there may be more artist solvents and thinners used in more than the 34 affected institutional facilities identified by SCAQMD staff.

Based on an MSDS review of artist solvents and thinners, SCAQMD staff identified the following conventional solvent TACs: isopropyl alcohol, xylene, ethyl benzene, toluene, methyl ethyl ketone, and hexane. Artist solvents and thinners included other compounds such as turpentine and mineral spirits, but since these compounds do not have health risk values (cancer potency factors or reference exposure levels), these compounds could not be evaluated quantitatively. The maximum density and TAC weight fraction from the MSDSs were used to estimate TAC emissions. Detailed TAC emission calculations are presented in Appendix B.

None of the TACs identified above have been assigned cancer potency factors by EPA or OEHHA; therefore, no carcinogenic health risk could be quantitatively estimated. Isopropyl alcohol, xylene, ethyl benzene, toluene, and hexane have chronic non-carcinogenic RELs, so chronic non-carcinogenic health risk was estimated from these TACs using the SCAQMD Rules 1401/212 Tier 2 Health Risk Assessment Procedure (<http://www.aqmd.gov/prdas/Risk%20Assessment/RiskAssessment.html>). Assuming the most conservative parameters (sensitive receptors within 25 meters of the affected facilities and worst-case meteorological factors), the chronic non-carcinogenic hazard index would be 0.09. This is less than the SCAQMD significance threshold of 1.0 presented in Table 4-1; therefore, PAR 1143 is not considered significant for chronic non-carcinogenic health risk.

Isopropyl alcohol, xylene, toluene, and methyl ethyl ketone have acute non-carcinogenic RELs, so acute non-carcinogenic health risk was estimated from these TACs using the SCAQMD Rules 1401/212 Tier 2 Health Risk Assessment Procedure. Assuming the most conservative parameters (sensitive receptors within 25 meters of the affected facilities and worst-case meteorological factors), the acute non-carcinogenic hazard index would be 0.3. The acute non-carcinogenic hazard index is less than the SCAQMD significance threshold of 1.0 presented in Table 4-1; therefore, PAR 1143 is not considered significant for chronic non-carcinogenic health risk.

Greenhouse Gas Emissions

Greenhouse gas emissions impacts were evaluated in the IS. Since none of the traditional artist related materials or non- or low-VOC solvents have been identified to be GHGs, PAR 1143 was determined to be less than significant for adverse GHG impacts.

Odor

Odors from PAR 1143 were evaluated in the IS. Since the odor impacts from conventional and lower VOC-containing materials were deemed to be similar, exempting artist solvents and thinners was determined to be less than significant for adverse odor impacts.

PROJECT-SPECIFIC OPERATIONAL IMPACTS:

PAR 1143 would result in 113.7 pounds of VOC emissions forgone per day, which exceeds the SCAQMD operational VOC significant threshold of 55 pounds per day. Since the operational VOC emissions would exceed the significance threshold, VOCs are an ozone precursor, and the district is not in attainment for ozone; PAR 1143 may contribute to an existing or projected air quality violation. Since the proposed project would result in VOC emissions reductions foregone from the existing Rule 1143 that exceed the operational VOC significant threshold of 55 pounds

per day, it may diminish an existing air quality rule or future compliance requirement resulting in a significant increase in an air pollutant.

PROJECT-SPECIFIC OPERATIONAL MITIGATION:

Low- or No-VOC Reformulations

Artist solvents and thinners are expected to be used in quantities less than 0.5 gallons per day from containers that have a total capacity equal to or less than one liter. As stated in Chapter 2, non- and low-VOC solvents and thinners have not met the performance requirements needed by artists, such as no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes. Therefore, low- or no-VOC reformulations cannot be used to mitigate VOC emissions foregone from PAR 1143.

VOC Emission Control Technologies

VOC emission control systems consist of two parts: capture of VOC emissions and control of the VOC emissions. Devices such as fume hoods or paint spray booths capture VOC emissions, which are then vented to devices that either destroy or adsorb the VOC emissions.

Fume hoods are typically enclosures around five sides of a work area, the bottom of which is most commonly located at waist height. Fume hoods are designed to remove vapors from the breathing space of users. Fume hoods are available ducted or ductless (recirculating). Fume hoods are suited for artist clean-up operations such as the clean-up of paint brushes and other related paint application tools that can be cleaned under the hood due to its design to control fumes.

Bench top paint spray booths are intended to be set up on a table, desk or bench. Paint booths are designed to capture overspray and particulate from paint operations using spray equipment such as an air brush or paint aerosol cans (i.e., emissions propelled toward a direction). Since artist solvents and thinners are not typically sprayed, but instead result in emissions from evaporation, fume hoods are a better technology for artist solvents and thinners.

VOC emissions can either be destroyed by combustion or adsorbed to activated carbon. VOC emissions are typically destroyed by boilers, internal combustion engines or thermal oxidizers. If the vapor concentration fluctuates substantially from the process controlled, an auxiliary fuel, such as natural gas, is required to ensure that enough fuel is available to maintain combustion at all times. Since the emissions from artist solvents and thinners are expected to be used in small quantities (i.e., only containers equal to or less than one liter would be exempt from the VOC content limits of Rule 1143) and only the cleaning operations would be captured by fume hoods; the combustion devices would be almost completely fueled by the auxiliary fuel. It is likely that the emissions from operating the combustion devices would exceed the emissions from the artist solvents and thinners. Therefore, combustion technology is not practical to control VOC emissions from artist solvents and thinners.

Carbon absorption could be used to control VOC emissions from artist solvents and thinners captured by fume hoods. Activated carbon filters could be used to adsorb VOC emission vented from the fume hood. Since activated carbon can adsorb VOC emissions in small concentrations, it is a more applicable technology than combustion for controlling VOC emissions from artist solvents and thinners vented from a fume hood.

Artist Solvents and Thinner Use Categories

Artist solvents and thinner use can be placed into two categories close proximity and clean-up use. Close proximity of the work would involve the application of artist solvent and thinner to works of art either in the creation of art or the restoration of artwork. It would be difficult to apply thinner or media to surfaces or to restore work within fume hoods, so close proximity tasks are not expected to be controlled.

Clean-up solvents could potentially be used with a collection device such as fume hoods since clean-up tasks typically involve cleaning paint brushes and related paint application tools that are easily moved to the fume hoods for clean-up operations. Therefore, 56.9 pounds of VOC emissions from clean-up operations (50 percent of 113.7 pounds of total VOC emissions foregone) could be controlled by fume hoods and carbon adsorption. The other 56.9 pounds of VOC emissions from close proximity work would not be controlled.

Application of Control Technology

Consumer products regulations only apply to residential and institutional (museum and educational) sources. Based on conversations with artist trade associations, SCAQMD staff estimated that 20 percent of artist solvent and thinner clean up occurs at institutions and 80 percent occurs at local studios, which include home studios and other location studios.

Restoration at museums is considered close proximity work, so it is unlikely that such restoration tasks could be completed within a fume hood with carbon filters. Since new art is not generated at museums, no clean-up is expected. Therefore, control of VOC emission is not expected to be practical at museums.

Collection and control technologies for clean up use are not considered to be feasible at home or other local studios for the following reasons: home studios would typically be located in residential areas and would typically consist of converting one room into a studio. It would be impractical to install fume hoods and carbon filters because of size limitations; difficulty in installing equipment if the studio is located in an apartment or condominium for example; and local residential zoning ordinances may prohibit installation of some types of control technologies, especially those that involve combustion.

Control technologies for clean-up VOC emissions are expected to be technically feasible for use at educational institutions. Staff estimates that there are 34 artist related education institutions in the district and each institution would require a single unit; therefore, a total of 34 units are would be needed.

As stated above, approximately 56.9 pounds per day of VOC emissions are from clean-up solvents. However, only 20 percent of all artist solvent and thinners would be used at institutions. Therefore, 11.4 pounds per day (20 percent of 57 pounds per day of VOC emissions) would be captured by collection devices at institutions. Staff estimates that approximately 50 percent of the used clean-up solvents would remain in liquid form and would be disposed of as hazardous waste, thus, 5.7 pounds per day of VOC emissions would be captured using fume hoods. Activities that could not be performed within a fume hood (such as art restoration, solvent and thinner mixed into artistic media) would not be captured.

Manufacturers of carbon filters estimate the carbon adsorption efficiency of a new flat filter to be 95 percent. Carbon filter performance decays over time; therefore, SCAQMD staff estimates

that there would be a performance loss of 15 percent over the life of the filter. Therefore, the “in use” control efficiency was assumed to be 81 percent. Therefore, approximately 4.59 pounds of VOC emissions (5.69 pounds of VOC per day x 0.81) would be controlled by fume hoods and carbon adsorption.

Based on a cost analysis of fume hoods and carbon filters (see Appendix B) the cost effectiveness of the VOC emissions control system would be approximately \$98,300 per ton. The SCAQMD has set a cost effective threshold of \$16,500 per ton. Since the \$98,300 per ton that would be required to install and operate a VOC emissions control system at affected institutions exceeds \$16,500 per ton, VOC emissions control systems are not considered feasible based on cost.

SCAQMD staff did not identify any other mitigation measures that would reduce VOC emissions foregone from PAR 1143.

REMAINING AIR QUALITY IMPACTS: No construction emissions were identified from PAR 1143. Therefore, construction would not have significant adverse impacts and no construction mitigation measures are required.

The air quality analysis concluded that significant adverse operational air quality impacts could be generated by the proposed project because the operational activities would produce VOC emissions foregone that would exceed the SCAQMD’s significance threshold of 55 pounds per day of VOC.

As stated above no mitigation measures were identified by SCAQMD staff (VOC content limit and VOC control device) that could avoid the significant impact or reduce the impact to less than significant.

It is concluded that the proposed project overall has the potential to generate significant adverse air quality impacts for operation. As a result, a Findings and a Statement of Overriding Considerations will be prepared for the Governing Board's consideration and approval prior to the public hearing for the proposed project.

CUMULATIVE AIR QUALITY IMPACTS: The analysis indicates that the proposed project will result in less than significant construction impacts, since no construction is expected. Because construction adverse impacts are not significant, they are not considered to be cumulatively considerable (CEQA Guidelines §15064 (h)(1)).

In general, the preceding analysis concluded that air quality impacts from operational activities would be significant from implementing the proposed project because the SCAQMD’s significance thresholds for operations would be exceeded for VOC emissions foregone. Thus, the air quality impacts due to operational VOC emission foregone are considered to be cumulatively considerable pursuant to CEQA Guidelines §15064 (h)(1) and therefore, generate significant adverse cumulative air quality impacts.

Even though the proposed project would cause significant adverse increase in VOC emissions foregone during operations, the operational VOC emission reductions foregone combined with the total permanent emission reductions achieved by Rule 1143 are expected to result in net VOC emission reductions and, therefore, would not interfere with the air quality progress and

attainment demonstration projected in the AQMP. Further, based on regional modeling analyses performed for the 2007 AQMP, implementing control measures contained in the 2007 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 2023. Therefore, cumulative operational air quality impacts from the proposed project, 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 2007 AQMP Final Program EIR that cumulative air quality impacts from all AQMP control measures are not expected to be significant (SCAQMD, 2007). Therefore, there will be no significant cumulative adverse operational air quality impacts from implementing the proposed project.

CUMULATIVE MITIGATION MEASURES: Since there are no significant adverse cumulative air quality impacts from construction, no cumulative mitigation measures for construction are required.

Similarly, operational air quality impacts from the proposed project were determined not to be cumulatively significant so no mitigation measures are required.

POTENTIAL ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

While all the environmental topics required to be analyzed under CEQA were reviewed to determine if the proposed project would create significant impacts, the screening analysis concluded that the following environmental areas would not be significantly adversely affected by the proposed project: aesthetics, agriculture and forest resources, biological resources, cultural resources, energy, geology/soils, hazards and hazardous material, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic. One comment was received on the NOP/IS that asked SCAQMD staff to consider avoidance, when significant cultural resources are discovered during the course of project planning and implementation. Since PAR 1143 would only exempt artist solvents and thinners from the requirements of Rule 1143, no construction is required, and usage is expected to occur within existing structures in small quantities; no cultural resource impacts are expected. Therefore, the comment does not apply to PAR 1143.

The following is a brief discussion of each topic found not to be significant in the NOP/IS.

Aesthetics

PAR 1143 would not result in any new construction of buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Similarly, additional light or glare would not be created which would adversely affect day or nighttime views in the area since no light generating equipment would be required to comply with PAR 1143. Further, the use of artist solvents and thinners would not appreciably change the visual profile of the building(s) where the exempted artist solvents and thinners are used.

Therefore, for these aforementioned reasons, the proposed project is not expected to create significant adverse aesthetic impacts.

Agriculture and Forest Resources

The proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Use of artist solvents and thinners would not require converting farmland to non-agricultural uses because the use of artist solvents and thinners is expected to occur completely within the confines of affected industrial facilities, commercial facilities, residences or institutions boundaries. For the same reasons, PAR 1143 would not result in the loss of forest land or conversion of forest land to non-forest use.

Therefore, for these aforementioned reasons, the proposed project is not expected to create significant adverse agriculture and forest resource impacts.

Biological Resources

Use of artist solvents and thinners is expected to occur within existing structures. Further, PAR 1143 is not expected to require construction activities to install control equipment because use of artist solvents and thinners would be exempt from PAR 1143. For the same reason, PAR 1143 would not require the construction of any new buildings or other structures. As a result, implementing PAR 1143 is not expected to adversely affect in any way habitats that support riparian habitat, are federally protected wetlands, or are migratory corridors. Similarly, since implementing PAR 1143 would not require construction of any structures, special status plants, animals, or natural communities are not expected to be adversely affected.

It is not envisioned that PAR 1143 would conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because the proposed project does not require construction of any structures or new development in undeveloped areas. Additionally, PAR 1143 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason.

Therefore, the proposed project is not expected to create significant adverse biological resource impacts.

Cultural Resources

Since no construction-related activities would be associated with the implementation of PAR 1143, no impacts to historical or cultural resources are anticipated to occur as a result of implementing the proposed project. Further, PAR 1143 is not expected to require physical changes to the environment, such as construction, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries. The proposed project is, therefore, not anticipated to result in any activities that could have a significant adverse impact on cultural resources in the District.

Energy

The use of artist solvents and thinners is expected to create little or no additional demand for energy at affected institutional facilities because activities and practice that involve the use artist solvents and thinners are not expected to change as a result of exempting artist solvents and thinners from the requirements of the existing rule and, as such, would require little or no additional energy to use. As a result, PAR 1143 would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the need for new or substantially altered power or natural gas systems. Since PAR 1143 would not require the

installation of control equipment or the construction of any structures, the proposed project would not conflict with adopted energy conservation plans. Additionally, facility operators who use artist solvents and thinners are expected to comply with any relevant existing energy conservation plans and standards to minimize operating costs. In light of the aforementioned discussion and since PAR 1143 would only affect artist solvents and thinners, PAR 1143 would not create any significant adverse effects on peak and base period demands for electricity, natural gas, or other forms of energy, or adversely affect energy producers or energy distribution infrastructure. The proposed project is, therefore, not anticipated to result in any activities that could have a significant adverse impact on energy resources in the District.

Geology and Soils

There are no provisions in PAR 1143 that would require the construction of new or modified structures or the construction of air pollution control equipment that would call for the disruption or overcovering of soil, changes in topography or surface relief features, the erosion of beach sand, or a change in existing siltation rates. It is expected that consumers who use artist solvents and thinners, would use these products within affected residences' or institutions' boundaries. For these reasons, PAR 1143 would not expose persons or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. Since artist solvents and thinners would be exempt from PAR 1143, installation of control equipment or the construction of any structures is not expected. Since PAR 1143 would not involve construction activities, no soil disruption from excavation, grading, or filling activities; changes in topography or surface relief features; erosion of beach sand; or changes in existing siltation rates are anticipated from the implementation of the proposed project. Since no construction activities would be required, no excavation, grading, or filling activities will be required to comply with the proposed project. For these reasons, subsidence is not anticipated to be a problem. Further, the proposed project would not require the drilling or removal of underground products (e.g., water, crude oil, etc.) that could produce subsidence effects. Since no groundwork or earth moving activities would be required as part of implementing PAR 1143, no new landslides effects or changes to unique geologic features would occur. For the same reasons, no persons or property would be exposed to new impacts from expansive soils or soils incapable of supporting water disposal. Further, PAR 1143 does not involve installation of septic tanks or other alternative waste water disposal systems. The main effect of the proposed project would allow the use of artist solvents and thinners exempt from PAR 1143.

Based upon the aforementioned considerations, significant geology and soils impacts are not expected from the implementation of the proposed project.

Hazards and Hazardous Materials

Exempting artist solvents and thinners from PAR 1143 would result in no provisions that would directly or indirectly dictate the use of any specific solvent or thinner formulations. Persons who currently use artist solvents and thinners would continue to have the flexibility of choosing the product formulation best suited for their needs. It is likely that persons who utilize these materials would choose an artist solvent thinner product that does not pose a substantial safety hazard.

The purpose for the exemption for artist solvents and thinners is that Rule 1143 compliant solvents do not have the desired characteristics needed by artist for their solvents and thinners. If PAR 1143 is adopted, it is unlikely that there would be an increase in affected solvents reformulated with acetone. Instead, it is likely that artist solvents and thinners would be

formulated with traditional solvents. According to the analysis of hazard impacts from Rule 1143 in the June 2010 Final Supplemental EA for PAR 1143, it was concluded that formulating compliant products with acetone could generate significant adverse hazard impacts; however, the July amendments to Rule 1143 included labeling and public outreach requirements, which were concluded to reduce significant hazard impacts to insignificant. This potential hazard impact from formulating artist solvents and thinners with acetone would be eliminated under PAR 1143.

Therefore, PAR 1143 is not expected to create a new significant hazard to the public or the environment through the routine transport, use and disposal of hazardous material; create a new significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment; emit new hazardous emissions, or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school; or significantly increase fire hazard in areas with flammable materials.

Since PAR 1143 would exempt artist solvents and thinners, it would not impact facilities affected by Government Code §65962.5 (i.e., under the proposed exemption from Rule 1143, affected manufacturers or users of artist solvents and thinners would not have any restrictions related to Rule 1143, but would still need to comply with any regulations relating to Government Code §65962.5).

Since the use of artist solvents and thinners exempt from PAR 1143 would occur at existing residential, institutional, industrial, or commercial facilities, implementation of PAR 1143 is not expected to increase or create any new hazardous emissions which could adversely affect public/private airports located in close proximity to the affected sites. As stated above, the potential flammability impacts from artist solvents and thinners is likely to be less, because reformulation would not be necessary as a result of the proposed exemption (i.e., any acetone use would not be an effect of PAR 1143). In addition, PAR 1134 artist solvents and thinners would exempt containers having a total capacity equal to or less than one liter.

