

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT G

Final Environmental Assessment:

Proposed Amended Rule 1107 – Coating of Metal Parts and Products

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for proposed amended Rule (PAR) 1107 – Coating of Metal Parts and Products. The Draft EA was released for a 30-day public review and comment period from September 8, 2005, to October 7, 2005. One comment letter was received from the public relative to the Draft EA. This comment letter and the responses are included in Appendix D of this document.

Note that some modifications have been made to PAR 1107 since the release of the Draft EA based on input from the regulated industry to the rule development staff. To ease in identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~striketrough~~. Two key modifications to PAR 1107 since the release of the Draft EA have been made that affect camouflage coatings and the “Prohibition of Sales.” Specifically, since a military specification for the single-component air-dried camouflage coatings category has not been promulgated at this time, the initial proposal to lower the VOC limit for this coating category has been retracted. Also, due to issues pertaining to feasibility and enforceability, the previously proposed “Prohibition of Sales” provision has been retracted from PAR 1107 and the placeholder “Prohibition of Sale of Non-Compliant Coating” in the current version of Rule 1107 is now proposed for deletion. Other minor modifications have been made to PAR 1107 for clarity and continuity.

Staff has evaluated the proposed modifications to PAR 1107 since the release of the Draft EA, and has determined that the net result from the proposed changes is within the scope of the project-specific analysis. Other than what was previously analyzed in the Draft EA, no environmental areas were affected by the proposed modifications to PAR 1107. Further, none of the modifications alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to the Draft document. Based on the fact that the proposed modifications to PAR 1107 do not create any new significant adverse impacts nor do they result in a substantial increase in the severity of any impacts relative to the project-specific analysis, the proposed modifications do not constitute significant new information that would require recirculation of the Draft EA pursuant to CEQA Guidelines §15073.5. Therefore, this document is now a Final EA.

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CHAPTER 1 - PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

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INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin (collectively known as the “district”). By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the district². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The 2003 AQMP concluded that major reductions in criteria pollutant emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) are necessary to attain the air quality standards for ozone and particulate matter (PM₁₀). Ozone, a criteria pollutant, is formed when VOCs react with NO_x in the atmosphere and has been shown to adversely affect human health and to contribute to the formation of PM₁₀.

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 toxic air contaminants (TACs). With stationary and mobile sources being the major producers of VOCs, which contribute to ozone formation, reducing the quantity of VOCs in the Basin has been an on-going priority effort by the SCAQMD.

Because coatings used for metal parts and products have been considered by SCAQMD as one potential source where VOC emission reductions can be achieved, in June 1979, Rule 1107 – Coating of Metal Parts and Products, was adopted. Since its adoption, Rule 1107 has been amended fifteen times, with the most recent amendments occurring in 2001. Rule 1107 was developed to reduce VOC emissions from most metal coating operations except those performed on aerospace assembly, magnet wire, marine craft, motor vehicle, metal container, architectural components and coil coating operations. The rule applies to original factory finishes that are applied to a wide variety of metals such as steel, aluminum, copper, brass, and special alloys, as fabricated into saleable parts and products. Some examples of products whose manufacturing processes would be subject to Rule 1107 are rain gutters, wrought iron gates, oil rig equipment, auto wheel rims, and trash bins. Currently, there are approximately 1,530 facilities that are subject to the requirements of Rule 1107.

The objective of the proposed amendments to Rule 1107 (PAR 1107) is to implement in part the commitment in the 2003 AQMP control measures CTS-10 - Miscellaneous Industrial Coatings and Solvent Operations and LTM-ALL – Long-Term Control Measure, which is expected to reduce VOC emissions from all affected source categories by 2010. Specifically, reductions in VOC contents for both prefabricated architectural and extreme high-gloss coatings are proposed in PAR 1107 and are estimated to achieve

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).

² Health & Safety Code, §40460 (a).

³ Health & Safety Code, §40440 (a).

a reduction of 0.8 ton per day of VOC emissions by July 1, 2007. This proposed reduction will help achieve a portion of the overall emission reduction commitments in CTS-10 and LTM-ALL. Amendments to other SCAQMD rules are expected to achieve the remainder of the emission reduction commitments in these control measures. For example, Rule 1145 – Plastic, Rubber, Leather, and Glass Coatings, as amended on December 3, 2004, is expected to achieve a VOC reduction of 1.27 tons per day by 2010. Other changes are proposed throughout PAR 1107 for consistency with currently available technologies, to enhance compliance and enforceability, and to improve clarity.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PAR 1107 applies to coating operations of metal parts and products and, therefore, is a “project” as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the project and has prepared this draft Environmental Assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110. Pursuant to Rule 110, SCAQMD has prepared this draft EA.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this draft EA to address the potential adverse environmental impacts associated with the proposed project. The draft EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

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

PROJECT LOCATION

PAR 1107 would affect facilities 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). The Basin, which is a subarea of the district, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the

Palo Verde Valley. The federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).



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

PROJECT OBJECTIVE

The objective of PAR 1107 is to implement the 2003 AQMP control measures CTS-10 - Miscellaneous Industrial Coatings and Solvent Operations and LTM-ALL – Long-Term Control Measure to further reduce VOC emissions from all affected source categories by 2010. PAR 1107 is expected to achieve a portion of the overall emission reduction commitments in CTS-10 and LTM-ALL for the metal coating industry source category by reducing the VOC content limits for both prefabricated architectural and extreme high-gloss coatings to achieve a VOC reduction of 0.80 ton per day. In addition, other changes are proposed throughout PAR 1107 for consistency with currently available technologies, to enhance compliance and enforceability, and to improve clarity.