With respect to suppliers and sellers of affected artist solvents/thinners, 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. Because the proposed project would eliminate potential hazard impacts from acetone-based products, it is not anticipated that PAR 1143 would impair implementation of or physically interfere with an adopted or modified emergency response plan or emergency evacuation plan, and will not be evaluate further in the ~~Draft~~-Final EA.

Since the exemption in PAR 1143 is likely to result in the use of less flammable artist solvents and thinners than acetone at existing residential, industrial, or commercial sites in urban areas where wildlands are typically not prevalent, risk of loss or injury associated with wildland fires is not expected as a result of implementing PAR 1143. Therefore, PAR 1143 is not expected to be significant for exposing people or structures to risk of loss, injury or death involving wildland fires.

Based upon these considerations, significant land use planning impacts are not expected from the implementation of the proposed project.

Hydrology and Water Quality

The exemption for artist solvents and thinners is not expected to affect water use, since artist solvents and thinners that do not meet the 300 gram of VOC per liter limit in the existing Rule 1143 are not expected to be water- or acetone-based (i.e., not water soluble).

Since there would be no VOC content limit, manufacturers would not need to reformulate using water-based formulations. Therefore, decreased water demand is expected. Therefore, PAR 1143 is not expected to adversely affect existing water demand, affect groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. In addition, implementation of PAR 1143 would not increase demand for water from existing entitlements and resources, and would not require new or expanded entitlements. Therefore, no water demand impacts are expected as the result of implementing PAR 1143.

The use of traditional and low-VOC solvents were found to be similar; therefore, substantial changes in wastewater volume and composition is not expected from exempting artist solvents and thinners in PAR 1143. Further, PAR 1143 is not expected to cause facility operators that utilize these products to violate any water quality standard or wastewater discharge requirements since wastewater volumes associated with PAR 1143 will remain unchanged. PAR 1143 is not expected to have significant adverse water demand and water quality impacts for the following reasons:

- The proposed project does not increase demand for potable water by more than 262,820 gallons of per day.
- The proposed project does not increase total demand potable water by more than 5,000,000 gallons per day.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The proposed project does not result in alterations to the course or flow of floodwaters.

Since the proposed project does not involve construction activities, no new increases to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PAR 1143.

PAR 1143 is not expected to generate the construction of new housing or contribute to the construction of new building structures because no facility modifications or changes are expected to occur at existing facilities or sites where artist solvents and thinners are distributed, sold or used. Further, PAR 1143 is not expected to require additional workers at affected facilities or sites where these products are used because PAR 1143 primarily affects consumers. To the extent that affected products are used at institutional facilities, no additional workers would be required because PAR 1143 would only exempt artist solvents and thinners, not existing operations. Therefore, PAR 1143 is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. Further, PAR 1143 is not expected to expose persons or structures to significant new flooding risks, or make worse any existing flooding risks than

currently exists because no new structure would be necessary to implement PAR 1143. Finally, PAR 1143 will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or other sites where artist solvents and thinners are used.

Since PAR 1143 is not expected to result in significant water or wastewater volumes and compositions, PAR 1143 is not expected to result in the construction of new water or wastewater treatment facilities.

PAR 1143 would not cause an increase in storm water discharge, since no construction activities are required or expected in order to use exempt artist solvents and thinners. Further, no new areas at existing affected facilities are expected to be paved, so the proposed project would not increase storm water runoff during operation. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities would be required as a result of implementing PAR 1143. Accordingly, PAR 1143 is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of the proposed project.

Land Use and Planning

PAR 1143 would exempt any artist solvents and thinners provided that it is sold or used for reducing the viscosity of, or removing, art coating compositions or components and would not involve the construction of any air pollution control equipment or structures; therefore, it would not result in physically dividing an established community. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by exempt any artist solvents and thinners from PAR 1143 requirements.

Since PAR 1143 would exempt any artist solvents and thinners provided that it is sold or used for reducing the viscosity of, or removing, art coating compositions or components and would not involve construction of any air pollution control equipment or structures, it 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. Therefore, present or planned land uses in the region would not be significantly adversely affected as a result of implementing PAR 1143.

Based upon these considerations, significant land use planning impacts are not expected from the implementation of the proposed project.

Mineral Resources

There are no provisions of the proposed project that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state such as aggregate, coal, clay, shale, et cetera, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Noise

It is expected that any noise from exempting any artist solvents and thinners provided that it is sold or used for reducing the viscosity of, or removing, art coating compositions or components PAR 1143 would occur at the manufacturer level. However, the manufacture of exempt artist

solvents and thinners is not expected to cause physical modifications that would require construction activities at the point of manufacture, distribution or use. For these reasons, PAR 1143 is not expected to expose persons to the generation of excessive noise levels above current facility levels, because it would only affect the composition of artist solvents and thinners. Further, the use of these materials at the consumer level is typically not a noise intensive activity. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the existing facilities or other sites where these products are distributed, sold or used to above a level of significance in response to implementing PAR 1143.

PAR 1143 is not anticipated to expose persons to or generate excessive groundborne vibration or groundborne noise levels since no construction activities are expected to occur by exempting artist solvents and thinners and the exemption does not involve, in any way, the installation of control equipment that would generate vibrations and noise.

No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to PAR 1143 is anticipated because the proposed project would not require construction-related activities nor would it change the existing activities currently performed by persons who utilize artist solvents and thinners.

Even if affected sites where these products are used are located near public/private airports, no new noise impacts would be expected since the use of artist solvents and thinners is not typically a noise intensive activity. Thus, PAR 1143 is not expected to expose persons residing or working in the vicinity of public or private airports to excessive noise levels.

Based upon the aforementioned considerations, significant noise impacts are not expected from the implementation of the proposed project.

Population and Housing

The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution as no additional workers are anticipated to be required to comply with PAR 1143. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1143. As such, PAR 1143 will not result in changes in population densities or induce significant growth in population.

As such, PAR 1143 is not expected to substantially alter existing operations where artist solvents and thinners may be used. Consequently, PAR 1143 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of persons or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed project.

Public Services

Potential adverse impacts to fire departments could occur in two ways: 1) if there is an increase in accidental release of hazardous materials used in artist solvents and thinners, fire departments would have to respond more frequently to accidental release incidences; and, 2) if there is an increase in the amount of hazardous materials stored at affected facilities, fire departments may have to conduct additional inspections. Based on the analysis in Section VIII. Hazards and

Hazardous Materials, PAR 1143 is expected to reduce the hazards and hazardous material in artist solvents and thinners. It should be again acknowledged, however, that PAR 1143 does not require the use of any particular product. In addition, both traditional solvents and exempt solvents, aqueous, and bio-based technology are commercially available. Consumers who utilize artist solvents and thinners would determine which artist solvents and thinners to use based on a number of factors including, but not limited to, safety considerations.

Communications with fire department personnel revealed that there would be equal concerns with the use of any conventional or replacement solvent which has a flash point below 65 degrees Fahrenheit. Even though there are several conventional solvents that have flash points below 65 degrees Fahrenheit, the use of artist solvents and thinners formulated with these both traditional and low-VOC solvents are currently being safely used. Thus, there is no reason to believe that an exemption for artist solvents and thinners from the existing requirements of PAR 1143 would substantial change the safety and handling practices currently in place.

Based upon these considerations, the overall risk associated with the use of artist solvents and thinners is not expected to appreciably change when PAR 1143 is adopted. Further, implementation of PAR 1143 would not generate significant adverse impacts to local fire departments requiring new or additional fire fighting resources. As a result, the need for inspections and the net number of accidental releases would be expected to remain relatively constant.

Local police departments are often the first responders to emergency situations such as fires to cordon off the area and provide crowd control. Since exempting artist solvents and thinners from the requirements of PAR 1143 is expected to decrease the flammability relative to the flammability of low-VOC solvents (specifically acetone), implementing PAR 1143 is not expected to increase the number of fires compared to the existing setting. As a result, no significant adverse impacts to local police departments are expected because no increases in fire emergencies are anticipated.

The local labor pool (e.g., workforce) of people and consumers that use artist solvents and thinners in their day-to-day activities is expected to remain the same since PAR 1143 would not trigger substantial changes to current usage practices. Therefore, with no increase in local population anticipated (see discussion “XIII. Population and Housing”), construction of new or additional demands on existing schools and parks are not anticipated. Therefore, no significant adverse impacts are expected to local schools or parks.

By exempting PAR 1143 from the existing rule, there is no other need for government services. Further, PAR 1143 would not result in the need for new or physically altered government facilities, such as police or fire departments, in order to maintain acceptable service ratios, response times, or other performance objectives. There will be no increase in population and, therefore, no need for physically altered government facilities.

Based upon these considerations, significant public services impacts are not expected from the implementation of the proposed project.

Recreation

As discussed previously under “Land Use,” there are no provisions to the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations

are determined by local governments; no land use or planning requirements are expected to be altered by the proposed project. Further, the proposed project 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 because the proposed project is not expected to induce population growth. Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed project.

Solid/Hazardous Waste

The type of waste associated with artist solvents and thinners depends on the manner in which these products are used. In handwipe operations, solvent-laden rags are the predominant waste product (liquid cleanup solvent wastes are addressed in the “Hydrology and Water Quality” section). These wastes are a byproduct of hand wipe cleaning and not because of air quality regulations (i.e., PAR 1143). Additionally, PAR 1143 would not be the cause of waste generation, but exempts artist solvents and thinners from the requirements of Rule 1143. Thus, PAR 1143 may result in the alteration of the composition of a waste stream because of the artist solvents and thinners would not need to use low-VOC solvents, but would not be expected to result in an increased generation of waste.

It is important to note that PAR 1143 does not change the current requirements specific to cleanup solvent storage and disposal. Since future reformulations of artist solvents and thinners are expected to be formulated with solvents that are equally or less hazardous than currently used solvents (see “Hazards and Hazardous Materials” section), implementing PAR 1143 is not expected to generate significant new adverse hazardous waste impacts.

Therefore, there are no significant adverse solid and hazardous waste impacts associated with PAR 1143. As a result, no net increase in the amount or character of solid or hazardous waste streams is expected to occur. Further, PAR 1143 is not expected to increase the volume of solid or hazardous wastes from persons who utilize artist solvents and thinners, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, significant solid/hazardous waste impacts are not expected from the implementation of the proposed project.

Transportation/Traffic

The use of artist solvents and thinners is not expected to adversely affect transportation. The volumes of artist solvents and thinners are not expected to deviate substantially from the volumes of materials currently used. Thus, the current level of transportation demands related to transporting new formulations of materials is expected to remain equivalent. PAR 1143 is not expected to affect existing uses and applications of artist solvents and thinners that would change or cause additional worker trips to distribution or retail facilities or increase transportation demands or services. Therefore, since no substantial increase in operational-related trips are anticipated, implementing PAR 1143 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities or other sites that use these products.

The height and appearance of the existing structures where artist solvents and thinners would be used is not expected to be affected by complying with PAR 1143. Therefore, implementation of

PAR 1143 is not expected to adversely affect air traffic patterns. Further, PAR 1143 would not affect in any way air traffic in the region because, artist solvents and thinners are typically shipped via ground transportation and not by air.

Use of artist solvents and thinners does not require construction of structures or roadways. Further, implementing PAR 1143 will not involve modifications to existing roadways. Consequently, implementing the proposed project will not create roadway hazards or incompatible roadway uses.

Use of artist solvents and thinners exempt from PAR 1143 is not expected affect or require changes to emergency access at or in the vicinity of the affected facilities or other sites where artist solvents and thinners is used since PAR 1143 will not require construction or physical modifications of any kind. Therefore, PAR 1143 is not expected to adversely affect emergency access.

No modifications at facilities or other sites where artist solvents and thinners is used is expected that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera. Consequently, implementing PAR 1143 would not create any conflicts with these modes of transportation.

Based upon these considerations, significant transportation/traffic impacts are not expected from the implementation of the proposed project.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines §15126(c) requires an environmental analysis to consider "any significant irreversible environmental changes which would be involved if the proposed action should be implemented." The NOP/IS and this EA identified the topic of air quality as the environmental area potentially adversely affected by the proposed project. PAR 1143 would result in 113.7 pounds of VOC emissions forgone per day, which exceeds the SCAQMD operational VOC significant threshold of 55 pounds per day, and therefore, is considered significant. VOCs are an ozone precursor, and the district is not in attainment for ozone; however, the net increase in operational VOC emissions foregone combined with the total permanent emission reductions achieved by Rule 1143 are not expected to interfere with the air quality progress and attainment demonstration projected in the AQMP. Since, the AQMP will ensure the progress and attainment demonstration of the ozone standard, the operational VOC emissions foregone are not considered significant irreversible.

POTENTIAL GROWTH-INDUCING IMPACTS

CEQA Guidelines §15126(d) requires an environmental analysis to consider the "growth-inducing impact of the proposed action." Implementing the proposed project 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 facilities.

CONSISTENCY

CEQA Guidelines §15125(d) requires an EIR to discuss any inconsistencies between a proposed project and any applicable general plans or regional plans. SCAG and the SCAQMD have developed, with input from representatives of local government, the industry community, public health agencies, the USEPA - Region IX and CARB, 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 the consistency between the proposed project and relevant regional plans pursuant to the SCAG Handbook and SCAQMD Handbook.

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. It states that the overall goals for the region are to: 1) re-invigorate the region's economy; 2) avoid social and economic inequities and the geographical isolation of communities; and, 3) maintain the region's quality of life.

Consistency with Growth Management Chapter (GMC) to 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, strengthen the regional strategic goal to stimulate the regional economy. The proposed project in relation to the GMC would not interfere with the achievement of such goals, nor would it interfere with any powers exercised by local land use agencies. Further, the proposed project will not interfere with efforts to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.

Consistency with Growth Management Chapter (GMC) to Provide Social, Political and Cultural Equity

The Growth Management goals to develop urban forms that avoid economic and social polarization promotes the regional strategic goals of minimizing social and geographic disparities and of reaching 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 include 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 the proposed project has no effect on and, therefore, is not expected to interfere with the goals of providing social, political and cultural equity.

Consistency with Growth Management Chapter (GMC) to 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. The proposed project implements an AQMP control measure, which results in improving air quality in the region. Therefore, in relation to the GMC, the proposed project is not expected to interfere, but rather help with attaining and maintaining the air quality portion of these goals.

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

The proposed project is consistent with the RMP and CMP since less than significant adverse impacts to transportation/circulation would from PAR 1143.

CHAPTER 5

ALTERNATIVES

Introduction

Alternatives Rejected as Infeasible

Description of Alternatives

Comparison of Alternatives

Lowest Toxic Alternative

Environmentally Superior Alternative

Conclusion

INTRODUCTION

This ~~Draft~~ Final EA provides a discussion of alternatives to the proposed project as required by CEQA. Alternatives include measures for attaining 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(f) 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 (the rule which implements the SCAQMD's certified regulatory program) does not impose any greater requirements for a discussion of project alternatives in an environmental assessment than is required for an EIR under CEQA.

Because of the limited scope of the proposed project, two alternatives to the proposed project are summarized in Table 5-1: Alternative A (No Project) and Alternative B (VOC Content Limit). Pursuant to the requirements in CEQA Guidelines §15126.6(b) to mitigate or avoid the significant effects that a project may have on the environment, a comparison of the potential air quality impacts from each of the project alternatives for the individual rule components that comprise the proposed project is provided in Table 5-2. No other significant adverse impacts were identified for the proposed project or any of the project alternatives. The proposed project is considered to provide the best balance between emission reductions and the adverse environmental impacts due to construction and operation activities while meeting the objectives of the project. Therefore, the proposed project is preferred over the project alternatives.

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 §15126.6(c)]. Non- and low-VOC solvents and thinners have not met the performance requirements needed by artists, such as no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes. Therefore, alternatives that would require non- or low-VOC solvents or thinners would not be feasible and were rejected.

SCAQMD staff evaluated VOC control technology (fume hoods and carbon filters) in Chapter 4 of this EA. VOC control technology would be limited to educational use, since requiring VOC control technology at residences or museums is not considered feasible as discussed in Chapter 4. Based on a cost analysis of fume hoods and carbon filters at educational facilities (see Appendix B) the cost effectiveness of the VOC emissions control system would be approximately \$98,300 per ton. The SCAQMD has set a cost effective threshold of \$16,500 per ton. Since the \$98,300 per ton that would be required to install and operate a VOC emissions control system at affected educational facilities exceeds \$16,500 per ton, VOC emissions control systems are not considered feasible based on cost.

**Table 5-1
Proposed Project and Alternatives**

Proposed Project	Alternative A: No Project	Alternative B: VOC Content Limit
<p>The proposed project would exempt any artist solvent or thinner labeled and designed exclusively to reduce the viscosity of, remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than one liter. Artist solvents and thinners would be defined as any liquid labeled to meet ASTM D4236-94 (Reapproved 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards, and refined to remove impurities for artistic use to reduce the viscosity of, or remove, art coating compositions or components. This proposal would align the existing Rule 1143 with CARB's artist solvent and thinner exemption in their Consumer Products Regulation.</p>	<p>The proposed project is not adopted and existing Rule 1143 would remain in effect, which requires any artist solvents and thinners manufactured after the compliance dates would need to meet the 300 gram per liter VOC content limit on or after January 1, 2010 and the 25 gram per liter VOC content limit on or after January 1, 2011. Existing Rule 1143 allows the artist solvents and thinners manufactured prior to the implementation dates to meet the 300 gram per liter VOC content limit by January 1, 2011 and the 25 gram per liter VOC content limit by January 1, 2012. The one-year sell through provision is provided for both the interim and final VOC content limits.</p>	<p>Establish a VOC content limit of 880 grams per liter by January 1, 2013 for artist solvents and thinners.</p>

Table 5-2
Comparison of Adverse Environmental Impacts of the Proposed Project and Alternatives

Category	Proposed Project	Alternative A: No Project	Alternative B: VOC Content Limit
Air Quality	113.7 pounds of VOC emission reductions foregone per day.	Decrease in VOC emissions January 1, 2011 and January 1, 2012 when sell through provisions expire.	Qualitative reduction in VOC emissions foregone per day, since highest VOC content for artist solvents and thinners would be prohibited. However, since VOC emission reductions foregone are estimated based on a high VOC content limit, the 113.7 pounds of VOC emission reductions foregone per day are still expected.
Air Quality Impacts Significant?	<ul style="list-style-type: none"> • No construction impacts. • Significant, minimum of 113.7 pounds of VOC emissions foregone per day exceeds the SCAQMD operational significance threshold of 55 pounds of VOC per day. 	<ul style="list-style-type: none"> • Existing setting. • Achieves 2007 AQMP and Rule 1143 VOC emission reductions. 	<ul style="list-style-type: none"> • No construction impacts. • Significant, a maximum of 113.7 pounds of VOC emissions foregone per day exceeds the SCAQMD operational significance threshold of 55 pounds of VOC per day.

DESCRIPTION OF ALTERNATIVES

The following proposed alternatives were developed based on CEQA's requirement to present "realistic" alternatives; that is, alternatives that can actually be implemented.

The initial analysis of the proposed project in the NOP/IS determined that air quality would be the only environmental topic with potential adverse significant impacts. As such, the following two alternatives were developed by identifying and modifying major components of the proposed project. Specifically, the primary components of the proposed alternatives that have been modified relate to the amount of VOC emission reductions foregone. The alternatives, summarized in Table 5-1 and described in the following subsections, include the following: Alternative A (No Project) and Alternative B (VOC Content Limit). Unless otherwise specifically noted, all other components Alternative B are identical to the components of the proposed project. The following subsections provide a brief description of each alternative.

Alternative A - No Project

Alternative A or 'no project' means that the proposed project would not be adopted and artist solvents and thinners would need to meet VOC content limits proposed by the Rule. Existing Rule 1143 requires any artist solvents and thinners manufactured after the compliance dates would be required to meet the 300 gram per liter VOC content limit on or after January 1, 2010 and the 25 gram per liter VOC content limit on or after January 1, 2011. Further, the artist solvents and thinners manufactured prior to the implementation dates to meet the 300 gram per liter VOC content limit by January 1, 2010 and the 25 gram per liter VOC content limit by January 1, 2011. The one-year sell through provision is provided for both the interim and final VOC content limits. The current version of Rule 1143 would implement CM#2007CTS-04 – Emission Reductions from the Reduction of VOC Content of Consumer Products Not Regulated by the State Board.

In summary, Alternative A, the 'no project' alternative, does not achieve the goals of the proposed project because the existing Rule 1143 compliant consumer paint thinners and multi-purpose solvents do not meet the performance standards required by the artists (i.e., no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes).

Alternative B – VOC Content Limit

This alternative would set a VOC content limit based on the existing artist solvents and thinners. The VOC content limit would be set at 880 grams per liter. The VOC content limit was set at 880 grams per liter based on SCAQMD staff's study of multiple VOC contents in artist solvent and thinners (see Table 5-3). Based on conversations with vendors, the only artist solvents and thinners affected would be niche products with minor usage. SCAQMD staff also identified one open acrylic paint thinner with a VOC content of 980 grams per liter. This product is used in small quantities to generate specific effects with acrylic paints. The manufacturer stated that the product could be reformulated to meet the 880 gram per liter limit, but may require more of the reformulated product would be used to achieve same the desired effects. The increase in use may generate VOC emissions equivalent to the VOC emissions reduced by lowering VOC content. An additional two years are included in this alternative to allow the affected manufacturer to develop a product that would meet the VOC content limit of 880 grams per liter and desired performance.

Table 5-3
VOC Content of Paint Solvents and Thinners

Paint Thinner/Solvent	Highest VOC Content, gram/liter	Average VOC Content, gram/liter
Mineral Spirits	790	780.8
Paint Thinner	882	838.1
Polyethylene Glycol	980	980
Turpentine	863	862.5

COMPARISON OF ALTERNATIVES

The Environmental Checklist (see Chapter 2 of the Initial Study in Appendix C) identified air quality as the only environmental areas that could be significantly adversely affected by the proposed project, specifically criteria and toxic emission impacts were assumed to be adversely affected (GHG and odor adverse impacts were determined to be less than significant). Further evaluation of potential impacts in Chapter 4 of this Environmental Assessment concluded that the criteria pollutant adverse impacts from VOC emissions foregone were the only significant impact to air quality (i.e., toxic emission impacts were also determined to be less than significant).

The following sections describe the potential adverse impacts that may be generated by each project alternative. Potential adverse impacts for the environmental topics are quantified where sufficient data is available. A comparison of the environmental impacts for each project alternative is provided in Table 5-2. No other environmental topics other than air quality were determined to be significantly adversely affected by implementing any project alternative.

AIR QUALITY

Alternative A - No Project

The current version of Rule 1143 would implement CM#2007CTS-04 – Emission Reductions from the Reduction of VOC Content of Consumer Products Not Regulated by the State Board. Under Alternative A, the air quality impacts would remain unchanged from the existing setting and therefore, would be less than significant.

Alternative B – VOC Limit

The VOC emission reductions estimated for the proposed project are based on a sales weighted average. Therefore, while a VOC content limit of 880 grams per liter would eliminate artist solvents and thinners with greater VOC content, it would not likely affect the sales weighted average appreciably (i.e., quantitatively). Therefore, the VOC emissions reductions foregone from Alternative B would be similar to the proposed project, which is 113.7 pounds per day. The VOC emissions reductions foregone would be greater than the SCAQMD operational significant threshold; therefore, would be significant for criteria pollutant impacts.

Alternative B, may only partially achieves the project objectives, since it is not known if lower VOC containing material ~~clear that~~ alternatives can be found for the artist solvents and thinners to replace materials currently used with VOC content greater than 880 grams per liter (see discussion under Alternative B – VOC Content Limit in the Description of Alternatives above);

however, ~~the~~ this alternative allows two years for manufacturers to meet the ~~800-880~~ grams per liter VOC content limit.

Even though two years are allowed for manufactures to meet the 880 grams per liter VOC content limit, because artist solvents and thinners are a small part of the solvent and thinner market and only one product was identified with a VOC content above the 880 grams per liter, there is little financial incentive for manufactures to develop replacements for this one product. Based on discussions with the manufacture of the one product with a VOC content above 880 grams per liter, in order to meet the 880 grams per liter VOC content limit the product would be diluted. The diluted product would not produce the desired artistic effect. Therefore, Alternative B does not meet the project objectives.

Toxic emissions and odors would be similar to the proposed project, which would not be significant. Like the proposed project no GHG emissions would be generated; therefore, Alternative B would not be significant for adverse GHG impacts.

LOWEST 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.

Chapter 4 includes a health risk analysis on the use of conventional solvents. None of the conventional solvents identified are carcinogenic. Acute and chronic non-carcinogenic emissions are expected to be less than significant. The proposed project and Alternative B – VOC Content Limit Alternative would have similar effects that would be less than significant.

Alternative A – No Project Alternative would likely result in the elimination of artist solvents and thinners in the district, since no non- or low-VOC content solvents or thinners were identified that can meet the performance standards required by artists (i.e., no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes), as well as desired artistic effects. PAR 1143 may result in the elimination of artist solvents and thinners in the district, Alternative A is considered to be the lowest toxic alternative.

However, the elimination of artist solvents and thinners is not an acceptable option, because alternatives have not be found that meet the performance requirements needed by artists, such as no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines §15126.6(e)(2) requires identifying the environmentally superior alternative. Alternative A would likely result in the elimination of artist solvents and thinners, since no reformulated non-or low-VOC content solvents and thinners were identified with the artist required performance standards. Therefore, the ‘no project’ alternative would be the environmentally superior alternative in accordance with CEQA Guidelines §15126.6(e)(2), because it would eliminate the new significant adverse air quality impacts that would be generated by the proposed project. If the environmentally superior alternative is the No Project Alternative, the CEQA document must identify an environmentally superior alternative among the other alternatives. Because of the limited scope of the proposed project, the only remaining alternative is Alternative B – VOC Content Limit. Although for the purposes of the analysis

VOC emissions reductions foregone are approximately the same as for the proposed project, 113.7 pounds per day. However, because the proposed project does not include a VOC content limit emission reductions foregone could be higher, whereas, the VOC emissions reductions foregone in Alternative B represent the maximum VOC emission reductions foregone. Based on the foregoing, Alternative B is concluded to be the environmentally superior alternative.

However, there is currently no lower VOC-containing material available to replace the currently used product with a VOC content greater than 880 grams per liter and reformulated products would likely rely on dilution. Diluted products would not produce the desired artistic effects. Therefore, Alternative B does not meet the project objectives.

CONCLUSION

Alternative A does not achieve the objectives of the proposed project that are identified in Chapter 2. Alternative A would not be expected to generate any adverse environmental impacts, but may also eliminate the use of artist solvents and thinners in the district.

Alternative B ~~would generally~~ may only partially achieve the objectives of the proposed project. Only one product was identified that had a VOC content limit greater than 880 grams per liter. Because such small quantities are used and currently the manufacturer does not know how to reduce the VOC content limit to achieve the same effects of the existing product, it is unclear if Alternative B would generate quantifiable VOC emission reductions. However, because the alternative would potentially eliminate at least one product with a VOC content limit greater than 880 grams per liter and prohibit any future products with a VOC content limit greater than 880 grams per liter and secondary toxics and GHG emissions would be similar to the proposed project; Alternative B would be the environmentally superior alternative; however, there is currently no lower VOC-containing material available to replace the product currently used with a VOC content limit greater than 880 grams per liter and reformulated products would likely rely on dilution. Diluted products would not achieve the desired artistic effect. Therefore, Alternative B does not meet the project objectives.

The proposed project is considered to provide the best balance between emission reductions foregone, while meeting the objectives of the project, which is to allow the continued use of artist solvent to achieve specific performance standards and artistic effects. Alternative A – No Project would likely eliminate the use of artist solvents and thinners in the district because no alternatives have been identified that meet the VOC content limits of the existing rule and meet the artist performance requirements, such as no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes, as well as desired artistic effects. Alternative B would place a VOC content limit of 880 grams per liter on artist solvents and thinners; however, this would only place limits on niche products that do not have replacements that have been identified at this time, and no quantifiable VOC emissions reductions over the proposed project were identified. Moreover, Alternative B would eliminate certain artistic solvents that are needed to achieve a certain artistic effect.

APPENDIX A OF THE FINAL EA

PROPOSED AMENDED RULE 1143

In order to save space and avoid repetition, please refer to the latest version of the PAR 1143 located elsewhere in the final rule package. The PAR 1143 version dated September 9, 2010 of the proposed rule was circulated with the Draft EA released on September 30 for a 30-day public review and comment period ending November 16, 2010.

Original hard copies of the Draft EA, which include version PAR 1143 (dated September 9, 2010) of the proposed amended rule circulated with the Draft EA, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B OF THE FINAL EA

CALCULATIONS AND ASSUMPTIONS

Table B-1
Maximum Density and TAC Content Based on MSDS Review

Type	Specific Gravity	Density lb/gal	Isopropyl Alcohol 67-63-0 Wt Fraction	Xylene 1330-20-7 Wt Fraction	Ethyl Benzene 100-41-4 Wt Fraction	Toluene 108-88-3 Wt Fraction	Methyl Ethyl Ketone 78-93-3 Wt Fraction	Hexane 110-54-3 Wt Fraction
Medium	0.86	7.18						
Medium	0.86	7.18	0.05					
Medium	0.84	7.01						
Cleaner	0.9	7.51						
Cleaner	0.82	6.84	1					
Thinner	0.1	0.83		0.025				
Cleaner	0.78	6.51		0.1	0.05			
Cleaner	0.801	6.68	0.45			0.1		
Thinner	0.831	6.93				0.2		
Thinner	0.788	6.58						
Thinner		7.08	0.15			0.8	0.1	
Thinner	N/A					0.6	0.15	0.39
Maximum		7.51	1.0	0.1	0.05	0.8	0.15	0.39

Table B-2
TAC Emissions at a Single Location

Description	Usage gal/yr	Density lb/gal	Isopropyl Alcohol 67-63-0	Xylene 1330-20-7	Ethyl Benzene 100-41-4	Toluene 108-88-3	Methyl Ethyl Ketone 78-93-3	Hexane 110-54-3
Annual (ton/yr)	182.5	7.51	0.69	0.07	0.03	0.55	0.10	0.27
Daily (lb/yr)	0.50	7.51	3.76	0.38	0.19	3.00	0.56	1.46
Hour (lb/hr)	0.063	0.94	0.47	0.05	0.02	0.38	0.07	0.18

Assumed half gallon usage was maximum used at a single facility.

Table B-3
Maximum Non-Carcinogenic Chronic Hazard Index at a Single Location

Toxic Air Contaminant	CAS	Usage ton/yr	REL (ug/m3)	(X/Q) (µg/m3)/(ton/yr)	MET	MP	Chronic Hazard Index
Isopropyl Alcohol	67-63-0	0.69	7.00E+03	41.45	1	1	4.06E-03
Xylene	1330-20-7	0.07	7.00E+02	41.45	1	1	4.06E-03
Ethyl Benzene	100-41-4	0.03	2.00E+03	41.45	1	1	7.10E-04
Toluene	108-88-3	0.55	3.00E+02	41.45	1	1	7.58E-02
Hexane	110-54-3	0.27	7.00E+03	41.45	1	1	1.58E-03

Total**8.62E-02**

Chronic non-carcinogenic health risk was estimated from these TACs using the SCAQMD Rules 1401/212 Tier 2 Health Risk Assessment Procedure (<http://www.aqmd.gov/prdas/Risk%20Assessment/RiskAssessment.html>)

Table B-4
Maximum Non-Carcinogenic Acute Hazard Index at a Single Location

Toxic Air Contaminant	CAS	Usage lb/hr	REL (ug/m3)	(X/Q) (µg/m3)/(lb/hr)	Acute Hazard Index
Isopropyl Alcohol	67-63-0	0.47	3.20E+03	1,532	2.25E-01
Xylene	1330-20-7	0.05	2.20E+04	1,532	3.27E-03
Toluene	108-88-3	0.38	3.70E+04	1,532	1.55E-02
Methyl Ethyl Ketone	78-93-3	0.07	1.30E+04	1,532	8.30E-03

Total**2.52E-01**

VOC Control Technology Cost

Staff researched several fume hoods and found two bench top units manufactured by Cole-Parmer and one unit manufactured by the Cynmar Corporation to represent what is currently being offered for sale. Staff determined that the EW-33730-10 fume hood would be the preferred choice for an institution because of its low cost, size and ability to control VOC emissions. Table B-5 shows the three units and their specifications.

**Tables - B-5
Fume Hoods Evaluated**

MANUFACTURER NAME ⁵	MODEL NUMBER	MODEL NAME	SIZE (inch) (WxHxD)	VOLUME FLOW RATE (cubic feet per minute)
Cole-Parmer	EW-33730-00	Bench Top Fume Hood	24x24x15	121
Cole-Parmer	EW-33730-10	Bench Top Fume Hood	24x24x15	121
Cynmar Corporation	180-10964	Bench Top Fume Hood	36x31.5x22.75	290

Cole-Parmer, 625 East Bunker Court, Vernon Hills, IL 60061, <http://www.coleparmer.com>

Cynmar Corporation, 21709 Route 4 North, P.O. Box 530, Carlinville, IL 62626, <http://www.cynmar.com>

The ducted or ductless fume hoods are available. Fume hoods would collect organic vapors and vent them to carbon filters which would adsorb the vapors. Fume hoods are suited to artist clean-up operations such as clean-up of paint brushed and other related paint application tools that can be cleaned under the hood due to its design to control fumes.

The costs associated with any one of these units is based on the initial cost of the unit, replacement filters for the unit, shipping charges, power usage charges, etc., and are presented in Table B-6.

**Table – B-6
Fume Hood Costs**

MANUFACTURER NAME, MODEL	INITIAL EQUIPMENT COST	REPLACEMENT FILTER COST	SHIPPING CHARGES ⁶	ADDITIONAL SHIPPING CHARGES
Cole-Parmer EW-33730-00	\$1,210.00	\$395.00	\$175.86	\$0.00
Cole-Parmer EW-33730-10	\$1,540.00	\$395.00	\$175.86	\$0.00
Cynmar Corporation 180-10964	\$3,800.00	\$545.00	\$175.86	\$0.00

Based on estimate of 100 pounds and a 36x36x24 non-standard shipping container and Fed Ex rates

Table B-7 includes the annual costs, annum, for power usage, based on Southern California Edison's rates, hazardous materials recovery costs and the subtotal of the costs shown in Tables B-6 and Table B-7.

The hazardous materials recovery costs are based on two Los Angeles based providers and include pick-up twice yearly per facility.

**Table – B-7
Hazardous Material Cost**

MANUFACTURER NAME, MODEL	TOTAL FROM TABLE 7	POWER USAGE COSTS (kWh)	HAZ MAT RECOVERY COSTS	SUBTOTAL COSTS
Cole-Parmer EW-33730-00	\$1,780.86	\$41.36	\$135.00 per 55 gallon drum (2 times /year)	\$2,092.22
Cole-Parmer EW-33730-10	\$2,110.86	\$41.36	\$135.00 per 55 gallon drum (2 times /year)	\$2,422.22
Cynmar Corporation 180-10964	\$4,520.86	\$41.36	\$135.00 per 55 gallon drum (2 times/year)	\$4,832.22

Table B-8 shows the carbon filter efficiency for one flat carbon filter and is based on SCAQMD staff's estimate that the filters performance will decay over time thus the manufacturer's claim of 95 percent VOC adsorption efficiency, subject to a loss factor of 15 percent, is given as 81 percent. Table B-14 also shows the VOCs that will be subject to control, from the calculations shown in the introduction, the VOC control rate, based on the carbon efficiency multiplied by the VOCs to control (0.81 x 5.69 lb/day). The last column shows the VOC control rate of 0.84 ton per year.

**TABLE – B-8
VOC Control Rate**

MANUFACTURER NAME, MODEL	CARBON FILTER EFFICIENCY ⁷	VOC SUBJECT TO CONTROL (lb/day)	VOC CONTROL RATE(lb/day)	VOC CONTROL RATE (ton/year)
Cole-Parmer EW-33730-00	0.81	5.69	4.59	0.84
Cole-Parmer EW-33730-10	0.81	5.69	4.59	0.84
Cynmar Corporation 180-10964	0.81	5.69	4.59	0.84

Efficiency calculated by using industry standard of 95 percent, less 15percent for filter efficiency loss

Table B-9 shows the institution costs based on 34 institutions, and the total costs are shown in dollars per ton units (cost effectiveness). Therefore, based on these assumptions, the cost effectiveness for a fume hood would be \$98,300 per ton.