PROJECT BACKGROUND

Metal coating operations utilize coatings that serve both decorative and functional purposes. Decorative coatings are applied to metal parts and products that will not be continually exposed to chemicals, high impact, high abrasion, ultraviolet (UV) light from sunlight, submersion, seaside or oceanic conditions. Decorative coatings are meant for

light duty purposes and are applied to common household items such as coat hangers, picture frames, medicine cabinets, interior light fixtures, or for any environmental setting that is controlled by temperature, light, humidity, and excessive human contact. Formulations of decorative coatings are typically single component coatings that need to be air-dried or cured by evaporation or coalescence such as acrylics, alkyds, polyurethanes and copolymer polyurethanes.

However, formulations of decorative coatings that need to be “bake cured” or heat treated such as epoxies and polyurethanes are also available. These formulations need heat to reduce the potential for the coating to fail or crack because the heat triggers a chemical reaction that results in increased strength of the chemical bonds through cross-linking. Epoxies are known for their resistance to submersion and chemical attack, while polyurethanes have excellent longevity to UV light degradation, high impact resistance, film flexibility, and scratch resistance.

Functional coatings, unlike decorative coatings, must be able to withstand some degree of resistance from exposure to chemicals, UV light and sunlight, submersion, salt air and other outdoor weather environments, abrasion, and exposure to frequent human contact such as a restaurant table, office furniture, or door handle. Typical functional coating finishes consist of a basecoat which includes sealers and primers, a midcoat or undercoat, a finish color-coat and a clear top coat. Functional coating applications are typically comprised of two-component chemically reactive coatings, such as epoxies and polyurethanes, because the cross-linked bonds offer a greater degree of protection from the elements.

There are several methods for applying coatings to metal parts and products such as electrostatic application, flow coat, dip coat, roll coat, high-volume low-pressure (HVLP), hand application or some other method with an equivalent transfer efficiency to HVLP technology. Regardless of the type of metal coating and the coating application method, the coatings need to be cured in order to achieve the desired finish. The curing process occurs through one of the following four methods: 1) air drying at ambient conditions; 2) low heat force curing (e.g., at a temperature below 194 °F); 3) high heat baking (e.g., at a temperature above 194°F); or, 4) UV curing (e.g., exposing the object to UV light).

Air-dried coatings are single-component types that dry through evaporation of the solvent or coalescence of the coating molecules upon evaporation of the solvent. Air-dried coatings will also contain the class of multi-component coatings that cure by chemical reaction. Air-dried coatings are available in both waterborne and solventborne formulations and are mostly used in decorative applications. Coatings that need to be force-cured with heat are typically multi-component systems that cure by chemical reaction to achieve cross-linked bonds. Heat-cured coatings are available in two types: thermosetting and thermoplastic. The key difference between the two types is that thermosetting coatings cure by heat-initiated cross-linking and thermoplastic coatings do not. UV coatings are coatings that also undergo a chemical reaction to achieve cross-linked bonds, but in the presence of UV light without heat.

Status of Metal Coatings

The types of metal coatings that are subject to the requirements in Rule 1107 are divided into four groups: 1) high solids; 2) waterborne/solventborne; 3) powder; and, 4) ultraviolet (UV). The following discussion addresses each coating group and its availability and use within the metal coating industry. Analysis regarding the effect the proposed rule amendments will have on emissions from these coatings is discussed in Chapter 2.

High Solids Coatings

Coatings are considered to be ‘high solids’ coatings when the solids content is greater than 60 percent by volume. High solids coatings are comprised of polymers that generally have low molecular weights and require less solvent to achieve the desired viscosity. High solids coatings are used in some functional coating applications but are not widely used or appropriate for decorative applications because they are viscous and need to be applied in higher film builds or thicknesses (e.g., from 2 to 6 mils or more); most general use metal parts and products do not need high film builds. Further, because of the high viscosity, in order to make it easier to spray high solids coatings, in-line pre-heaters may be used to reduce the viscosity and promote better leveling. Special attention must be given when pre-heaters are used, because the addition of heat could cause premature solvent evaporation.

In general, high solids coatings are single-component systems that are force cured with heat or multi-component systems that are air-dried at ambient conditions. Single-component systems are typically comprised of acrylic, polyester and alkyd systems while multi-component systems have two or more compounds, such as polyurethane and epoxy resins, that are mixed together at the time of application. The mixing of the multiple parts immediately starts a chemical reaction that causes the molecules to cross-link and eventually a finished coating is formed. As a result, the operator has a limited amount of time to apply the mixture before chemical cross-linking makes it unusable. Polyurethane coatings display the best outdoor characteristics for a general or high-gloss coating. Epoxies have great chemical resistance, but chalk in an outdoor environment; however, they make excellent primers or midcoats, followed by a urethane topcoat.

Waterborne and Solventborne Coatings

As their names suggest, waterborne coatings are mostly water and solventborne coatings contain more hydrocarbon solvents than water. However, waterborne coatings also contain small amounts of organic solvents as additives or co-solvents. Even so, waterborne technologies contain less VOCs than the otherwise equivalent solvent-based products.

Waterborne coatings are available in either water-dispersible or water-soluble formulations. Water-dispersible formulations are either colloidal suspensions that involve a solid and a liquid dispersed into one another such as polyurethanes or emulsions of two immiscible liquids with one liquid being dispersed as finite globules in the other such as acrylic-, vinyl-, or silicone-based resins. Water-soluble formulations are soluble in water and are typical of epoxy esters and water reducible alkyds.

Waterborne coating formulations of resins are commercially available and vary by component system categories (e.g., single- and multi-component systems). There is a large variety of waterborne coating formulations such as acrylics, alkyds, epoxies, phenolics, polyamides, polyurethanes and polyesters. In general, most waterborne coatings are formulated as single-component systems that are air-dried and produce thin, less durable film builds that do not perform well outdoors. However, some waterborne coatings are available in multi-component formulations that require heat treating or baking to cross-link the finish coat into a thicker, stronger and more durable surface. To date, waterborne multi-component polyurethanes perform equivalent to or better than solventborne polyurethanes.

Some solventborne coatings contain solvents that are not VOCs. For example, alkyd and polyurethane resin systems for general use and extreme high-gloss applications contain acetone which is defined in SCAQMD Rule 102 – Definition of Terms as a ‘Group I exempt compound’ (i.e., not a VOC). Some formulations designed for the trash and roll-off bin market contain other exempt solvents specifically to help dissolve residual oil after pressure washing. Some zinc primers, epoxies and UV light resistant urethane topcoats used in the automotive refinishing market are formulated with parachlorobenzotrifluoride (PCBTF), another Group I exempt compound, to achieve high gloss and strong performance. Tertiary butyl acetate (TBAc), another solvent that was recently delisted by EPA as a VOC, but has not been delisted by CARB or the SCAQMD, has similar performance characteristics to PCBTF and thus, may be a prime candidate for new, low VOC formulations.

Powder Coatings

Powder coatings consist of 100 percent dry solids from resins that are dried and ground into a fine⁴ powder. When compared to low-solids liquid coatings that can be applied at ultra thin thicknesses (e.g., less than one mil), the powder coatings can be applied from one mil to 40 mils in thickness. Once the powder coating is applied, the item is baked so that cross-linking can occur. VOCs are released during the baking process and typically range between 0.5 percent and three percent, by weight.

There are two main categories of powder coating formulations: 1) thermoplastics; and, 2) thermosets. Thermoplastic powders are functional coatings that are capable of achieving a specific mil thickness and are applied with electrostatic fluidized bed technology to objects that have been preheated so that the coating immediately fuses to the metal substrate. Thermoplastic powders typically have high molecular weights and are available in polyethylene, polypropylene, nylon, polyvinyl chloride or polyester formulations.

Thermoset powders are decorative coatings that are only able to achieve a limited thickness ranging from one mil to three mils when applied with an electrostatic spray gun. Epoxy resin, polyester, and acrylic powder coatings are the most commonly used thermosetting powders. Epoxy resin thermoset powders work well for interior applications such as shelving, bathroom fixtures, office and kitchen furniture, business machines, and home appliances, but are not meant for outdoor applications because they

⁴ The mean particulate size ranges between 25 and 40 microns in diameter.

become chalky when exposed to UV light from sunlight. Improved endurance when exposed to UV light can be achieved when epoxy resin thermoset powders are coupled with polyester or acrylic resin to form hybrid powders.

Acrylic thermoset powder coatings are more durable while having all the benefits of liquid coatings (e.g., gloss, hardness, flexibility, et cetera). As such, they are better suited for exterior applications such as tractors, appliance exteriors, and aluminum extrusions. Polyester and polyester triglycidyl isocyanurate (TGIC) powder coatings also have many exterior applications including but not limited to aluminum and steel wheels and outdoor furniture.

Powder coating systems utilize a conveyORIZED powder line comprised of multiple components including a five-to-seven stage power washer, dry-off oven, spray booth with dust collection system, bake oven, conveyor line, and process controls. The dust collection system utilizes pleated cartridge technology and when used in conjunction with a spray booth, is capable of capturing nearly all of the overspray - especially when designed for downdraft or gravity feed configurations. These dust collection systems are self-purging in that they utilize reverse air pulse technology to keep the filters operating at maximum efficiency. Exhaust is not vented outside the building, but rather is returned or recycled inside the building via a high efficiency particulate arrestor (HEPA) filter. Multiple colors of powder coatings require the need for more spray booths and dust collector units. Some systems come with plastic sheeting roll-up walls, which provide a new work environment relatively quickly but does not address booth change-outs for custom colors.

Despite the benefits, powder coating lines are not ideal for all situations. For example, electrostatic attraction, the method by which powder coatings are applied, is not appropriate for all configurations of items to be coated. For example, sharp corners repel charged coating particles and leave small unpainted lines referred to as Faraday cages. In these cases, spray gun technology can reduce this effect, but do not entirely eliminate the problem. Another unsuitable operation for a powder coating system would be thin sheet metal applications because the high cure temperature necessary for cross-linking to occur in powder processes would deform the thin sheets and make the product unusable. Lastly, since powder coating lines require substantially more physical space than liquid coating lines, not all facilities have enough available space to accommodate the size of one or more powder coating lines. This problem is amplified for any facility that offers products in multiple colors, since multiple coating lines would be required.

UV Coatings

Ultraviolet (UV) curable coatings are part of the acrylate chemical family; either as epoxy, urethane, or polyester acrylates and consist of monomers, oligomers, photoinitiators and other additives. Photoinitiators are a crucial part of the curing process because when exposed to UV light, free radicals are generated that react with the double bonds and cause a chain reaction that polymerizes or achieves a cross-linked coating finish.