Table – B-9
VOC Control Technology Total Costs

MANUFACTURER NAME, MODEL	VOC CONTROL RATE (ton/day)	SUBTOTAL COSTS	INSTITUTION COSTS (for 34 units)	TOTAL COSTS (dollar/ton)
Cole-Parmer EW-33730-00	0.84	\$2,092.22	\$71,135.48	\$84,908.35
Cole-Parmer EW-33730-10	0.84	\$2,422.22	\$82,355.48	\$98,300.71
Cynmar Corporation 180-10964	0.84	\$4,832.22	\$164,295.48	\$196,105.49

APPENDIX C OF THE DRAFT EA

**NOTICE OF PREPARATION/INITIAL STUDY
(ENVIRONMENTAL CHECKLIST)**



South Coast
 Air Quality Management District
 21865 Copley Drive, Diamond Bar, CA 91765-4182
 (909) 396-2000 • <http://www.aqmd.gov>

SUBJECT: NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL ASSESSMENT

PROJECT TITLE: PROPOSED AMENDED RULE (PAR) 1143 – CONSUMER PAINT THINNERS AND MULTI-PURPOSE SOLVENTS

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 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 your area of expertise, your agency’s area of jurisdiction, or issues relative to the environmental analysis should be addressed to Mr. James Koizumi (c/o CEQA) at the address shown above, or sent by FAX to (909) 396-3324 or by e-mail to jkoizumi@aqmd.gov. Comments must be received no later than 5:00 PM on Tuesday, September 22, 2010. Please include the name and phone number of the contact person for your agency. Questions relative to the proposed amended regulation should be directed to Mr. Don Hopps at (909) 396- 2334.

A CEQA Scoping Meeting to solicit public input on the scope of the analysis to be included in the EA is scheduled for September 15, 2010 at 9:00 a.m at SCAQMD Headquarters. The Public Hearing for the proposed amended regulation is scheduled for December 3, 2010 at SCAQMD Headquarters. (Note: Public meeting dates are subject to change).

Date: August 20, 2010

Signature: *Steve Smith*

Title: Steve Smith, Ph.D.
Program Supervisor

Telephone: (909) 396-3054

Reference: California Code of Regulations, Title 14, §§15082(a), 15103, and 15375

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4178

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT

Project Title:

Proposed Amended Rule (PAR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents

Project Location:

South Coast Air Quality Management District (SCAQMD) area of jurisdiction consisting of 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 proposed project would add a definition of and exempt artist solvents and thinners from the requirements of Rule 1143. Artist solvents and thinners would be defined as any liquid product; labeled to meet ASTM D4236-95; packaged in containers of 32 fluid ounces or less; and labeled to reduce the viscosity of, or remove, art coating compositions or components. The proposed project would also align the existing Rule 1143 with CARB's Consumer Products Regulations, which provides an exemption for artist paint thinners and solvents. The Initial Study identifies only the topic of air quality that may be adversely affected by the proposed project. Impacts to this environmental area will be further analyzed in the Draft EA.

Lead Agency:

South Coast Air Quality Management District

Division:

Planning, Rule Development and Area Sources

Initial Study and all supporting documentation are available at:

SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

or by calling:

(909) 396-2039

or by accessing the SCAQMD's website at:

<http://www.aqmd.gov/ceqa/aqmd.html>

The Public Notice of Preparation is provided through the following:

Los Angeles Times (August 24, 2010) AQMD Website AQMD Mailing List

Initial Study 30-day Review Period:

August 24, 2010 through September 22, 2010

Scheduled Public Meeting Dates (subject to change):

Public Workshop/CEQA Scoping Meeting: September 15, 2010, 9:00 a.m.; SCAQMD Headquarters
SCAQMD Governing Board Hearing: December 3, 2010, 9:00 a.m.; SCAQMD Headquarters

The proposed project may have statewide, regional or areawide significance; therefore, a CEQA scoping meeting is required (pursuant to Public Resources Code §21083.9(a)(2)).

Send CEQA Comments to:

Mr. James Koizumi

Phone:

(909) 396-3234

Email:

jkoizumi@aqmd.gov

Fax:

(909) 396-3324

Direct Questions on Proposed Amendments:

Mr. Don Hopps

Phone:

(909) 396-2334

Email:

dhopps@aqmd.gov

Fax:

(909) 396-3324

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Initial Study for:

Proposed Amended Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents

SCAQMD No. 100820JK

August 2010

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

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Planning and Rules Manager

CEQA and Socioeconomic Analysis

Susan Nakamura

Author:	James Koizumi	Air Quality Specialist
Technical Assistance:	Don Hopps	Air Quality Specialist
Reviewed by:	Steve Smith, Ph.D. Naveen Berry David Ono William Wong Lauren Nevitt	Program Supervisor, CEQA Section Planning and Rules Manager, VOC Rules Program Supervisor, VOC Rules Principal Deputy District Counsel Deputy District Counsel I

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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Cities Representative, Orange County

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

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CHAPTER 1

PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Objective

Project Background

Technology for Artist Paint Solvents and Thinners

Project Description

Alternatives

INTRODUCTION

Consumer products are the largest source of VOC emissions in the South Coast Air Basin (Basin). The California Air Resources Board (CARB) estimates that consumer products in the state of California account for approximately 245 tons per day of VOC emissions. Approximately 45 percent of the state-wide emissions (110.3 tons per day) of VOC emissions can be attributed to the Basin.

The 2007 Air Quality Management Plan (AQMP) highlights the growing impact of VOC emissions from consumer products, which include cleaning products and solvents. Taking into account population growth and planned VOC reductions by CARB, the AQMP estimates that the annual average VOC emissions for the consumer product category will be 107 tons per day by the year 2014, and will likely increase to 112.1 tons per day by the year 2020.

One subcategory of the overall category of consumer products includes artist paint solvents and thinners. Artist paint solvents and thinners have been formulated and refined to eliminate impurities general found in commercial grade paint solvents and thinners. CARB staff surveyed artist solvents and thinners during their 2006 Consumer and Commercial Products Survey.¹ CARB staff found VOC emissions from the artist solvents and thinners category contributed very little to the overall VOC emissions from the consumer products category. CARB staff also found that artist's paint solvents and thinners are required to meet the Labeling of Hazardous Art Materials Act (LHAMA) within the Federal Hazardous Substances Act, which requires that any art material, including solvents, must meet the requirements in ASTM D-4236, the standard Practice for Labeling Art Materials for Chronic Health Hazards, to protect consumers of any age from potential health hazards of these products. CARB staff was unable to identify technology that would allow artist solvent/thinner to be reformulated to meet lower VOC content limits and meet performance requirements. As a result, CARB staff exempted artist paint solvents and thinners, which they call artist's solvents/thinners,² from the requirements of their Consumer Products Regulations, provided that they are labeled to meet ASTM D4236 and packaged in containers with a capacity less than or equal to 32 fluid ounces.

Proposed amended Rule (PAR 1143) would adopt the CARB exemption for artist solvent/thinner. An artist solvent/thinner would be defined: as any liquid product labeled to meet ASTM D4236 – 95 (March 1, 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards; and packaged in a container equal to or less than 32 fluid ounces; and also labeled to exclusively reduce the viscosity of, or remove, art coating compositions or components.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments Rule 1143 are considered a "project" as defined by CEQA. CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented if feasible. The purpose of CEQA is to inform SCAQMD's decision makers for a project, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing a proposed project and to identify feasible mitigation measures or alternatives, when an impact is concluded to be significant.

¹ CARB, 2006 Consumer and Commercial Products Survey, 2009, <http://www.arb.ca.gov/regact/2009/cpmthd310/cpmthdisor.pdf>.

² CARB, Consumer Products Regulation, September 2009, <http://www.arb.ca.gov/consprod/regs/regs.htm>.

California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents 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 Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110. Pursuant to Rule 110 (the rule which implements the SCAQMD's certified regulatory program), SCAQMD is preparing a Draft Environmental Assessment (EA) to evaluate potential adverse impacts from the proposed project.

The SCAQMD, as Lead Agency for the proposed project, has prepared this Initial Study (which includes an Environmental Checklist and project description). The Environmental Checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. The Initial Study is also intended to provide information about the proposed project to other public agencies and interested parties prior to the release of the Draft Environmental Assessment (EA). Written comments on the scope of the environmental analysis will be considered (if received by the SCAQMD during the 30-day review period) when preparing the Draft EA.

PROJECT LOCATION

Proposed Amended Rule (PAR) 1143 would apply to manufacturers, distributors and sellers of consumer paint thinners and multi-purpose solvents located throughout the SCAQMD's jurisdiction. The SCAQMD has jurisdiction over an area of 10,473 square miles, consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB) as shown in Figure 1. The Basin, which is a subarea of the district, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east.

PROJECT OBJECTIVE

The objects of the proposed project include the following:

- Add a new definition to Rule 1143 for artist paint thinners and solvents as any liquid product labeled to meet ASTM D4236 – 95 (March 1, 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards; and packaged in a container equal to or less than 32 fluid ounces; and also labeled to exclusively reduce the viscosity of, or remove, art coating compositions or components;
- Align Rule 1143 with CARB's Consumer Products Regulations relative to artist paint solvents and thinners; and
- Exempt artist paint solvents and thinners from the requirements of Rule 1143.



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

PROJECT BACKGROUND

Rule 1143– Consumer Paint Thinners and Multi-Purpose Solvents

Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents, adopted by the SCAQMD Governing Board on March 6, 2009, implements AQMP Control Measure 2007CTS-04 by reducing the VOC contents of these consumer products sold by suppliers, distributors, and retailers to consumers. As part of the rule adoption, the SCAQMD Governing Board also certified the environmental analysis prepared pursuant to the California Environmental Quality Act (CEQA), Final EA for Proposed Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents, February 2009, SCAQMD No. 11112008BAR, State Clearinghouse No. 2008111052.

On April 1, 2009, W.M. Barr initiated a lawsuit challenging the SCAQMD’s environmental analysis in the CEQA document prepared supporting its original March 6, 2009 adoption of Rule 1143. The case, W.M. Barr v. South Coast Air Quality Management District, Los Angeles Superior Court Case No. BS 119869, was heard by the court on December 7, 2009. The court upheld the SCAQMD’s Final Environmental Assessment (EA) against all challenges except one. The court found that the SCAQMD’s Final EA failed to address the issue of “whether acetone-based thinner is a significantly higher fire risk than mineral-based paint thinner.”

In constructing the appropriate remedy, the court ultimately allowed the SCAQMD to maintain Rule 1143’s interim VOC limit of 300 grams per liter but ordered the SCAQMD to vacate the final VOC limit of 25 grams per liter for paint thinners and multi-purpose solvents. The court expressly found that the SCAQMD “presents uncontradicted evidence that no one, including Barr, was concerned about the fire hazard associated with the 300 grams per liter [interim

limit].” The court also reiterated its earlier ruling that “the Environmental Assessment was adequate except with respect to the fire hazard issue.”

On June 4, 2010, the SCAQMD Governing Board approved amendments to Rule 1143 that rescinded the 25 grams per liter VOC limit. Because the SCAQMD had no discretion with regard to the rescission of this portion of Rule 1143, the action was considered to be ministerially exempt from CEQA pursuant to CEQA Guidelines §15268 – Ministerial Projects. Thus, a Notice of Exemption was prepared pursuant to CEQA Guidelines §15062 - Notice of Exemption. The Notice of Exemption was filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

On July 9, 2010, the SCAQMD Governing Board adopted proposed amendments to Rule 1143, which: 1) re-establish the 25 grams per liter VOC limit; 2) added consumer warning requirements for all flammable and extremely flammable products; 3) added requirements for conducting public education and outreach with local fire departments to consumers regarding the reformulation of potentially more flammable paint thinners; 4) clarified the intent of the exemption for thinners for industrial maintenance (IM) coatings, zinc-rich IM primers, and high-temperature IM coatings as well as clean-up solvents for polyaspartic and polyurea coatings; and, 5) made other minor clarifications. Of these proposed changes, only the re-establishment of the 25 grams per liter VOC limit resulted in physical changes that required an additional CEQA analysis relative to fire hazards in the Final Supplemental EA for Proposed Amended Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents, June 2010, SCAQMD No. 11112008BAR, State Clearinghouse No: 2008111052.

CARB Artist’s Solvent/Thinner Category

CARB staff surveyed artist solvents and thinners during their 2006 Consumer and Commercial Products Survey. CARB staff found VOC emissions from the artist solvents and thinners category contributed very little to the overall VOC emissions from the consumer products category. CARB staff also found that artist’s paint solvents and thinners are required to meet the Labeling of Hazardous Art Materials Act (LHAMA) within the Federal Hazardous Substances Act, which requires that any art material, including solvents, must meet the requirements in ASTM D-4236, the standard Practice for Labeling Art Materials for Chronic Health Hazards, to protect consumers of any age from potential health hazards of these products. CARB staff was unable to identify technology that would allow artist solvent/thinner to be reformulated to meet lower VOC content limits and meet performance requirements. As a result, CARB staff exempted artist paint solvents and thinners, which they call artist’s solvents/thinners, from the requirements of their Consumer Products Regulations, provided that they are labeled to meet ASTM D4236 and packaged in containers with a capacity less than or equal to 32 fluid ounces.

Artist Paint Solvent and Thinner Products in District

There are approximately 19 paint thinner and solvent manufacturers that manufacture products exclusively for the artist industry in the District. Artist paint thinners and solvents are typically sold through hobby shops, craft and air material store outlets, and through internet sites. SCAQMD staff worked with CARB staff to evaluate the impact the artist paint thinners and solvents would have on the CARB Consumer Products Regulations. CARB has provided an exemption for artist thinner and solvent sold in capacities of 32 fluid ounces or less. SCAQMD staff has also consulted with two artist support organizations: the Artist Creative Materials Institute (ACMI) and the National Art Materials and Trade Association (NAMTA), these organizations requested an exemption for artist solvents and thinners.

TECHNOLOGY FOR ARTIST PAINT SOLVENTS AND THINNERS

Artist paint solvents and thinners are manufactured for a variety of art-related uses and are specially formulated to remove the impurities normally found in commercial-grade solvents and thinners. Specially formulated artist solvents and thinners are needed, because the commercially available solvents and thinners may cause damage to artwork and art equipment being cleaned.

Originally, SCAQMD staff estimated that artist products could be reformulated using low and zero-VOC formulations. These formulations include: 1) Aqueous technology which includes formulations made from water, detergents, chelating agents, alkaline builders and various blends of surfactants and is typically used for multi-purpose cleaning agents, 2) Exempt solvents including acetone, PCBTF, and methyl acetate, as well as blends of the three, and, 3) Bio-based technology including methyl esters is currently available for a variety of uses, including lowering the volatility of exempt solvents. Non- and low-VOC solvents and thinners have not met performance requirements need by artist, such as no residue build-up, desired viscosity, desired paint sheen, desired paint blending and limited damage to brushes. Therefore, the proposed exemption would allow artist to continue using solvents and thinners using existing formulations described below:

Turpentine

Turpentine is the traditional solvent that is manufactured from tree resins and has been used for oil on canvas painting for many years. Turpentine has a fast evaporation rate, but releases harmful vapors thus posing a health risk to the artist. Artist quality turpentines are manufactured with additional processing to remove impurities that are typically present in hardware store general consumer use turpentines that can create deposits in paint. This is important for restoration and conservation of antique oil paintings. Turpentine is also known as spirit of turpentine, oil of turpentine, genuine turpentine, english turpentine, distilled turpentine, double rectified turpentine, and simply “turps.”

Mineral Spirits

Mineral spirits is a commonly used solvent that are manufactured from petroleum products and has a moderate evaporation rate that releases harmful vapors thus posing a health risk to the artist. Mineral spirits are generally less expensive than turpentine and are a stronger solvent than odorless mineral spirits. Mineral spirits are also known as white spirits.

Odorless Mineral Spirits

Odorless mineral spirits are also a commonly used solvent that are manufactured from petroleum products and have a moderate evaporation rate that release harmful vapors thus posing a health risk to the artist. Odorless mineral spirits are marginally more expensive than mineral spirits but have been manufactured with less of the harmful aromatic solvents found in mineral spirits.

Citrus Based Thinners

Citrus based thinners are manufactured from food-grade citrus oils combined with nontoxic, nonflammable solvents.

Artist Mediums

Artist mediums are used to modify artist oil paint straight from the tube. The mediums can be used to lengthen the drying time of the paint, make the paint thinner or alter the character of the paint from what comes out of the tube. Mediums can also be used to make the paint transparent

or opaque and can also be used to alter gloss or matte sheen of the paint. Mediums are used for oil on canvas paintings to influence the color of a pigment.

Artist Brush Cleaners

Artist brush cleaners are used to clean artist paint brushes that were used to apply the oil-based paint. Artist paint brush bristles are made from animal hair such as hog's bristles, mongoose hair, red sable (weasel hair) and Siberian mink. The hair possesses several important properties for the artist such as maintaining a superfine point, smooth handling, and good memory (where the bristles return to their original point between brush strokes). There are also synthetic brushes available which can offer durability and cost effectiveness. Cleaning a brush by mechanical means causes the hairs to break changing brush performance. Soap and water will also dry out the hairs of brushes used for oil-based paints. For brush storage, artists will clean the brush in turpentine and then use oil to preserve the brush while it's not in use.

PROJECT DESCRIPTION

PAR 1143 would provide an exemption for artist solvent/thinner labeled that: meet ASTM D4236 – 95 (March 1, 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards; are packaged in a container equal to or less than 32 fluid ounces; and are also labeled to exclusively reduce the viscosity of, or remove, art coating compositions or components. The following summarizes these requirements. A copy of PAR 1143 is included in Appendix A.

Purpose

No change.

Applicability

No change.

Definitions

A definition for artist solvent/thinner would be added. Artist solvent/thinner would be defined as any liquid product, labeled to meet ASTM D4236 – 95 (March 1, 2005) Standard Practice for Labeling Art Materials for Chronic Health Hazards, which is incorporated by reference here in and packaged in a container equal to or less than 32 fluid ounces, labeled to reduce the viscosity of, or remove, art coating compositions or components.

Requirements

No change.

Administrative Requirements

No change.

Recordkeeping

No change.

Compliance Dates

No change.

Information Exempt from Disclosure

No change.

Test Methods

No change.

Exemptions

PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components and meets the criteria in the proposed rule definition for artist solvent/thinner.

ALTERNATIVES

The Draft EA will discuss and compare alternatives to the proposed project as required by CEQA and by SCAQMD Rule 110. 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. 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.

SCAQMD Rule 110 does not impose any greater requirements for a discussion of project alternatives in an environmental assessment than are 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."

SCAQMD's policy document Environmental Justice Program Enhancements for fiscal year (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.