UV coatings have not yet fully entered the general metal coatings market because they have some physical limitations. Because of the thin film thicknesses, objects that have

been applied with UV curable coatings do not do well outdoors. However, UV coatings have good chemical- and scratch- resistant property that do well exposed to water. In addition, UV coatings are not formulated with heavy pigments because the high opacity of the pigments prevents the light source from reaching the photoinitiators which, in turn, prevents cross-linking or curing. Also, cross-linking does not easily occur when UV coatings are applied to objects with varying geometries. Though "three dimensional" curing is possible, applications of UV coatings are more widely utilized in operations where flat surface areas and consistent geometries are prevalent such as the can and coil industry.

UV curable coatings are available in both liquid and powder form. Liquid UV curable coatings are also utilized in clear tubing or conduit finishing, and clear finishes for door hardware and plumbing fixtures. Powder UV coatings are similar to traditional powder coatings except that they are heated first and then exposed to UV light to initiate rapid curing. Another difference is that the melting temperature is lower for UV powder coatings at approximately 120 degrees Celsius when compared to traditional powder coatings with a melting temperature at 200 degrees Celsius.

Overview of Current Regulatory Requirements

There are three levels of regulatory control requirements that apply to VOCs from the metal coating industry, including the requirements proposed in PAR 1107: 1) local (i.e., SCAQMD); 2) state (i.e., California Air Resources Board or CARB); and 3) federal requirements (i.e., Environmental Protection Agency or EPA). The SCAQMD's local efforts to specifically regulate sources of VOCs from this industry have been based partly on implementing measures already adopted by EPA and CARB. The following is an overview of the SCAQMD rules that have been adopted to implement federal, state, or SCAQMD VOC reduction programs.

SCAQMD Requirements

For metal coating facilities that are subject to Rule 1107, three related local rules for reducing VOC emissions from specific activities may also apply: Rule 442 – Usage of Solvents; Rule 1122 – Solvent Degreasers; and Rule 1171 – Solvent Cleaning Operations. Rule 442 applies to the use of VOC-containing materials or equipment that emit VOCs but that are not subject to the VOC content limits in Rule 1107. Rule 1122 applies to any operations, including metal coating operations, in which components or machinery are cleaned with solvent in a degreasing unit before being coated. The requirements of Rule 1171 would apply when using solvents to clean coating application equipment (i.e., spray guns) and the storage and disposal of VOC-containing materials used in solvent cleaning operations at a metal coating facility.

There are several coatings used by the metal coating industry formulated with TACs including but not limited to the following: cobalt compounds, ethylbenzene, formaldehyde, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), toluene, triethylamine, xylene, and zinc oxide. The use of materials that contain toxic compounds is of particular concern to the SCAQMD and other agencies such as EPA, CARB, and the Occupational Safety and Health Administration (OSHA) because some of the TACs used in the metal coating industry are considered carcinogens (cancer-causing) such as

formaldehyde while others may have other non-cancer health effects⁵. For these reasons, there are two other local rules regulate TAC emissions that may apply to metal coating facilities: Rule 1401 – New Source Review of Toxic Air Contaminants, and Rule 1402 – Control of Toxic Air Contaminants From Existing Sources. Rule 1401 applies to new and modified facilities, including metal coating facilities, and Rule 1402 applies to facility-wide risk at existing facilities. Since the majority of metal coating facilities located within SCAQMD’s jurisdiction are existing sources, the requirements in Rule 1402 are the main drivers for reducing overall risk and, therefore, TAC emissions from this industry.

State Requirements

On December 10, 1992 CARB adopted a Determination of Reasonably Available Control Technology (RACT) for Metal Parts and Products Coating Operations. On March 2, 2001 CARB adopted “Performance Standards for Existing Stationary Sources – A Resource Document.” This document contains updated performance standards for various industries and applications that reflect both RACT and BACT standards. One chapter is specifically dedicated to the category of “Metal Parts and Products Coatings (Non-Architectural) which contains performance standards that are mostly aligned with the current requirements in Rule 1107 such as VOC content limits for various categories of metal coatings and transfer efficiency and control efficiency requirements.

In addition to CARB’s industry-specific requirements, the Air Toxics "Hot Spots" Information and Assessment Act was enacted in September 1987 by the California State Assembly as Assembly Bill 2588 (hereafter referred to as the AB2588 program). Under this act, certain stationary sources are required to report the types and quantities of specified substances, including carbon black, cobalt compounds, ethylbenzene, formaldehyde, MEK, MIBK, toluene, triethylamine, 1,2,4-trimethylbenzene, xylene, and zinc oxide they release into the air. Emissions of interest are those that result from the routine operation of a facility or that are predictable, including but not limited to continuous and intermittent releases and process upsets or leaks. The goals of AB2588 are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, and to notify nearby residents of significant risks. Only 299 of the 1,530 metal coating facilities subject to Rule 1107 are currently in the AB2588 program.

Federal Requirements

The federal Clean Air Act (CAA) establishes requirements to regulate emissions of air pollutants to protect human health and the environment. In addition to regulating criteria pollutants, the CAA requires the EPA to regulate hazardous air pollutants (HAPs⁶) that have been found to adversely affect human health. The following HAPs that are regulated by EPA are found in metal coating formulations: cobalt compounds, ethylbenzene, formaldehyde, MEK, MIBK, toluene, triethylamine, and xylene. Federal

⁵ Formaldehyde, toluene, triethylamine, and xylene are classified as having both chronic and acute health effects; ethylbenzene as having chronic health effects and zinc oxide proposed as having chronic health effects; MEK as having acute health effects with future proposed risk value for chronic; and, cobalt compounds as having future proposed risk values. In addition, MIBK is classified by EPA as a HAP but the toxicology assessment is not finalized. Exposure to these substances has been demonstrated to cause adverse health effects such as irritation of the lung, skin, and mucous membranes, and effects on the central nervous system, liver, and heart.