The Governing Board may choose to adopt any portion or entirety of any alternative presented in the EA. The Governing Board is able to adopt any portion or entirety of any of the alternatives presented because the impacts of each alternative will be fully disclosed to the public and the public will have the opportunity to comment on the alternatives and impacts generated by each alternative.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

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

GENERAL INFORMATION

Project Title: Proposed Amended Rule (PAR) 1143 – Consumer Paint Thinners and Multi-Purpose Solvents

Lead Agency Name: South Coast Air Quality Management District

Lead Agency Address: 21865 Copley Drive
Diamond Bar, CA 91765

CEQA Contact Person: James Koizumi, (909) 396-3234

PAR 1143 Contact Person: Don Hopps, (909) 396-2334

Project Sponsor's Name: South Coast Air Quality Management District

Project Sponsor's Address: 21865 Copley Drive
Diamond Bar, CA 91765

General Plan Designation: Not applicable

Zoning: Not applicable

Description of Project: The proposed project would add a definition of and exempt artist solvents and thinners from the requirements of Rule 1143. Artist solvents and thinners would be defined as any liquid product labeled to meet ASTM D4236-95; packaged in containers of 32 fluid ounces or less; and labeled to reduce the viscosity of, or remove, art coating compositions or components. The proposed project would also align the existing Rule 1143 with CARB's Consumer Products Regulations, which provides an exemption for artist paint thinners and solvents.

Surrounding Land Uses and Setting: Industrial, commercial for manufacture, distribution and sale; primarily residential and/or institutional for use

Other Public Agencies Whose Approval is Required: Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" 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.

- | | | |
|------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input checked="" type="checkbox"/> Air Quality and Greenhouse Gas Emissions | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid/Hazardous Waste |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input checked="" type="checkbox"/> Mandatory Findings |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1)has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: August 20, 2010

Signature: Steve Smith
Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

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

Significance Criteria

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

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

Discussion

I.a), b), c) & d) PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components. Thus, implementation of PAR 1143 would not result in any new construction of buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Similarly, additional light or glare would not be created which would adversely affect day or nighttime views in the area since no light generating equipment would be required to comply with PAR 1143. Further, the use of artist solvent/thinner would not appreciably change the visual profile of the building(s) where the exempted artist solvent/thinner is used.

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

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

Significance Criteria

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

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

Discussion

II.a), b), c) & d) PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components. The proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Use of artist solvent/thinner would not require converting farmland to non-agricultural uses because the manufacture and use of artist solvent/thinner is expected to occur completely within the confines of affected industrial facilities, commercial facilities, residences or institutions boundaries. For the same reasons, PAR 1143 would not result in the loss of forest land or conversion of forest land to non-forest use.

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

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

III.a) For the purposes of the proposed project, PAR 1143 would result in 113.7 pounds of VOC emissions reductions foregone per day during operations. Overall, however, Rule 1143 is expected to reduce VOC emissions in the district approximately 9.75 tons per day. Therefore, the proposed project is not expected to conflict with or obstruct implementation of the applicable air quality control plan because the 2007 AQMP demonstrates that the effects of all existing rules, in combination with implementing all AQMP control measures would bring the district into attainment with all national and state ambient air quality standards. Therefore, PAR 1143 is not expected to significantly conflict or obstruct implementation of the applicable air quality plan and will not be evaluated further in the Draft EA.

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

Air Quality Significance Criteria

To determine whether or not air quality impacts from adopting and implementing PAR 1143 are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

Construction Impacts

The manufacture of artist solvent/thinner exempt from PAR 1143 is expected to utilize similar equipment to that utilized to manufacture low-VOC artist solvent/thinner. Exempt artist solvent/thinner is expected to be used in a similar fashion to low-VOC artist solvent/thinner. Therefore, the manufacture or use of artist solvents/thinners exempt from PAR 1143 is not expected to require physical changes or modifications that would involve construction activities. As a result, there would be no construction air quality impacts resulting from the proposed project. Therefore, potential construction air quality impacts will not be considered further in the Draft EA.

**Table 2-1
SCAQMD Air Quality Significance Thresholds**

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

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

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

^e Ambient air quality threshold based on SCAQMD Rule 403.

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

Operational Impacts

Rule 1143 was developed to allow two different VOC content limit reductions over time, an interim and a final VOC content limit reduction. The interim VOC content limit, which is currently in effect, as of January 1, 2010, limits the VOC content of any consumer paint thinner and consumer multi-purpose solvent to 300 grams per liter, but offers a sell-through provision up to December 31, 2010 for high-VOC content traditional solvents provided they were manufactured prior to January 1, 2010. When fully implemented, the interim VOC emission reduction is expected to be 5.94 tons per day.

The final VOC content limit of 25 grams of per liter will become effective on January 1, 2011. Any consumer paint thinner and multi-purpose solvent manufactured prior to January 1, 2011, will have a sell-through allowance for products containing up to 300 grams per liter VOC content, provided that the products were manufactured prior to January 1, 2011. In addition, any consumer paint thinner and multi-purpose solvent that displays on the containers label uses that also include industrial maintenance thinning and was manufactured prior to July 9, 2010 will be allowed a sell-through allowance until April 1, 2011 for products that contain in excess of 300 grams per liter VOC content. When Rule 1143 is fully implemented, the VOC content limit of 25 grams per liter is expected to reduce VOC emissions by another 3.81 tons per day thus resulting in a combined VOC emission reduction of 9.75 tons per day.

CARB staff estimates the statewide VOC contribution of artist paint thinners and solvent to be about 252.7 pounds per day. Based on statewide population, SCAQMD staff estimates that 45 percent of the total statewide emissions occur within SCAQMD jurisdiction.

$$252.7 \text{ pounds per day} * 0.45 = 113.7 \text{ pounds per day, and} \\ 113.7 \text{ pounds per day} * 1 \text{ ton}/2000 \text{ pounds} = 0.057 \text{ tons per day}$$

Therefore, the VOC emissions forgone to the SCAQMD jurisdiction would be approximately 113.7 pounds per day, which exceeds the SCAQMD operational VOC significant threshold of 55 pounds per day. Since the operational VOC emissions would exceed the significance threshold, VOCs are an ozone precursor, and the district is not in attainment for ozone; PAR 1143 may contribute to an existing or projected air quality violation. Since the proposed project would result in VOC emissions reductions foregone from the existing Rule 1143 that exceed the operational VOC significant threshold of 55 pounds per day, it may diminish an existing air quality rule or future compliance requirement resulting in a significant increase in an air pollutant. These potential impacts will be evaluated further in the Draft EA.

III.c) The preceding analysis concluded that the operational VOC emission reductions foregone of 113.7 pounds per day would exceed the SCAQMD operational VOC significant threshold of 55 pounds per day. Therefore, PAR 1143 is cumulatively considerable and will be evaluated in the Draft EA.

III.d) Since the VOC emissions reductions foregone of 113.7 pounds per day are greater than the SCAQMD operational VOC significant threshold of 55 pounds per day, PAR 1143 may expose sensitive receptors to substantial pollutant concentrations. Therefore, PAR 1143 is considered to be potentially significant for exposure of sensitive receptors to substantial VOC pollutant concentrations and will be evaluated further in the Draft EA.

The February 2009 Final EA for Proposed Rule (PR) 1143 states that compliant products are expected to be formulated with less toxic replacement solvents than what are currently used in consumer paint thinners and multi-purpose solvents. Since the exemption would allow the use of conventional solvents that were deemed to be more toxic than the low- VOC replacement solvents, PAR 1143 may adversely affect health risk. Adverse health risk impacts from PAR 1143 will be evaluated in the Draft EA.

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

The February 2009 Final EA for PR 1143 states that lower VOC-containing materials would generally be used at sites that already use odorous compounds. While some solvents (e.g., PCBTF) have a distinct aromatic odor, it is anticipated that lower VOC-containing materials would not have appreciably different odor impacts than currently used materials. Since the odor impacts from conventional and lower VOC-containing materials were deemed to be similar, exempting artist solvent/thinner is not expected to create new objectionable odors that would affect a significant number of people.

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

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

PAR 1143 is not expected to generate additional GHG emissions as explained in the following paragraphs. Of the elements in PAR 1143 that were previously discussed in the "Construction Air Quality Impacts" section, there are no construction activities and thus no construction emissions associated with the proposed project. Therefore, there will be no GHG emissions associated with construction activities and combustion equipment since these are not necessary to comply with PAR 1143.

The exemption from the requirements of Rule 1143 would be added because no- or low-VOC replacement solvents may not be sufficient to replace the currently available traditional artist related material, which includes turpentine, mineral spirits and artist mediums. None of the traditional artist related materials or non- or low-VOC solvents have been identified to be GHGs. The use of traditional artist related materials or non- or low-VOC solvents are not expected to alter operations; therefore, no change in GHG emissions is expected from implementing PAR 1143. Therefore, PAR 1143 is not expected to generate GHG emissions either directly or indirectly, that may have a significant impact on the environment or conflict with and applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, GHG impacts are not considered significant and will not be evaluated further in the Draft EA.

Conclusion

Based on the preceding evaluate of air quality impacts from PAR 1143, SCAQMD staff has concluded that PAR 1143 has the potential to generate significant adverse impacts that may: contribute to violations of an air quality standard, result in cumulatively considerable air quality impacts, expose sensitive receptors to substantial pollutant contributions, and diminish an existing air quality rule or future compliance requirement resulting in a significant increase in an air pollutant. Therefore, these topics will be further evaluated in the Draft EA.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

Discussion

IV.a), b), c), & d) PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components. Use of artist solvent/thinner is expected to occur within existing structures. Further, PAR 1143 is not expected to require construction activities to install control equipment because use of artist solvent/thinner would be exempt from PAR 1143. For the same reason, PAR 1143 would not require the construction of any new buildings or other structures. As a

result, implementing PAR 1143 is not expected to adversely affect in any way habitats that support riparian habitat, are federally protected wetlands, or are migratory corridors. Similarly, since implementing PAR 1143 would not require construction of any structures, special status plants, animals, or natural communities are not expected to be adversely affected.

IV.e) & f) It is not envisioned that PAR 1143 would conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because the proposed project does not require construction of any structures or new development in undeveloped areas. Additionally, PAR 1143 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason.

The SCAQMD, as the Lead Agency for the proposed project, has found that, when considering the record as a whole, there is no evidence that PAR 1143 would have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in §753.5 (d), Title 14 of the California Code of Regulations.

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

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

Significance Criteria

Impacts to cultural resources will be considered significant if:

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

Discussion

V.a), b), c), & d) Since no construction-related activities would be associated with the implementation of PAR 1143, no impacts to historical or cultural resources are anticipated to occur as a result of implementing the proposed project. Further, PAR 1143 is not expected to require physical changes to the environment, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PAR 1143 and will not be further assessed in the Draft EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.

- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI.a) & e) PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components. The use of artist solvent/thinner is expected to create little or no additional demand for energy at affected facilities because activities and practice that involve the use artist solvent/thinner are not expected to change as a result of exempting artist solvent/thinner from the requirements of the existing rule and, as such, would require little or no additional energy to use. As a result, PAR 1143 would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the need for new or substantially altered power or natural gas systems. Since PAR 1143 would not require the installation of control equipment or the construction of any structures, the proposed project would not conflict with adopted energy conservation plans. Additionally, facility operators who use artist solvent/thinner are expected to comply with any relevant existing energy conservation plans and standards to minimize operating costs. Accordingly these impact issues will not be further analyzed in the EA.

VI.b), c), & d) In light of the aforementioned discussion and since PAR 1143 would only affect artist solvent/thinner, PAR 1143 would not create any significant adverse effects on peak and base period demands for electricity, natural gas, or other forms of energy, or adversely affect energy producers or energy distribution infrastructure.

Based on the preceding discussion, PAR 1143 would not create any significant effects on peak and base period demands for electricity and other forms of energy and it is expected to comply with existing energy standards. Therefore, PAR 1143 is not expected to generate significant adverse energy resources impacts and will not be discussed further in the Draft EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

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

Discussion

VII.a) There are no provisions in PAR 1143 that would require the construction of new or modified structures or the construction of air pollution control equipment that would call for the disruption or overcovering of soil, changes in topography or surface relief features, the erosion of beach sand, or a change in existing siltation rates. It is expected that consumers who use artist solvent/thinner, would use these products within affected residences' or institutions' boundaries. For these reasons, PAR 1143 would not expose persons or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. Thus, this topic will not be analyzed further in the EA.

VII.b) PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components. Since artist solvent/thinner would be exempt from PAR 1143, installation of control equipment or the construction of any structures is not expected. Since PAR 1143 would not involve construction activities, no soil disruption from excavation, grading, or filling activities; changes in topography or surface relief features; erosion of beach sand; or changes in existing siltation rates are anticipated from the implementation of the proposed project.

VII.c) Since no construction activities would be required, no excavation, grading, or filling activities will be required to comply with the proposed project. For these reasons, subsidence is not anticipated to be a problem. Further, the proposed project would not require the drilling or removal of underground products (e.g., water, crude oil, etc.) that could produce subsidence effects. Since no groundwork or earth moving activities would be required as part of implementing PAR 1143, no new landslides effects or changes to unique geologic features would occur.

VII.d) & e) Because PAR 1143 exempts artist solvent/thinner, it is not expected to require the installation of control equipment or the construction of any structures that would involve earth-moving activities. Therefore, no persons or property would be exposed to new impacts from expansive soils or soils incapable of supporting water disposal. Further, PAR 1143 does not involve installation of septic tanks or other alternative waste water disposal systems. The main effect of the proposed project would allow the use of artist solvent/thinner exempt from PAR 1143.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PAR 1143 and will not be further analyzed in the Draft EA. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
h) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

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

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

Discussion

VIII.a), b), c), & h) Exempting artist solvent/thinner from PAR 1143, would result in no provisions that would directly or indirectly dictate the use of any specific solvent or thinner formulations. Persons who currently use artist solvents and thinners would continue to have the flexibility of choosing the product formulation best suited for their needs. It is likely that persons who utilize these materials would choose an artist solvent thinner that does not pose a substantial safety hazard.

FIRE HAZARD IMPACTS

Background

Fire hazards from conventional and low-VOC replacement solvents were evaluated in the July 9, 2010 Final EA for PAR 1143 (<http://www.aqmd.gov/ceqa/documents/2010/aqmd/finalEA/1143FSEA.PDF>). Impacts associated with fire hazards were considered significant if the project would create a significant fire hazard to the public through the substitution use of more flammable materials by consumers.

One potential replacement solvent, acetone, was concluded to be more flammable than conventional solvents. Therefore, Rule 1143 includes rule requirements designed to alert the consumer that new formulations may be more flammable than their conventional solvent counterpart. Further, the Rule 1143 labeling requirement is identical to the labeling language recommended in CARB's consumer products regulation, which was supported as an acceptable remedy to address the safety concerns initially expressed by fire authorities. Rule 1143 also includes additional language that goes beyond CARB's requirements and commits the SCAQMD to continue conducting ongoing public education and outreach activities in conjunction with the local fire departments to alert the public of the dangers of reformulated solvents with flammable or extremely flammable chemicals. SCAQMD staff met with local fire departments and related fire agencies and developed educational brochures and public service

announcements to further alert the public of a potential change in formulations of paint thinners and multi-purpose solvents. This outreach effort was designed to further alert the public about the need to review labels for products that may contain flammable or extremely flammable solvents. Based upon these considerations, the existing rule was found to have less than significant fire hazard impacts in the June 2010 Final EA for PAR 1143.

Analysis from the June 2010 Final Supplemental EA for PAR 1143

The following subsections summarize the hazards analysis from the 2010 Final Supplemental EA for the previous amendments to Rule 1143.

Hazard Safety Regulations

A number of physical or chemical properties may cause a substance to be a fire hazard. With respect to determining whether any conventional or replacement solvent is a fire hazard, Material Safety Data Sheet (MSDS) lists the National Fire Protection Association 704 flammability hazard ratings (i.e. NFPA 704). NFPA 704 is a “standard (that) provides a readily recognized, easily understood system for identifying flammability hazards and their severity using spatial, visual, and numerical methods to describe in simple terms the relative flammability hazards of a material³. However, there are limitations to the NFPA 704 rating system.

Because several substances can have the same NFPA 704 Flammability Ratings Code, other factors can make each substance’s fire hazard very different from each other. For example, all but one of the conventional solvents and all but one of the replacement solvents are designated as “highly flammable with an NFPA Flammability Ratings Code of “3” and yet all of these solvents have varying fire hazard risks. For this reason, additional chemical characteristics, such as auto-ignition temperature, boiling point, evaporation rate, flash point, lower explosive limit (LEL), upper explosive limit (UEL), and vapor pressure, are also considered when determining whether a substance is fire hazard. The following is a brief description of each these chemical characteristics.

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

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

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

³ National Fire Protection Association, FAQ for Standard 704.
<http://www.nfpa.org/faq.asp?categoryID=928&cookie%5Ftest=1#23057>

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

Lower Explosive Limit (LEL): The lower explosive limit of a gas or a vapor is the limiting concentration (in air) that is needed for the gas to ignite and explode or the lowest concentration (percentage) of a gas or a vapor in air capable of producing a flash of fire in presence of an ignition source (e.g., arc, flame, or heat). If the concentration of a substance in air is below the LEL, there is not enough fuel to continue an explosion. In other words, concentrations lower than the LEL are "too lean" to burn. For example, methane gas has a LEL of 4.4 percent (at 138 degrees Centigrade) by volume, meaning 4.4 percent of the total volume of the air consists of methane. At 20 degrees Centigrade, the LEL for methane is 5.1 percent by volume. If the atmosphere has less than 5.1% methane, an explosion cannot occur even if a source of ignition is present. When the concentration of methane reaches 5.1 percent, an explosion can occur if there is an ignition source.

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

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

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

Fire Hazards of Cleaners and Solvents

Although Rule 1143 does not dictate the creation or use of any particular product formulation, the VOC content limits of PAR 1143 was expected to result in the manufacture and use of affected products with non- or low-VOC solvents. Since there are many different product manufacturers and formulations of artist solvent/thinners solvents, as well as many different applications or uses, the specific chemical composition of all artist solvent/thinners products is not known.

Overall, Rule 1143 was expected to result in the use of formulations that contain non- or low-VOC solvents to meet VOC content limit requirements. In addition, there are replacement solvents such as aqueous or water-based cleaning solvents, bio-based solvents, and methyl esters that were developed to comply, not only with Rule 1143, but with other rules that regulate VOC emissions through solvent reformulations. These do not have flammability concerns. Analysis in the June 2010 Final Supplemental EA for Rule 1143 focused on the fire hazard risks of the products with flammable or extremely flammable substances.