⁶ TACs and HAPs are used interchangeably throughout this document.

regulations in the CAA include the New Source Performance Standards (NSPS) under §111 and the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) under §112. The EPA periodically promulgates NSPS standards in the Code of Federal Regulations (CFR), Chapter 40, Part 60 (40 CFR Part 60) and NESHAPs in 40 CFR Parts 61 and 63. The SCAQMD has been delegated authority by EPA to implement and enforce both NSPS and NESHAP requirements. The requirements in 40 CFR Parts 60 and 61 were adopted by reference in SCAQMD Regulations IX and X respectively. For the metal coatings industry, there is currently no applicable NSPS standard. However, there is an applicable NESHAP for Surface Coating of Miscellaneous Metal Parts and Products⁷, which sets standards for major sources of HAPs (e.g., sources with a potential to emit 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs) from the metal coatings industry.

The VOCs and HAPs used in the metal coatings industry are also addressed in other federal legislation including but not limited to:

- Occupational Safety and Health Act (OSHA);
- Toxic Substances Control Act (TSCA);
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA);
- Title III of the Superfund Amendments and Reauthorization Act (SARA); and,
- Resource Conservation and Recovery Act (RCRA).

In addition, there is another federal document related to metal coating operations: Control Technique Guidelines (CTG), Control of Volatile Organic Compound Emissions from Miscellaneous Metal Parts and Products (EPA-450/2-78-015). This CTG contains baseline VOC content limits as RACT for metal coatings. The VOC content limits in Rule 1107 are based on and consistent with these CTG guidelines.

PROJECT DESCRIPTION

Rule 1107 applies to any person using metal coating materials for the manufacture of metal parts and products, except those performed on aerospace assembly, magnet wire, marine craft, motor vehicle, metal container and coil coating operations. The main purpose of PAR 1107 is to reduce emissions of VOCs by adjusting the VOC content limits and assigning a future effective date for specified metal coating materials. The following summarizes these and other changes to the proposed amended rule. A copy of PAR 1107 is included in Appendix A.

⁷ On January 2, 2004, EPA promulgated the Surface Coating of Miscellaneous Metal Parts and Coatings NESHAP in Title 40 of Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 63, Subpart Mmmm (40 CFR 63, Subpart Mmmm; 69 FR 130-192).

Definitions of Terms

Definitions applicable to metal coatings operations that are proposed for clarification and consistency within PAR 1107 include “electrostatic application,” “flow coat,” “hand application methods,” “high-volume, low-pressure (HVLP) spray,” and “roll coat.” Further, to reflect the latest product categories available on the market, the term “optical anti-reflection coating” is proposed to be added to PAR 1107.

Requirements

Since HVLP spray technology currently meets BACT, PAR 1107 proposes to delete all references to the 65 percent transfer efficiency requirement for other coating application methods, and instead, to allow the transfer efficiency of alternate spray techniques to be compared to the transfer efficiencies for HVLP spray technologies.

PAR 1107 proposes to separate the coating type “prefabricated architectural component coatings” into two categories based on one- and multi-component formulations and assign the same current VOC content limit (e.g., 420 grams per liter) for both. However, becoming effective July 1, 2007, PAR 1107 proposes to reduce the current VOC contents of these formulations for air-dried coatings to: 1) 340 grams per liter for extreme high-gloss coatings; 2) 275 grams per liter for one-component prefabricated architectural component coatings; and, 3) 340 grams per liter for multi-component prefabricated architectural component coatings.

To be consistent with lower detection limits of certain source testing methodologies that are achievable in practice, a compliance alternative to achieving a destruction efficiency of 95 percent across a control device can be reduced from 50 parts per million by volume (ppmv) at the outlet side to five ppmv at the outlet. Other minor changes are proposed for clarity and consistency throughout the proposed amended rule.

Reserved for Prohibition of Sale of Non-Compliant Coatings

Due to issues regarding the feasibility of implementation and enforceability pertaining to the concept of restricting the supply, sale, manufacture, formulation, or repackaging of non-compliant metal coating products, PAR 1107 proposes to delete subdivision (e), which is a placeholder that was originally reserved to establish a prohibition of sale of non-compliant coating

Methods of Analysis

Minor changes are proposed for clarity and consistency with the terms and acronyms that are used throughout the proposed amended rule.

Exemptions

Due to the success of high-volume, low-pressure (HVLP) spray guns overcoming problematic issues that have been historically associated with electrostatic spray applications such as safety and physical characteristics of certain substrates, PAR 1107 proposes to delete the minimum transfer efficiency exemption since it is no longer needed. Further, PAR 1107 proposes an expiration date of July 1, 2006, for the touch-up coatings, repair coatings, and textured finishes exemption. Other minor changes are proposed for clarity and consistency with the terms that are used throughout the proposed amended rule.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

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

GENERAL INFORMATION

| | |
|---|---|
| Project Title: | Proposed Amended Rule 1107 – Coating of Metal Parts and Products |
| Lead Agency Name: | South Coast Air Quality Management District |
| Lead Agency Address: | 21865 Copley Drive Diamond Bar, CA 91765 |
| CEQA Contact Person: | Ms. Barbara Radlein (909) 396-2716 |
| Rule 1107 Contact Person: | Mr. William Milner (909) 396-2553 |
| 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: | PAR 1107 would reduce VOC content limits effective July 1, 2007 of specified coatings for metal parts and products. PAR 1107 also provides alternatives to the transfer efficiency demonstrations and destruction efficiency requirements for add-on control and capture systems. PAR 1107 also deletes outdated transfer efficiency exemptions since HVLP spraying has become the industry standard. |
| Surrounding Land Uses and Setting: | Not applicable |
| Other Public Agencies Whose Approval is Required: | Not applicable |