Commonly used traditional solvents include, for example, denatured alcohol (ethanol), methyl ethyl ketone (MEK), mineral spirits (Stoddard solvent), toluene, xylene, and varnish maker's and painter's (VMP) naphtha. These materials are all flammable, with mineral spirits being the least flammable of the group.

The June 2010 Final Supplemental EA for PAR 1143 examined the non- or low-VOC solvents that were expected be used in compliant formulations, such as, acetone, methyl acetate or PCBTF. All three of these solvents are listed as Group I exempt solvents in SCAQMD Rule 102. Acetone and methyl acetate are extremely flammable, while PCBTF is combustible with a flash point similar to mineral spirits. For the purpose of conducting the worst-case analysis in the June 2010 Final Supplemental EA for PAR 1143, it was assumed that products compliant with PAR 1143 were reformulated by using these Group I exempt compounds⁴.

Flammability Characteristics of Conventional Solvents and Potential Replacement Solvents

Table 2-2 contains a summary of traditional solvents and replacement solvents that were already in use along with each solvent's chemical characteristics as they pertain to flammability. Of the solvents listed in Table 2-2, acetone and PCBTF were the only solvents used as traditional solvents as well as expected to be used as replacement solvents. Acetone, because of its low cost and its exemption as a VOC, and also because it is currently used in multipurpose cleaning solvents in a variety of settings including industrial, institutional, and commercial applications, was expected to be the most widely used component of replacement products used to comply with the existing Rule 1143.

Like the traditional solvents listed, the three solvents identified as compliant replacement solvents, have increased fire hazard risks. This is especially true for acetone and methyl acetate which are both extremely flammable and both have very low flash points when compared to the other solvents. When compared to acetone and methyl acetate, PCBTF, which is classified as combustible, poses a lesser degree of fire hazard because it has similar flash point as mineral spirits. The following is a description of each solvent's flammability information. This information was extracted from material safety data sheets (MSDS).

⁴ Note that PAR 1143 contains a general prohibition against the sale, manufacture, blend or repackage of any consumer paint thinner or multi-purpose solvent that contains in excess of 0.1 percent by weight of most Group II exempt compounds (e.g., toxic or ozone-depleting substances) listed in SCAQMD Rule 102.

Table 2-2
Chemical Characteristics of Conventional and Potential Replacement Solvents

Conventional Solvents								
Chemical Compound	Auto-ignition Temperature (°C)	Boiling Point (@760 mmHg, °F)	Evaporation Rate @25 °C (Butyl Acetate = 1)	Flash Point (°F)	LEL/UEL ^a (% by Vol.)	Vapor Pressure (mmHg @ 20 °C)	NFPA Flammability Rating ^b	Labeling Requirement per CPSC ^c
Acetone	538	56	6.1	-4	2.6/12.8	180	3	Extremely Flammable
Denatured Alcohol (Ethanol)	435	78	2.3	56	3.3/19	44	3	Flammable
Isopropyl Alcohol	399	180	2.3	53	2/12.7	33	3	Flammable
Lacquer Thinner ^d	238	212.6	2.7	7.4	2/18.4	97.7	3	1. Extremely Flammable 2. Special Hazards Labeling per 16 CFR Part 1500.14 (a)(3), (a)(4), (b)(3) & (b)(4)
MEK	474	80	4.0	16	1.8/11.5	8.7	3	Extremely Flammable
Mineral Spirits (Stoddard)	232	154-188	0.1	109-113	1.0 / 7	1.1	2	1. Combustible 2. Special Hazards Labeling per 16 CFR Part 1500.14 (a)(3) & (b)(3)
Paint Thinner ^e	229	299.6	1.4	81 - 117	1.0 / 7.3	2	3	1. Flammable if Flash Point < 100 °F or Combustible if Flash Point > 100°F 2. Special Hazards Labeling per 16 CFR Part 1500.14 (a)(3) & (b)(3)
PCBTF ^f	>500	282	0.9	109	0.9/10.5	5.3	1	Combustible
Toluene	538	111	2.0	41	1.3 / 7	22	3	1. Flammable 2. Special Hazards Labeling per 16 CFR Part 1500.14 (a)(3) & (b)(3)
Turpentine	253	323.7	0.7	94.3	0.8/ n/a	5	3	1. Flammable 2. Special Hazards Labeling per 16 CFR Part 1500.14 (a)(5) & (b)(5)
VM&P Naphtha	288	266.9	1.2	53.1	1.2/6	20	3	1. Flammable 2. Special Hazards Labeling per 16 CFR Part 1500.14 (a)(3) & (b)(3)
Xylene	499	139	0.8	81	1.0/6.6	6	3	1. Flammable 2. Special Hazards Labeling per 16 CFR Part 1500.14 (a)(3) & (b)(3)

Table 2-2 (concluded)
Chemical Characteristics of Conventional and Potential Replacement Solvents

Potential Replacement Solvents								
Chemical Compound	Auto-ignition Temperature (°C)	Boiling Point (@760 mmHg, °F)	Evaporation Rate @25 °C (Butyl Acetate = 1)	Flash Point (°F)	LEL/UEL ^a (% by Vol.)	Vapor Pressure (mmHg @ 20 °C)	NFPA Flammability Rating ^b	Labeling Requirement per CPSC ^c
Acetone	538	56	6.1	-4	2.6/12.8	180	3	Extremely Flammable
Methyl Acetate	501	56	5.3	15	3/16	171	3	Extremely Flammable
PCBTF ^f	> 500	282	0.9	109	0.9/10.5	5.3	1	Combustible

^a Lower Explosive Limit / Upper Explosive Limit

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

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

^d Lacquer thinner is manufactured from petroleum distillates and blended with other solvents, such as xylene, toluene, isopropyl alcohol, acetone, methanol, and light aliphatic solvent naphtha. Exact blending ratios vary widely.

^e While paint thinner is predominantly referred to as “mineral spirits” or “stoddard solvent” (listed elsewhere in this table, paint thinner is broadly described as being manufactured from petroleum distillates and can be a blend of multiple solvents, including but not limited to, mineral spirits, naphtha, nonanes (mixture), 1,2,4-trimethyl benzene, ethyl benzene, diacetone alcohol, n-butyl acetate, methyl isobutyl ketone, cumene and xylene.

^f Source: OxyChem Specialty Business Group

Conventional Solvents

The raw materials needed to formulate the artist solvent/thinners generally come from chemical plants and petroleum refineries. Artist solvent/thinners are available at a variety of retail outlets, including nationwide chain retail stores, as well as smaller art stores. Approximately 1.2 million gallons of high-VOC containing multi-purpose solvents⁵ are currently sold within SCAQMD's jurisdiction per year.

The following subsections provide brief summaries of the physical and chemical properties of commonly used solvents currently used for cleaning and thinners available.

Acetone

Acetone is a colorless, highly volatile liquid that has a fragrant, mint-like odor. It is a manufactured chemical that is also found naturally in the environment. It occurs naturally in plants, trees, volcanic gases, forest fires, and as a product of the breakdown of body fat. It is present in vehicle exhaust, tobacco smoke, and landfill sites. Acetone is used to make plastic, fibers, drugs, and other chemicals. It is also used to dissolve other substances. Industrial processes contribute more acetone to the environment than natural processes. Common uses for acetone are nail polish removers and for thinning paint. It has a high solvent strength greater than the other types of solvents, except for xylene, which has a similar solvent strength. Acetone is widely available at retail stores that sell solvents.

1. As a VOC: Acetone is currently listed as a Group I exempt VOC pursuant to SCAQMD Rule 102 – Definition of Terms, because it does not contribute appreciably to ozone formation. Acetone was originally “delisted” as a VOC by the EPA in 1995.
2. Flammability: Acetone has the lowest flash point, -4 °F (below freezing), and is the most flammable of all the solvents considered in PAR 1143. Acetone, along with the majority of the other solvents except for mineral spirits and PCBTF, is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. However, because of the ultra-low flash point, labeling requirements pursuant to the CPSC classifies acetone as “extremely flammable.”

Denatured Alcohol

Denatured alcohol, also referred to as ethanol or ethyl alcohol, is used as a solvent and in making many commercial products. Denatured alcohol is a colorless liquid and has a strong odor of ethanol. The term “denatured” means that an additive has been mixed into the alcohol to make the taste unpleasant and toxic to human health so that it will not be consumed as a beverage. Typical additives are methanol, isopropyl alcohol, acetone, methyl ethyl ketone, methyl isobutyl ketone. Denatured alcohol is an ethanol that can be used as a solvent for cleaning and in some cases, thinning. It can also be used as an aid for sanding wood. Denatured alcohol has a high VOC content and can be found for sale at most hardware stores.

⁵ This is based on a total inventory of 10.2 tons of VOC per day and a sales weighted average VOC content of 736 grams per liter. CARB's Initial Statement of Reasons (ISOR) for the Consumer Products Regulation also supported this VOC inventory from these sources, based on a survey conducted in 2009.

1. As a VOC: Denatured alcohol has a high VOC material content that ranges from 791 grams per liter to 815 grams per liter.
2. Flammability: Denatured alcohol has a flash point of 56 °F so at typical ambient temperatures, denatured alcohol is considered flammable. Other solvents with similar flash points are isopropyl alcohol and VM&P Naphtha. In addition, denatured alcohol is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. Lastly, the CPSC classifies denatured alcohol as flammable.

Isopropyl Alcohol

Isopropyl alcohol (IPA), also referred to as isopropanol, isopro, and rubbing alcohol, is a colorless liquid with a strong odor. IPA is a widely used solvent for medical and industrial applications because it sanitizes the treated area and dries rapidly. For industrial applications, IPA is commonly used to clean electronic circuits and electronic devices. IPA can be found for sale at hardware and drugstores stores.

1. As a VOC: IPA has a high VOC material content that ranges from 787 grams per liter to 815 grams per liter.
2. Flammability: IPA has a flash point of 53°F so at typical ambient temperatures, denatured alcohol is considered flammable. Other solvents with similar flash points are denatured alcohol and VM&P Naphtha. In addition, IPA is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. Lastly, the CPSC classifies IPA as flammable.

Lacquer Thinner

Lacquer thinner is manufactured from petroleum distillates and blended with other solvents; it offers similar properties as toluene but costs less. Lacquer thinner is mainly used as a thinning agent for nitrocellulose and acrylic lacquers, but can also be used as thinners for epoxies, automotive paint and gravure printing inks.

1. As a VOC: Lacquer thinner has a high VOC material content that ranges from 739 grams per liter to 850 grams per liter.
2. Flammability: Lacquer thinner has the second lowest flash point, 7.4 °F (below freezing), and as such, is the second most flammable when compared to acetone of all the solvents considered in Rule 1143. Lacquer thinner, along with the majority of the other solvents except for mineral spirits and PCBTF, is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. However, because of the ultra-low flash point, labeling requirements pursuant to the CPSC classifies lacquer thinner as “extremely flammable.”

Methyl Ethyl Ketone

Methyl ethyl ketone (MEK), also known as butanone, is a manufactured organic solvent and has a butterscotch odor similar to acetone. MEK is an effective solvent because of its ability to dissolve gums, resins, cellulose acetate and nitrocellulose coatings.

The primary use of methyl ethyl ketone (MEK), accounting for approximately 63 percent of all use, is as a solvent in protective coatings. It is also used as a solvent in printing inks, paint removers, and other cleaning products; in the production of magnetic tapes; and in dewaxing lubricating oil. MEK is used as a chemical intermediate in several reactions, including condensation, halogenation, ammonolysis, and oxidation. Small amounts of MEK are also used as a sterilizer for surgical instruments, hypodermic needles, syringes, and dental instruments; as an extraction solvent for hardwood pulping and vegetable oil; and as a solvent in pharmaceutical and cosmetic production.

1. As a VOC: MEK has a high VOC material content that ranges from 803 grams per liter to 810 grams per liter.
2. Flammability: MEK has the fourth lowest flash point, 16 °F (below freezing) when compared to acetone, and as such, is the fourth most flammable of all the solvents considered in Rule 1143. MEK, along with the majority of the other solvents except for mineral spirits and PCBTF, is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. However, because of the ultra-low flash point, labeling requirements pursuant to the CPSC classifies MEK as “extremely flammable.”

Mineral Spirits

Mineral spirits, also known as Stoddard solvent, is a petroleum distillate that is used to remove oils, grease, and carbon and is added to thread cutting oils as a cleaning agent. Mineral spirits can be further refined so that the aromatics are removed which results in a product called “odorless” mineral spirits. Odorless mineral spirits are favored for oil painting because they are less toxic and do not emit strong odors like unrefined mineral spirits.

1. As a VOC: Mineral spirits has a high VOC material content that ranges from 759 grams per liter to 790 grams per liter.
2. Flammability: Mineral spirits has a relatively high flash point that ranges between 109 °F and 113 °F (well above typical ambient temperatures) when compared to acetone and a similar flash point when compared to PCBTF, and as such, is one of the least flammable of all the solvents considered in Rule 1143. Mineral spirits, is the only solvent that is rated “two” for flammability by the NFPA which means that it is considered to be moderately flammable. Because of its high flash point range, labeling requirements pursuant to the CPSC classifies MEK as “combustible.”

Paint Thinner

Paint thinner is a petroleum distillate blend similar to odorless mineral spirits. The primary purpose of paint thinner is to thin oil-based paint. However, paint thinner is effective for degreasing tools and general household cleaning.

1. As a VOC: Paint thinner has a high VOC material content that ranges from 775 grams per liter to 882 grams per liter.

2. Flammability: Paint thinner has a relatively high flash point that ranges between 81 °F and 117 °F depending on the blending components. The lower end of this temperature spectrum falls within typical ambient temperatures. Paint thinner, along with the majority of the other solvents except for mineral spirits and PCBTF, is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. Because of its varying composition of blending components with a wide flash point range, labeling requirements pursuant to the CPSC classifies paint thinner as either “flammable” if the mixture’s flash point is below 100 °F or “combustible” if the mixture’s flash point is above 100 °F.

PCBTF (parachlorobenzotrifluoride)

PCBTF is a colorless liquid with a distinct aromatic odor. It is commonly used as an ink solvent in the printing industry and is sold under the brand name Oxsol 100. PCBTF had originally been used as an intermediate in the production of other compounds, but more recently has been marketed as a cleaning solvent and a paint thinner. Because it is only manufactured in a limited number of countries overseas (e.g., China), it is considered to be expensive due to high shipping costs relative to other possible solvent replacements.

1. As a VOC: Exempt pursuant to EPA and listed as exempt in Rule 102, class I.
2. Flammability: PCBTF, like mineral spirits, has a relatively high flash point at 109 °F (well above typical ambient temperatures) when compared to acetone, and as such, is one of the least flammable of all the solvents considered in Rule 1143. PCBTF, is the only solvent that is rated “one” for flammability by the NFPA which means that it is considered to be slightly flammable or combustible if heated. Because of its high flash point range, labeling requirements pursuant to the CPSC classifies PCBTF as “combustible.”

Toluene

Toluene is a colorless liquid that has a sweet, pungent, benzene-like odor. The largest use for toluene is for the production of benzene. Toluene has the following applications: 1) as an octane booster or enhancer for blending gasoline; 2) as a raw material for making toluene diisocyanate; 3) as a solvent; and 4) for solvent extraction processes. As a solvent, it may be used in aerosol spray paints, wall paints, lacquers, inks, adhesives, natural gums, and resins, as well as in a number of consumer products, such as spot removers, paint strippers, cosmetics, perfumes, and antifreezes.

1. As a VOC: Toluene has a high VOC material content of 863 grams per liter.
2. Flammability: Toluene has a flash point of 41 °F so at typical ambient temperatures, it is considered flammable. Other solvents with similar but slightly higher flash points are denatured alcohol, isopropyl alcohol and VM&P Naphtha. Toluene is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable.

Turpentine

Turpentine, a bio-based solvent used as a thinning solvent for oil-based paints, is manufactured from distilling pine tree sap into a fluid.

1. As a VOC: Turpentine has a high VOC material content of 863 grams per liter.
2. Flammability: Turpentine has a flash point of 94.3 °F so at typical ambient temperatures, it is considered flammable. Other solvents with similar but slightly higher flash points are paint thinner and xylene. In addition, turpentine is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. Lastly, the CPSC classifies turpentine as flammable.

Varnish Makers and Printers Naphtha

Varnish makers and printers (VM&P) naphtha, also known as petroleum ether, is a petroleum-based chemical that is commonly used as a cleaning solvent and is manufactured by distilling petroleum or coal tar.

1. As a VOC: VM&P naphtha has a high VOC material content that ranges from 750 grams per liter to 875 grams per liter.
2. Flammability: VM&P naphtha has a flash point of 53.1 °F so at typical ambient temperatures, it is considered flammable. Other solvents with similar flash points are denatured alcohol and isopropyl alcohol. In addition, VM&P naphtha is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. Lastly, the CPSC classifies VM&P naphtha as flammable.

Xylene

Xylene is a colorless, sweet-smelling liquid that is produced from petroleum. The term xylene, also known as xylol, refers to a mixture of three benzene derivatives (isomers) that can be differentiated by the following forms: meta-xylene (m-xylene), ortho-xylene (o-xylene), and para-xylene (p-xylene). Xylene can also occur naturally in petroleum and coal tar and is formed during forest fires. Chemical industries produce xylene from petroleum. It is one of the top 30 chemicals produced in the United States in terms of volume. Xylene is used as a solvent in the printing, rubber, and leather industries. It is also used as a cleaning agent, paint thinner, and as a solvent in paints and varnishes. It is found in small amounts in airplane fuel and gasoline.

1. As a VOC: Xylene has a high VOC material content that ranges from 860 grams per liter to 872 grams per liter.
2. Flammability: Xylene has a relatively high flash point at 81 °F, which is within typical ambient temperatures. Xylene, along with the majority of the other solvents except for mineral spirits and PCBTF, is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. The CPSC classifies xylene as flammable.

Replacement Solvents

Acetone

For information on the characteristics of acetone, see the previous acetone discussion in the “Conventional Solvents” subsection.

Methyl Acetate

Methyl acetate, also known as acetic acid methyl ester or methyl ethanoate, is a clear, flammable liquid with a characteristic smell like certain glues or nail polish removers. Methyl acetate is used as a solvent in glues and nail polish removers, in chemical reactions, and for extractions. Methyl acetate is a non-polar (lipophilic) to a weakly polar (hydrophilic) solvent.

1. As a VOC: Exempt pursuant to EPA and listed as exempt in Rule 102, class I.
2. Flammability: Methyl acetate has the third lowest flash point, 15 °F (below freezing), and as such, is the third most flammable when compared to acetone of all the solvents considered in Rule 1143. Methyl acetate, along with the majority of the other solvents except for mineral spirits and PCBTF, is rated “three” for flammability by the NFPA which means that it is considered to be highly flammable. The CPSC also classifies methyl acetate as “extremely flammable.”