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION

On the basis of this initial evaluation:

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

Date: September 7, 2005

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

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, the main focus of the proposed amended rule is to reduce VOC emissions from the metal coating industry by lowering the VOC content limits and modifying the category descriptions for specified coating categories, and by establishing alternatives to existing transfer efficiency requirements for application equipment and destruction efficiency requirements for control equipment. Operators of affected facilities are not expected to install new or replace existing control equipment (i.e., afterburners) to comply with the proposed requirements in PAR 1107 for the following reasons: 1) metal coatings that comply with future effective dates are currently available and in use; 2) of the 1,530 facilities that are currently subject to the requirements in Rule 1107, only 14 use non-compliant coatings that are vented to afterburners; 3) at the outlet of the afterburners, these 14 facilities currently emit a total of 2.64 tons of VOC per day or 377 pounds of VOC per day per facility; 4) facility operators are expected to continue to demonstrate that their control equipment can collect 90 percent by weight of the VOCs generated and can destroy 95 percent by weight of these VOCs. Since the transfer efficiency requirements and alternatives to achieving the destruction efficiency requirements for control equipment as proposed in PAR 1107 are not expected to have an effect on emissions, these topics will not be addressed further in the Draft EA. Thus, answers to the following checklist items are based on the assumption that new formulations of certain metal coatings would be used to meet the requirements of PAR 1107.

| | Potentially Significant Impact | 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 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 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 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 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 1107 would reduce VOC emissions from the metal coating industry by lowering the VOC content limits and modifying the category descriptions for specified coating categories. The expected options for compliance with the VOC content limits are the use of new formulations of certain metal coating materials by July 1, 2007. As an alternative to complying with existing transfer efficiency requirements for application equipment, PAR 1107 would allow demonstrations of equivalency to HVLP spray equipment, the industry standard. In lieu of 95 percent destruction efficiency requirements for control equipment, PAR 1107 proposes to allow measured outlet concentrations to satisfy compliance with the requirements to reduce VOCs from non-compliant coatings.

Changing VOC content limits or source test compliance criteria for control equipment as proposed in PAR 1107 would not result in any new construction of equipment, 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. Operators may use reformulated compliant coatings in place of currently used coatings, but this is not expected to change operating practices at affected facilities. Also, operators that have existing air pollution control equipment such as an afterburner and that continue to use non-compliant coatings, are expected to be able to comply with the proposed lower outlet concentration limit of 5 ppm VOC by volume because they currently comply with the 95 percent destruction efficiency requirement. Likewise, 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 proposed amended rule.

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

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|---------------------------------------|-------------------------------------|-------------------------------------|
| II. AGRICULTURE 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 checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|--------------------------------|------------------------------|-------------------------------------|
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Project-related impacts on agricultural 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 would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

II.a), b), & c) PAR 1107 would reduce VOC emissions from the metal coating industry by lowering the VOC content limits and modifying the category descriptions for specified coating categories. The expected options for compliance with the VOC content limits are the use of new formulations of certain metal coating materials by July 1, 2007. As an optional alternative to complying with existing transfer efficiency requirements for application equipment, PAR 1107 would allow demonstrations of equivalency to HVLP spray equipment, the industry standard. In lieu of 95 percent destruction efficiency requirements for control equipment, PAR 1107 proposes to allow measured outlet concentrations to satisfy compliance with the requirements to reduce VOCs from non-compliant coatings.

Changing VOC content limits or compliance measurement procedures as proposed in PAR 1107 would not result in any new construction of buildings or other structures that would convert any classification of farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract.

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

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

III.a) Attainment of the state and federal ambient air quality standards protect sensitive receptors and the public in general from the adverse effects of criteria pollutants which are known to have adverse human health effects. Based on the discussion under items III. b), c) and f), the lower future VOC content limits proposed in PAR 1107, to a small extent, contribute to carrying out the goals of the AQMP, specifically, the goals of control measures CTS-10 and LTM-ALL, to reduce VOC emissions from all affected source categories, which in turn, contribute to attaining the state and federal ambient air quality standards. Thus, because PAR 1107 implements a portion of these control measures in the 2003 AQMP that will produce VOC reductions, it will ultimately contribute to attaining and maintaining these standards.

III.b), c) & 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 the proposed amendments are significant, impacts will be evaluated and compared to the following criteria. If impacts exceed any of the following criteria, they will be considered significant. All feasible mitigation measures will be identified and implemented to reduce significant impacts to the maximum extent feasible. 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.

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

| Mass Daily Thresholds | | |
|---|---|------------------|
| Pollutant | Construction | Operation |
| NOx | 100 lbs/day | 55 lbs/day |
| VOC | 75 lbs/day | 55 lbs/day |
| PM10 | 150 lbs/day | 150 lbs/day |
| SOx | 150 lbs/day | 150 lbs/day |
| CO | 550 lbs/day | 550 lbs/day |
| Lead | 3 lbs/day | 3 lbs/day |
| Toxic Air Contaminants (TACs) and Odor Thresholds | | |
| TACs (including carcinogens and non-carcinogens) | Maximum Incremental Cancer Risk \geq 10 in 1 million Hazard Index \geq 1.0 (project increment) Hazard Index \geq 3.0 (facility-wide) | |
| 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 $\mu\text{g}/\text{m}^3$ (recommended for construction) ^b & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$ | |
| Sulfate 24-hour average | 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: 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

Construction Air Quality Impacts

It is expected that operators at affected facilities will comply with PAR 1107 using reformulated coating products. Since the proposed reductions to VOC content limits and the alternative compliance measurement methods do not require physical changes or modifications involving construction activities, there will be no direct or indirect air quality impacts resulting from the proposed project.

Summary of Operational Air Quality Impacts

The overall objective of the proposed project is to lower certain VOC content limits by July 1, 2007. By this effective date, it is estimated that PAR 1107 will permanently reduce VOC emissions from this affected source category by approximately 0.8 ton per day.

Since PAR 1107 does not dictate any particular compliant materials, the proposed project may result in the use of materials that contain VOCs, toxics, ozone depleting compounds, and global warming compounds. Since there are a multitude of formulations per coating category and that future formulations of potentially compliant materials are unknown at this time, the specific quantities of VOCs, toxics, ozone depleting compounds and global warming compounds contained in the materials are speculative. Any toxic compounds used in new coating formulations may have limited usefulness as they would also be subject to Rules 1401 or 1402. However, any use of the future formulations, with or without VOCs, toxics, ozone depleting compounds and global warming compounds, would be evaluated to determine if they would be subject to permitting and regulatory requirements as appropriate. For the purpose of this analysis, only compliant coating products that are currently available have been evaluated. Accordingly, the same impact issues for future formulations are not further evaluated in this Draft EA because of the speculative nature of future coating formulations.

Analysis of the Proposed Amended Rule on Emissions

PAR 1107 contains several changes; some will impact emissions while others will not. The most substantial of the proposed changes to PAR 1107 that affect VOC emissions from affected facilities are to the VOC content limits for various metal coating categories. The proposed amendments would reduce the allowable VOC content limits for specified metal coatings effective July 1, 2007. In addition, PAR 1107 contains other changes that would provide flexibility with transfer efficiency demonstrations and determining compliance with air pollution control equipment. To determine the overall emission impact of the proposed changes to Rule 1107, staff has first examined the effects of the rule amendments per category.

No Emission Changes

No changes in emissions of VOCs or TACs will result from the following proposed minor rule modifications:

1. Separating the coating type “prefabricated architectural component coatings” into two categories based on one- and multi-component formulations and assign the same current VOC content limit (e.g., 420 grams per liter) for both.
2. Adding new terms plus modifying the names and definitions of existing terms for consistency and clarity with other changes proposed throughout PAR 1107.
3. Making minor changes to the methods of analysis for clarity and consistency with the terms and acronyms used throughout PAR 1107.
4. Deleting all references to the 65 percent transfer efficiency requirement for other coating application methods and instead, allowing the transfer efficiency of alternate spray techniques to be compared to the transfer efficiencies for HVLP spray technologies. The 65 percent transfer efficiency was originally derived from the transfer efficiency observed for HVLP equipment. Since HVLP is now the industry standard for spray equipment, deleting the 65 percent transfer efficiency requirement is not expected to change transfer efficiencies currently achieved in practice.
5. Reducing the compliance alternative to achieving a destruction efficiency of 95 percent across a control device from 50 parts per million by volume (ppmv) at the outlet side to five ppmv at the outlet.
6. Making other minor changes for clarity and consistency throughout PAR 1107.

Changes to VOC Emissions

VOC emission reductions are expected to result from several of the proposed changes to Rule 1107 with the majority attributable to the proposed reductions to the VOC content limits for certain coatings. Effective July 1, 2007, PAR 1107 proposes to reduce the current VOC contents from 420 grams per liter for air-dried coatings to: 1) 340 grams per liter for extreme high-gloss coatings; 2) 275 grams per liter for prefabricated architectural one-component coatings; and, 3) 340 grams per liter for prefabricated architectural multi-component coatings. Table 2-2 contains a summary of these changes.

Based on an evaluation of inventories of facilities that would be subject to PAR 1107, the universe is comprised of about 1,530 facilities. The reported data for year 2002/2003 show that the current emission inventory for all metal coating facilities within the jurisdiction of SCAQMD is approximately 4.07 tons per day of VOC emissions. The inventory is based on emissions data in the SCAQMD's Annual Emissions Reporting (AER) Program database for reporting years 2002/2003, permitting data in the SCAQMD's Clean Air Support System (CLASS) database, and the 1998 inventory of metal coating operations that are not required to have a written permit in accordance with Rule 219 – Equipment Not Requiring a Permit Pursuant to Regulation II.

**Table 2-2
VOC Content Requirements for Metal Coating Materials
and Potential Emission Reductions**

| Metal Coating Material | VOC Compliance Limits for Air Dried Curing Coatings (g/liter, less water & exempt compounds) | | Reduction in VOC Content Limit (g VOC/liter of material) | Estimated Emission Reductions (%) |
|--|---|---|---|-----------------------------------|
| | Current Rule (Effective today) | Proposed Rule (Effective July 1, 2007) | | |
| Extreme High-Gloss | 420 | 340 | 80 | 31 |
| Prefabricated Architectural One-Component ^b | 420 | 275 | 145 | 50 |
| Prefabricated Architectural Multi-Component ^b | 420 | 340 | 80 | 31 |
| | | | | |

^a To determine estimated percentage of emission reductions, the following equation is applied:

$$\frac{[(A / (1-A/C)) - (B / (1-B/C))]}{(A / (1-A/C))} \times 100\% = \text{Estimated Percentage of Emission Reductions}$$

Where:

A = Current VOC Limit in grams per liter

B = Future VOC Limit in grams per liter

C = 880 grams per liter (the EPA-approved average VOC density)

^b Because this new sub-category of material does not exist by name in the current version of Rule 1107, the current VOC content limit for prefabricated architectural component coatings would apply (e.g., 420 grams/liter).