PCBTF (parachlorobenzotrifluoride)

For information on the characteristics of PCBTF, see the previous PCBTF discussion in the “Conventional Solvents” subsection.

While the flammability ratings by the NFPA are the same for acetone, denatured alcohol (ethanol), isopropyl alcohol, methyl acetate, MEK, paint thinner, toluene, turpentine, VM&P naphtha, and xylene, only acetone and lacquer thinner are required to be labeled as “extremely flammable” pursuant to the CPSC’s labeling standards. Since the VOC content of lacquer thinner makes it ineligible for use as a compliant material under Rule 1143, acetone and methyl acetate are the only extremely flammable substances that were expected to continue to be used; both of these were expected to increase in use as a result of implementing Rule 1143. PCBTF is a combustible solvent that has also been used as a VOC replacement in paint thinners.

Acetone has a higher lower explosive limit (LEL) than all the conventional solvents except denatured alcohol with only methyl acetate having the highest LEL of all the solvents. Having a higher LEL means that acetone vapors will not cause an explosion unless the vapor concentration exceeds 26,000 ppm. Taking flash point into consideration, acetone has the lowest flash point of all the solvents and this factor makes acetone the highest flammability risk of all the other solvents.

In contrast, toluene vapors can cause an explosion at 13,000 ppm, which poses a much greater risk of explosion. The concentration of mineral spirits or xylene vapors, other conventional solvents, which could cause an explosion, is even lower at 10,000 ppm. Under operating guidelines of working with flammable material under well-ventilated areas, as prescribed by the fire department codes, it would be difficult to achieve concentrated streams of such vapors for unconventional solvents and would be extremely more difficult for acetone and methyl acetate.

The Uniform Fire Code (UFC) treats solvents such as acetone, butyl acetate, and MEK as Class I Flammable Liquids. Further, the UFC considers all of these solvents to present the same relative degree of fire hazard. However, because acetone has a much lower flash point than the other Class I Flammable Liquids, acetone is considered to have a more severe fire hazard potential and is labeled “extremely flammable.”

With respect to suppliers and sellers of affected artist solvent/thinner, the UFC 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. For some applications, local fire agencies require permits for the use or storage of hazardous materials and permit modifications for increases in their use. Permit conditions depend on the type and quantity of the hazardous materials onsite. 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.

In recognition of the same potential increased fire risk concerns associated with the increased use of acetone in reformulated products, Rule 1143 contains the same requirements designed to specifically address the fire hazard issue. For example, CARB's consumer warning language has been included in Rule 1143 to provide consumers with necessary information for products formulated with flammable and extremely flammable solvents, including acetone. Specifically, the Rule 1143 includes the following:

No person shall sell, supply, offer for sale, or manufacture for use in the District any "Flammable" or "Extremely Flammable" Paint thinner or Multi-purpose Solvent named, on the Principal Display Panel as "Paint Thinner", "Multi-purpose Solvent", "Clean-up Solvent", or "Paint Clean-up";

Unless any of the following criteria are met:

Products which include an attached "hang tag" or sticker that displays, at a minimum, the following statement: "Formulated to meet low VOC limits; see warnings on label".

Products which include an attached "hang tag" or sticker that displays, at a minimum, the following statement: "Formulated to meet low VOC limits with the common name of the chemical compound (e.g., "Acetone," "Methyl Acetate", etc.) that results in the product meeting the criteria for "Flammable" or "Extremely Flammable".

Products which include a hang tag as a second principal display panel with the following statement placed adjacent to and associated with the required CPSC warning: "Formulated to meet low VOC limits."

Products with a principal display panel that contains the following statement placed adjacent to and associated with the required CPSC warning in the same font size or larger as the principal display panel product name: "Formulated to meet low VOC limits."

Products where that Principal Display Panel displays, in a font size as large as or larger than the font size of any other words on the panel, the common name of the chemical compound (e.g., "Acetone," "Methyl Acetate", etc.) that results in the product meeting the criteria for "Flammable" or "Extremely Flammable".

Products that meet the labeling requirements of the CARB Consumer Product Regulation specified in Title 17, CCR, §94512(e) as adopted.

The language was designed to alert the consumer that new formulations may be more flammable than their conventional solvent counterpart. Because there could also be new acetone-based formulations that meet the interim 300 grams per liter limit, the language also protects the consumer irrespective of which VOC limit is achieved. Further, the rule language is identical to the labeling language in CARB's consumer products regulation which has been supported as an acceptable remedy to address the safety concerns initially expressed by fire authorities. None of the labeling or notice requirements preclude the use of any additional labeling or notice for consumer education.

Rule 1143 also includes additional language that goes beyond CARB's requirements and commits the SCAQMD to continue conducting ongoing public education and outreach activities in conjunction with the local fire departments to alert the public on the dangers of reformulated solvents with flammable or extremely flammable chemicals. SCAQMD staff met with local fire departments and related fire agencies and developed educational brochures and public service announcements to further alert the public of a potential change in formulations of paint thinners and multi-purpose solvents. The outreach effort is designed to further emphasize the public's need to review labels for products that may use flammable or extremely flammable solvents.

Based upon these considerations, less than significant fire hazard impacts are expected from the implementation of Rule 1143. Since no significant fire hazard impacts were identified, no mitigation measures are necessary or required.

Analysis of PAR 1143

The purpose for the exemption for artist solvent/thinners is that Rule 1143 compliant solvents do not have the desired characteristics needed by artist for their solvents and thinners. If PAR 1143 is adopted, it is unlikely that there would be an increase in affected solvents reformulated with acetone. Instead, it is likely that artist solvents and thinners would be formulated with traditional solvents. According to the analysis of hazard impacts from Rule 1143 in the June 2010 Final Supplemental EA for PAR 1143, it was concluded that formulating compliant products with acetone could generate significant adverse hazard impacts. However, the June amendments to Rule 1143 included labeling and public outreach requirements, which were concluded to reduce significant hazard impacts to insignificant. However, this potential hazard impact from formulating artist solvents and thinners with acetone would be eliminated under PAR 1143.

Therefore, PAR 1143 is not expected to create a new significant hazard to the public or the environment through the routine transport, use and disposal of hazardous material; create a new significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment; emit new hazardous emissions, or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school; or significantly increase fire hazard in areas with flammable materials; and will not be further analyzed in the Draft EA.

VIII.d) Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. Since PAR 1143 would exempt

artist solvent/thinner, it would not impact facilities affected by Government Code §65962.5 (i.e., under the proposed exemption from Rule 1143, affected manufacturers or users of artist solvent/thinner would not have any restrictions related to Rule 1143, but would still need to comply with any regulations relating to Government Code §65962.5). In addition, affected facilities would be expected to continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations. Exemption of artist solvent/thinner from the requirements of PAR 1143 is not expected to interfere with existing hazardous waste management programs. Accordingly, this impact issue will not be further evaluated in the Draft EA.

VIII.e) Since the use of artist solvent/thinner exempt from PAR 1143 would occur at existing residential, institutional, industrial, or commercial facilities, implementation of PAR 1143 is not expected to increase or create any new hazardous emissions which could adversely affect public/private airports located in close proximity to the affected sites. As stated above, the potential flammability impacts from artist solvents and thinners is likely to be less, because reformulation would not be necessary as a result of the proposed exemption (i.e., any acetone use would not be an effect of PAR 1143). In addition, the definition of artist solvents and thinners would restrict containers to 32 fluid ounces or less. Accordingly, these impact issues will not be further evaluated in the Draft EA.

VIII.f) While PAR 1143 has no provisions that would dictate the use of any specific material, persons who currently use artist solvent/thinner would continue to have the flexibility of choosing the product formulation best suited for their needs. If available and given the choice, persons who utilize these materials would want to choose an artist solvent/thinner that does not pose a substantial safety hazard. However, since the artist solvent/thinner would be exempt from VOC content limit, potential hazard impacts from the use of acetone as a component in compliant products is likely to be reduced; therefore, PAR 1143 would eliminate potential hazard impacts from artist solvents and thinners associated with compliant projects reformulated with acetone compared to the existing Rule 1143.

With respect to suppliers and sellers of affected artist solvents/thinners, 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. Because the proposed project would eliminate potential hazard impacts from acetone-based products, it is not anticipated that PAR 1143 would impair implementation of or physically interfere with an adopted or modified emergency response plan or emergency evacuation plan, and will not be evaluate further in the Draft EA.

VIII.g) Since the exemption in PAR 1143 is likely to result in the use of less flammable artist solvent/thinner than acetone at existing residential, industrial, or commercial sites in urban areas where wildlands are typically not prevalent, risk of loss or injury associated with wildland fires is not expected as a result of implementing PAR 1143. Therefore, PAR 1143 is not expected to be significant for exposing people or structures to risk of loss, injury or death involving wildland fires, and will not be further evaluated in the Draft EA.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PAR 1143 and will not be further analyzed the Draft EA. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Significance Criteria

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

Water Demand:

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

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.

- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

IX.a), & i) PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components. Therefore, PAR 1143 has no provisions that dictate the use of any specific solvent for artist solvent/thinner. Persons who utilize a artist solvent/thinner may have the flexibility of choosing the artist solvent/thinner best suited for their needs; however, the definition of artist solvent/thinner limits the container to 32 fluid ounces or less and required to be labeled to reduce the viscosity of, or remove, art coating compositions or components.

The exemption for artist solvent/thinner is not expected to affect water use, since artist solvent/thinner that do not meet the 300 gram of VOC per liter limit in the existing Rule 1143 are not expected to be water- or acetone-based (i.e., not water soluble). The exemption for artist solvent/thinner in PAR 1143 is not expected to affect those persons who currently use water- or acetone-based artist solvent/thinner since water-based formulations of these materials are currently available. Further, in situations or operations where these water-based products are used, increased demand for water and increased generation of wastewater are not anticipated because these materials are already formulated with water in the manufacturing process.

In connection with potential water quality impacts associated with past SCAQMD rules or rule amendments that result in solvent-based products being reformulated with water- or exempt solvent based products, the LACSD performed a study in response to the 1996 amendments to SCAQMD Rules 1171 - Solvent Cleaning Operations, and the 1997 amendments to SCAQMD Rule 1122 - Solvent Degreasers. The CEQA analysis for these previous rule amendments concluded that they would result in a widespread conversion to the use of reformulated aqueous materials for cleaning operations. Four categories of pollutants – metals, conventional pollutants, toxic volatile organics, and surfactants – were monitored in four sampling episodes from August 1998 to June 1999 and compared with baseline concentrations dating back to at least 1995 (LACSD, 1999).

Six metals – cadmium, chromium, copper, lead, nickel, and zinc – were also studied. These six metals' average concentrations in the wastewater stream showed no appreciable change from the baseline concentrations. Three conventional pollutants – TDS, chemical oxygen demand (COD), and TSS – were studied. Conventional pollutant concentrations also showed no appreciable change from the baseline concentrations. A number of toxic VOCs were studied including perchloroethylene and toluene. Perchloroethylene and toluene were monitored because they are commonly found in automotive repair cleaners and could contaminate the aqueous-based cleaners that are discharged to the sewer. The study found that perchloroethylene concentrations are increasing. The increase in the influent to the treatment plant is believed to be from consumer products used by home auto maintenance as well as a potential contribution from aqueous-based cleaners used by automotive repair facilities. Surfactants are used in personal

care and cleaning products and are measured in wastewater as methylene blue active substances (MBAS). MBAS concentrations are increasing from the baseline concentrations (LACSD, 1999).

Although concentrations increased for perchloroethylene and MBAS, it is not believed that aqueous-based cleaners are the major source since the SCAQMD has continuing public outreach programs that educate the public to minimize contamination of aqueous based cleaners. Subsequent to the conversion to, and use of aqueous-based cleaners, the LACSD has not experienced water quality issues related to aqueous-based cleaners and has not seen increasing trends in any measured pollutants due to the use of aqueous-based cleaners (SCAQMD, 2003).

As a result, since the use of traditional and low-VOC solvents were found to be similar, substantial changes in wastewater volume and composition are not expected from exempting artist solvent/thinner in PAR 1143. Further, PAR 1143 is not expected to cause facility operators that utilize these products to violate any water quality standard or wastewater discharge requirements since wastewater volumes associated with PAR 1143 will remain unchanged. PAR 1143 is not expected to have significant adverse water demand and water quality impacts for the following reasons:

- The proposed project does not increase demand for potable water by more than 262,820 gallons of per day.
- The proposed project does not increase total demand potable water by more than 5,000,000 gallons per day.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The proposed project does not result in alterations to the course or flow of floodwaters.

IX.b) & h) The purpose for the exemption is that Rule 1143 compliant solvents do not have the desired characteristics need for artist solvent/thinner, and therefore, Rule 1143 compliant solvents are unlikely to be used in artist solvent/thinner formulations once artist solvent/thinner is exempt from the rule. Since there would be no VOC content limit, manufacturers would not need to reformulate using water-based formulations. Therefore, decreased water demand is expected. Therefore, PAR 1143 is not expected to adversely affect existing water demand, affect groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. In addition, implementation of PAR 1143 would not increase demand for water from existing entitlements and resources, and would not require new or expanded entitlements. Therefore, no water demand impacts are expected as the result of implementing PAR 1143.

IX.c), & d) Since the proposed project does not involve construction activities, no new increases to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PAR 1143.

IX.e), & f) PAR 1143 is not expected to generate the construction of new housing or contribute to the construction of new building structures because no facility modifications or changes are expected to occur at existing facilities or sites where artist solvent/thinner are distributed, sold or used. Further, PAR 1143 is not expected to require additional workers at affected facilities or sites where these products are used because PAR 1143 primarily affects consumers. To the extent that affected products are used at institutional facilities, no additional workers would be required because PAR 1143 would only exempt artist solvent/thinner, not existing operations. Therefore, PAR 1143 is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. Further, PAR 1143 is not expected to expose persons or structures to significant new flooding risks, or make worse any existing flooding risks than currently exists because no new structure would be necessary to implement PAR 1143. Finally, PAR 1143 will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or other sites where artist solvent/thinner are used.

IX.g) Since PAR 1143 is not expected to result in significant water or wastewater volumes and compositions (see IX.a) above), PAR 1143 is not expected to result in the construction of new water or wastewater treatment facilities.

PAR 1143 would not cause an increase in storm water discharge, since no construction activities are required or expected in order to use exempt artist solvent/thinner. Further, no new areas at existing affected facilities are expected to be paved, so the proposed project would not increase storm water runoff during operation. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities would be required as a result of implementing PAR 1143. Accordingly, PAR 1143 is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of PAR 1143 and will not be further analyzed in the Draft EA. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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) Since PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components and would not involve the construction of any air pollution control equipment or structures, it would not result in physically dividing an established community.

X.b) There are no provisions in PAR 1143 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by exempt any artist solvent/thinner from PAR 1143 requirements.

X.c) Since PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components and would not involve construction of any air pollution control equipment or structures, it 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. Therefore, present or planned land uses in the region would not be significantly adversely affected as a result of implementing PAR 1143.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PAR 1143 and will not be further analyzed in the Draft EA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

Discussion

XI.a) & b) There are no provisions in PAR 1143 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the proposed project would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components, PAR 1143 would have no effects on the use of important minerals, such as those described above. Therefore, no new demand on mineral resources is expected to occur and significant adverse mineral resources impacts from implementing PAR 1143 are not anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of PAR 1143 and will not be further analyzed in the Draft EA. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required

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

Significance Criteria

Impacts on noise will be considered significant if:

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

Discussion

XII.a) It is expected that any noise from exempting any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components PAR 1143 would occur at the manufacturer level. However, the manufacture of exempt artist solvent/thinner is not expected to cause physical modifications that would require construction activities at the point of manufacture, distribution or use. For these reasons, PAR 1143 is not expected to expose persons to the generation of excessive noise levels above current facility levels, because it would only affect the composition of artist solvent/thinner. Further, the use of these materials at the consumer level is typically not a noise intensive activity. Therefore,

the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the existing facilities or other sites where these products are distributed, sold or used to above a level of significance in response to implementing PAR 1143. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health at distribution and retail locations.

XII.b) PAR 1143 is not anticipated to expose persons to or generate excessive groundborne vibration or groundborne noise levels since no construction activities are expected to occur by exempting artist solvent/thinner and the exemption does not involve, in any way, the installation of control equipment that would generate vibrations and noise.

XII.c) No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to PAR 1143 is anticipated because the proposed project would not require construction-related activities nor would it change the existing activities currently performed by persons who utilize artist solvent/thinner. See also the response to item XII.a).

XII.d) Implementation of PAR 1143 would not affect existing practices by persons who utilize artist solvent/thinner except that the end users would be allowed to use products that exceed the VOC content limit in the existing Rule 1143. Even if affected sites where these products are used are located near public/private airports, no new noise impacts would be expected since the use of artist solvent/thinner is not typically a noise intensive activity. Thus, PAR 1143 is not expected to expose persons residing or working in the vicinity of public or private airports to excessive noise levels.

Based upon these considerations, significant noise impacts are not expected from the implementation of PAR 1143 and will not be further evaluated in the Draft EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

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

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

Discussion

XIII.a) The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution as no additional workers are anticipated to be required to comply with PAR 1143. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1143. As such, PAR 1143 will not result in changes in population densities or induce significant growth in population.

XIII.b) The proposed project would exempt artist solvent/thinner. As such, PAR 1143 is not expected to substantially alter existing operations where artist solvent/thinner may be used. Consequently, PAR 1143 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of persons or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of PAR 1143 and will not be further evaluated in the Draft EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

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

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

Discussion

XIV.a) Potential adverse impacts to fire departments could occur in two ways: 1) if there is an increase in accidental release of hazardous materials used in artist solvent/thinner, fire departments would have to respond more frequently to accidental release incidences; and, 2) if there is an increase in the amount of hazardous materials stored at affected facilities, fire departments may have to conduct additional inspections. Based on the analysis in Section VIII. Hazards and Hazardous Materials, PAR 1143 is expected to reduce the hazards and hazardous material in artist solvent/thinner. It should be again acknowledged, however, that PAR 1143 does not require the use of any particular product. In addition, both traditional solvents and exempt solvents, aqueous, and bio-based technology are commercially available. Consumers who utilize artist solvent/thinner would determine which artist solvent/thinner to use based on a number of factors including, but not limited to, safety considerations.

Communications with fire department personnel revealed that there would be equal concerns with the use of any conventional or replacement solvent which has a flash point below 65 degrees Fahrenheit. Even though there are several conventional solvents that have flash points below 65 degrees Fahrenheit, the use of artist solvent/thinner formulated with these both traditional and low-VOC solvents are currently being safely used. Thus, there is no reason to believe that an exemption for artist solvent/thinner from the existing requirements of PAR 1143 would substantially change the safety and handling practices currently in place.

PAR 1143 would restrict the size of artist solvent/thinner containers by definition. The definition of artist solvent/thinner includes the requirement that the container be 32 fluid ounces or less. The restriction in container size would reduce adverse impacts.

Based upon these considerations, the overall risk associated with the use of artist solvent/thinner is not expected to appreciably change when PAR 1143 is adopted. Further, implementation of PAR 1143 would not generate significant adverse impacts to local fire departments requiring new or additional fire fighting resources. As a result, the need for inspections and the net number of accidental releases would be expected to remain relatively constant.

Therefore, based on the above analysis PAR 1143 is not expected to adversely affect fire protection, and will not be further analyzed in the Draft EA.

XIV.b) Local police departments are often the first responders to emergency situations such as fires to cordon off the area and provide crowd control. Since exempting artist solvent/thinner from the requirements of PAR 1143 is expected to decrease the flammability relative to the flammability of low-VOC solvents (specifically acetone), implementing PAR 1143 is not expected to increase the number of fires compared to the existing setting. As a result, no significant adverse impacts to local police departments are expected because no increases in fire emergencies are anticipated, and will not be further analyzed in the Draft EA.

XIV.c) & d) The local labor pool (e.g., workforce) of people and consumers that use artist solvent/thinner in their day-to-day activities is expected to remain the same since PAR 1143 would not trigger substantial changes to current usage practices. Therefore, with no increase in local population anticipated (see discussion “XIII. Population and Housing”), construction of new or additional demands on existing schools and parks are not anticipated. Therefore, no significant adverse impacts are expected to local schools or parks, be further analyzed in the Draft EA.

XIV.e) By exempting PAR 1143 from the existing rule, there is no other need for government services. Further, PAR 1143 would not result in the need for new or physically altered government facilities, such as police or fire departments, in order to maintain acceptable service ratios, response times, or other performance objectives. There will be no increase in population and, therefore, no need for physically altered government facilities be further analyzed in the Draft EA.

Based upon these considerations, significant public services impacts are not expected from the implementation of PAR 1143 and will not be further evaluated in the draft EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

Impacts to recreation will be considered significant if:

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

Discussion

XV.a) & b) As discussed under “Land Use and Planning” above, there are no provisions in PAR 1143 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of PAR 1143, which exempts artist solvent/thinner. Further, PAR 1143 would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PAR 1143 and will not be further evaluated in the Draft EA. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

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

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

Discussion

XVI.a) & b) Any liquid wastes generated by PAR 1143 are discussed in the "Hydrology and Water Quality" discussion as it is prohibited to dispose of liquid wastes in landfills. The type of waste associated with artist solvent/thinner depends on the manner in which these products are used. In handwipe operations, solvent-laden rags are the predominant waste product (liquid cleanup solvent wastes are addressed in the "Hydrology and Water Quality" section). These wastes are a byproduct of hand wipe cleaning and not because of air quality regulations (i.e., PAR 1143). Additionally, PAR 1143 would not be the cause of waste generation, but exempts artist solvent/thinner from the requirements of Rule 1143. Thus, PAR 1143 may result in the alteration of the composition of a waste stream because of the artist solvent/thinner would not need to use low-VOC solvents, but would not be expected to result in an increased generation of waste.

It is important to note that PAR 1143 does not change the current requirements specific to cleanup solvent storage and disposal. Since future reformulations of artist solvent/thinner are expected to be formulated with solvents that are equally or less hazardous than currently used solvents (see "Hazards and Hazardous Materials" section), implementing PAR 1143 is not expected to generate significant new adverse hazardous waste impacts.

Therefore, there are no significant adverse solid and hazardous waste impacts associated with PAR 1143. As a result, no net increase in the amount or character of solid or hazardous waste streams is expected to occur. Further, PAR 1143 is not expected to increase the volume of solid or hazardous wastes from persons who utilize artist solvent/thinner, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, PAR 1143 is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing PAR 1143 is not expected to interfere with any affected distributors' or retailers' ability to comply with applicable local, state, or federal waste disposal regulations. Therefore, significant recreation impacts are not expected from the implementation of PAR 1143 and will not be further evaluated in the Draft EA. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC.				
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

Discussion

XVII.a) & b) PAR 1143 would exempt any artist solvent/thinner provided that it is sold or used exclusively for reducing the viscosity of, or removing, art coating compositions or components. The use of artist solvent/thinner is not expected to adversely affect transportation. The volumes of artist solvent/thinner are not expected to deviate substantially from the volumes of materials currently used. Thus, the current level of transportation demands related to transporting new formulations of materials is expected to remain equivalent. PAR 1143 is not expected to affect existing uses and applications of artist solvent/thinner that would change or cause additional worker trips to distribution or retail facilities or increase transportation demands or services. Therefore, since no substantial increase in operational-related trips are anticipated, implementing PAR 1143 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities or other sites that use these products.

XVII.c) The height and appearance of the existing structures where artist solvent/thinner would be used is not expected be affected by complying with PAR 1143. Therefore, implementation of PAR 1143 is not expected to adversely affect air traffic patterns. Further, PAR 1143 would not affect in any way air traffic in the region because, artist solvent/thinner are typically shipped via ground transportation and not by air.

XVII.d) Use of artist solvent/thinner does not require construction of structures or roadways. Further, implementing PAR 1143 will not involve modifications to existing roadways. Consequently, implementing the proposed project will not create roadway hazards or incompatible roadway uses.

XVII.e) Use of artist solvent/thinner is not expected affect or require changes to emergency access at or in the vicinity of the affected facilities or other sites where artist solvent/thinner is used since PAR 1143 will not require construction or physical modifications of any kind. Therefore, PAR 1143 is not expected to adversely affect emergency access.

XVII.f) No modifications at facilities or other sites where artist solvent/thinner is used is expected that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera. Consequently, implementing PAR 1143 will not create any conflicts with these modes of transportation.

Based upon these considerations, PAR 1143 is not expected to generate significant adverse transportation/traffic impacts and, therefore, this topic will not be considered further in the Draft EA. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

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

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

XVIII.a) As discussed in the “Biological Resources” section, PAR 1143 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the proposed project would only exempt any artist solvent/thinner from the existing rule. These products can be used at new or existing residential, institutional, industrial, or commercial sites, however, these sites have already been greatly disturbed and as such, would not typically support habitats or include important examples of the major periods of California history or prehistory. Additionally, special status plants, animals, or natural communities are not expected to be found within close proximity to the residential, institutional, commercial or industrial locations where artist solvent/thinner products would be used.

XVIII.b) Based on the foregoing analyses, since PAR 1143 may result in project-specific significant adverse air quality impacts. As stated in the air quality analysis, the operational VOC emission reductions foregone of 113.7 pounds per day would exceed the SCAQMD operational VOC significant threshold of 55 pounds per day. Therefore, PAR 1143 is cumulatively considerable and will be evaluated in the Draft EA.

Furthermore, the effects of PAR 1143 will not be "cumulatively considerable" for environmental topics other than air quality, there are no, or minor, incremental impacts and there would be no contribution to a significant cumulative impact caused by other projects that would exist in absence of the proposed project. For example, the environmental topics checked ‘No Impact’ (e.g., aesthetics, agriculture and forestry resources, biological resources, cultural resources, energy, geology and soils, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic) would not be expected to make any contribution to potential cumulative impacts whatsoever. For the environmental topic checked ‘Less than Significant Impact’ (e.g., hazards and hazardous materials, and hydrology and water quality), the analysis indicated that project impacts would not exceed any project-specific significance thresholds. This conclusion is based on the fact that

the analyses for each of these environmental areas concluded that the incremental effects of the proposed project would be minor and, therefore, not considered to be cumulatively considerable. Therefore, the proposed project has no potential for generating significant adverse cumulative or cumulatively considerable impacts.

XVIII.c) Based on the air quality analyses, PAR 1143 may cause adverse effects on human beings. Significant air quality and health risk impacts may occur from implementing PAR 1143. Air quality and health risk impacts will be further analyzed in the Draft EA. No impacts to aesthetics, agriculture and forestry 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 and transportation and traffic are expected as a result of implementing PAR 1143. Therefore, other than air quality, no environmental issues will not require further analysis in the Draft EA.

As discussed in items I through XVIII above, the proposed project may have potential to cause significant adverse environmental effects to only the air quality topic; all other environmental topics are considered less than significant.

APPENDIX A OF THE NOP/IS

PROPOSED AMENDED RULE 1143

In order to save space and avoid repetition, please refer to the latest version of proposed amended Rule 1143 located elsewhere in Appendix A of the Draft EA. The August 19, 2010 version of the proposed amended rule was circulated with the Notice of Preparation/Initial Study (NOP/IS) that was released on August 24, 2010 for a 30-day public review and comment period ending September 22, 2010.

Original hard copies of the NOP/IS, which include the version of the proposed amended rule listed above, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX D OF THE DRAFT EA

**COMMENT LETTERS ON THE
NOTICE OF PREPARATION/INITIAL STUDY AND
RESPONSE TO COMMENTS**

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
 SACRAMENTO, CA 95814
 (916) 653-6251
 Fax (916) 657-5390
 Web Site www.nahc.ca.gov
 e-mail: ds_nahc@pacbell.net



August 30, 2010

Dr. Steve Smith, PH.D., Program Supervisor

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 E. Copley Drive
 Diamond Bar, CA 91765

Re: SCH#2008111052; Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for Proposed Amended Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents located in Southern California Air Pollution Districts, California.

Dear Dr. Smith:

The Native American Heritage Commission (NAHC) is the state 'trustee agency' pursuant to Public Resources Code §21070 for the protection and preservation of California's Native American Cultural Resources. (Also see *Environmental Protection Information Center v. Johnson* (1985) 170 Cal App. 3rd 604). The California Environmental Quality Act (CEQA - CA Public Resources Code §21000-21177, amendment effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(c)(f) CEQA guidelines). Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance. The lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. State law also addresses Native American Religious Expression in Public Resources Code §5097.9.

The Native American Heritage Commission did perform a Sacred Lands File (SLF) search in the NAHC SLF Inventory, established by the Legislature pursuant to Public Resources Code §5097.94(a) and Native American Cultural Resources were identified several USGS Quadrangles identified for the project. For more specific information, contact the tribes and Native American on the attached list. Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the names of the culturally affiliated tribes and interested Native American individuals that the NAHC recommends as 'consulting parties,' for this purpose, that may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We recommend that you contact persons on the attached list of Native American contacts. A Native American Tribe or Tribal Elder may be the only source of information about a cultural resource.. Also, the NAHC recommends that a Native American Monitor or Native American culturally knowledgeable person be employed whenever a professional archaeologist is employed during the 'Initial Study' and in other phases of the environmental planning processes.

Furthermore the NAHC recommends that you contact the California Historic Resources Information System (CHRIS) at the Office of Historic Preservation (OHP)

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Coordinator's office (at (916) 653-7278, for referral to the nearest OHP Information Center of which there are 10.

Consultation with tribes and interested Native American tribes and interested Native American individuals, as consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C. 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 [f]) *et seq.*, 36 CFR Part 800.3, the President's Council on Environmental Quality (CEQ; 42 U.S.C. 4371 *et seq.*) and NAGPRA (25 U.S.C. 3001-3013), as appropriate. The 1992 *Secretary of the Interior's Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including *cultural landscapes*. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e).

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

The authority for the SLF record search of the NAHC Sacred Lands Inventory, established by the California Legislature, is California Public Resources Code §5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code §6254.10). The results of the SLF search are confidential. However, Native Americans on the attached contact list are not prohibited from and may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of the NHPA or at the Secretary of the Interior's discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C. 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibly threatened by proposed project activity.

CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens. Although tribal consultation under the California Environmental Quality Act (CEQA; CA Public Resources Code Section 21000 – 21177) is 'advisory' rather than mandated, the NAHC does request 'lead agencies' to work with tribes and interested Native American individuals as 'consulting parties,' on the list provided by the NAHC in order that cultural resources will be protected. However, the 2006 SB 1059 the state enabling legislation to the Federal Energy Policy Act of 2005, does mandate tribal consultation for the 'electric transmission corridors. This is codified in the California Public Resources Code, Chapter 4.3, and §25330 to Division 15, requires consultation with California Native American tribes, and identifies both federally recognized and non-federally recognized on a list maintained by the NAHC

1-1 Cont.

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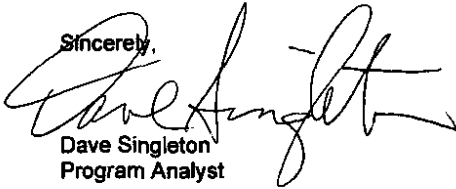
Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. . Note that §7052 of the Health & Safety Code states that disturbance of Native American cemeteries is a felony.

1-1 Cont.

Again, Lead agencies should consider avoidance, as defined in §15370 of the California Code of Regulations (CEQA Guidelines), when significant cultural resources are discovered during the course of project planning and implementation.

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,



Dave Singleton
Program Analyst

Attachment: List of Culturally Affiliated Native American Contacts

Cc: State Clearinghouse

Native American Contacts
 Kern, San Bernardino, Riverside, Los Angeles, Orange, Imperial, Counties
 August 30, 2010

Cabazon Band of Mission Indians
 David Roosevelt, Chairperson
 84-245 Indio Springs Cahuilla
 Indio , CA 92203-3499
 (760) 342-2593
 (760) 347-7880 Fax

Pechanga Band of Mission Indians
 Paul Macarro, Cultural Resource Center
 P.O. Box 1477 Luiseno
 Temecula , CA 92593
pmacarro@pechanga-nsn.
 (951) 770-8100
 (951) 676-2768
 (951) 506-9491 Fax

Los Coyotes Band of Mission Indians
 Francine Kupsch, Spokesperson
 P.O. Box 189 Cahuilla
 Warner , CA 92086
loscoyotes@earthlink.net
 (760) 782-0711
 (760) 782-2701 - FAX

Ramona Band of Cahuilla Mission Indians
 Joseph Hamilton, Chairman
 P.O. Box 391670 Cahuilla
 Anza , CA 92539
admin@ramonatribe.com
 (951) 763-4105
 (951) 763-4325 Fax

Pala Band of Mission Indians
 Tribal Historic Preservation Office
 35008 PalaTemecula Rd, PMB Luiseno
 Pala , CA 92059 Cupeno
sgavghen@palatribe.com
 (760) 891-3500
 (760) 742-1411 Fax

San Manuel Band of Mission Indians
 James Ramos, Chairperson
 26569 Community Center Drive Serrano
 Highland , CA 92346
 (909) 864-8933
 (909) 864-3724 - FAX
 (909) 864-3370 Fax

Pauma & Yuima
 Christobal C. Devers, Chairperson
 P.O. Box 369 Luiseno
 Pauma Valley CA 92061
paumareservation@aol.com
 (760) 742-1289
 (760) 742-3422 Fax

Soboba Band of Mission Indians
 Scott Cozaet, Chairperson
 P.O. Box 487 Luiseno
 San Jacinto , CA 92581
dhill@soboba-nsn.gov
 (951) 654-2765
 (951) 654-4198 - Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106 and federal NAGPRA. And 36 CFR Part 800.3.

This list is only applicable for contacting local Native Americans for consultation purposes with regard to cultural resources impact by the proposed SCH#2006111052; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for Proposed Amended Rule (PAR) 1143 - Consumer Paint Thinners and Multi-Purpose Solvents exempting artists.

Native American Contacts
Kern, San Bernardino, Riverside, Los Angeles, Orange, Imperial, Counties
August 30, 2010

<p>Torres-Martinez Desert Cahuilla Indians Mary Resvaloso, Chairperson PO Box 1160 Cahuilla Thermal , CA 92274 mresvaloso@torresmartin (760) 397-0300 (760) 397-8146 Fax</p>	<p>Fort Mojave Indian Tribe Tim Williams, Chairperson 500 Merriman Ave Mojave Needles , CA 92363 (760) 629-4591 (760) 629-5767 Fax</p>
<p>Twenty-Nine Palms Band of Mission Indians Darrell Mike, Chairperson 46-200 Harrison Place Chemehuevi Coachella , CA 92236 tribal-epa@worldnet.att.net (760) 775-5566 (760) 775-4639 Fax</p>	<p>Ti'At Society Cindi Alvitre 6515 E. Seaside Walk, #C Gabrielino Long Beach , CA 90803 calvitre@yahoo.com (714) 504-2468 Cell</p>
<p>Joseph R. Benitez (Mike) P.O. Box 1829 Chemehuevi Indio , CA 92201 (760) 347-0488 (760) 408-4089 - cell</p>	<p>Juaneno Band of Mission Indians Acjachemen Nation David Belardes, Chairperson 32161 Avenida Los Amigos Juaneno San Juan Capistrano CA 92675 DavidBelardes@hotmail. (949) 293-8522 (949) 493-4933 - Home</p>
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**COMMENT LETTER NO. 1
NATIVE AMERICAN HERITAGE COMMISSION
AUGUST 30, 2010**

Response 1-1

SCAQMD staff is aware of the requirements of CEQA Guidelines §15064.5 and has complied with this section as well as all other relevant CEQA requirements. As stated on pages 2-13 and 2-14 of the NOP/IS for PAR 1143, potential significant adverse impacts on cultural resources are not anticipated:

“Since no construction-related activities would be associated with the implementation of PAR 1143, no impacts to historical or cultural resources are anticipated to occur as a result of implementing the proposed project. Further, PAR 1143 is not expected to require physical changes to the environment, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries.”

PAR 1143 would exempt artist solvents and thinners from the VOC content limit requirements of Rule 1143 provided they are labeled and designated to reduce the viscosity of, or remove, art coating compositions or components and are individually packaged in containers having a total capacity equal to or less than one liter. Use of artist solvents and thinners is expected to occur within existing structures. Further, PAR 1143 is not expected to require construction activities to install control equipment because use of artist solvents and thinners would be exempt from PAR 1143. For the same reason, PAR 1143 would not require the construction of any new buildings or other structures. This is true whether the exempt artist solvents or thinners are used in or outside of an area of potential effect (APE).

Since PAR 1143 would only exempt artist solvents and thinners, which would not involve any construction; the proposed project is not expected to have any impact on “historic properties of religious and cultural significance,” human remains, or Native American cemeteries. As a result, no impacts to historical, archaeological or paleontological resources (as defined in §15064.5 of the CEQA Guidelines) are expected as a result of implementation of the proposed project.