The AER database contains emission factors and coatings usage information on a facility-specific basis for reporting year 2002/2003. Because the database makes no distinction between the types of coatings other than the reported VOC contents, there is no way to determine the category to which the individual usages belong (i.e., to extreme high-gloss or prefabricated

architectural multi-component coatings). To estimate future usages for these metal coatings, the analyses focused on the lowest future effective VOC content limits, which are for the extreme high-gloss and prefabricated architectural single- and multi-component coatings categories. This is a conservative assumption because extreme high-gloss and prefabricated architectural coatings are more commonly used in larger amounts for multiple types of applications throughout the metal coatings industry. By reviewing multiple “Material and Safety Data Sheets” (MSDSs) of products for each metal coating category at the lower VOC content limits as proposed in PAR 1107, the actual past coatings usage data was adjusted to reflect an average solids content (by volume) of the future compliant metal coatings. Table 2-3 contains the number of gallons of metal coatings used in 2002/2003 which is a composite of several databases and represents varying quantities and combinations of VOCs, exempt compounds, water and solids. Effective July 1, 2007, and each year thereafter, implementation of PAR 1107 is expected to result in a VOC emissions reduction of approximately 0.8 ton per day or 1,600 pounds per day as a result of modifying the VOC content limits for the specified metal coatings.

**Table 2-3
Future Usage Estimates Based on Average Solids Contents
and 2002/2003 Usage Data**

| Metal Coating Material | Current VOC Content Limit (g/l) | Average Solids Content (% by volume) | Est. No. of Gallons Used in 2002/2003 | Future VOC Content Limit Effective 7-1-07 (g/l) | Average Solids Content^a (% by volume) | Future Est. No. of Gallons Effective 7-1-07 |
|---|--|---|--|--|---|--|
| Extreme High-Gloss & Prefabricated Architectural Multi-Component | 420 | 56 | 170,709 | 340 | 71 | 128,572 |
| Prefabricated Architectural One-Component | 420 | 46 | 359,243 | 275 | 39 | 359,486 |

^a Refer to Appendix C for a sample listing of actual products available.

Changes to Toxics Emissions

The purpose of Rule 1107 is to control VOC emissions from coatings applied to metal substrates primarily by limiting the VOC content of affected coatings. Rule 1107 does not directly regulate TAC emissions, but may indirectly control TAC emissions to the extent that TAC components are also classified as VOCs. As a result, some existing compliant coating formulations contain TACs such as ethylbenzene, formaldehyde, MEK, MIBK, toluene, triethylamine, 1,2,4-trimethylbenzene, and xylene. Although Rule 1107 does not limit TAC emissions from affected coatings, cancer and non-cancer health risks from TACs are regulated by either Rule 1401 or 1402.

Based on information from metal coating products that comply with the proposed future VOC content limits, it is expected that manufacturers will produce compliant products by increasing the average solids content. Increasing the solids content of existing coatings formulations means that coatings could continue to contain TACs, but in lower volumes. As a result, PAR 1107 is expected to produce an indirect cancer and non-cancer risk reduction benefit by reducing the TAC content of compliant coatings.

The metal coatings industry has indicated that compliant coatings could be reformulated with tertiary butyl acetate (TBAC) for some coatings applications. The manufacturer of TBAC considers it to be an attractive “drop-in” solvent substitute for more reactive components such as toluene and xylene, which are currently used in alkyd formulations of currently compliant metal coating products.

Although TBAC has been delisted as a VOC by EPA⁸, it has not been delisted as a VOC by CARB or the SCAQMD. At the state level, CARB has indicated that it will consider delisting TBAC for consumer products on a case-by-case basis beginning in 2006⁹. CARB is also considering an exclusion of TBAC from the definition of VOC in the non-original equipment manufacturer suggested control measure for automotive coatings.

When EPA delisted TBAC as a VOC, the Federal Register stated, “However, given the potential for increased use of TBAC, EPA does believe that further toxicity testing is warranted to resolve the uncertainty associated with the limited evidence that is currently available.” The reason for the uncertainty regarding the potential toxicity of TBAC is that there is little information on the health effects of long-term exposure to TBAC. Although TBAC has not undergone specific long-term toxicity testing, it has been demonstrated that it is metabolized to tert-butyl alcohol (TBA), a substance that has been shown to produce tumors in rats and mice. As a result, the Federal Register notice delisting TBAC as a VOC stated, “In response to these concerns Lyondell has agreed to work with EPA to perform the toxicity testing needed to resolve the current [toxicity] uncertainty.” In addition, the California EPA (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA) has estimated a unit risk value of $4 \times 10^{-7} (\mu\text{g}/\text{m}^3)^{-1}$ ¹⁰ for TBAC, which is derived from the cancer potency factor for TBA.

The SCAQMD is currently compiling information on TBAC to determine whether or not to pursue rulemaking to delist it as a VOC. At this time, it is not certain that the SCAQMD will delist TBAC. Until such time as TBAC is exempt from the definition of VOC by CARB and the local air agencies, including the SCAQMD, there is no incentive to formulate products using TBAC. Therefore, wide-spread use of TBAC is not expected or is speculative at this time.

⁸ Revision to Definition of Volatile Organic Compounds – Exclusion of t-Butyl Acetate, 40 CFR Part 51, Federal Register 69298, November 29, 2004.

⁹ In a letter dated June 30, 2005 which discusses the status of TBAC use in California, CARB stated, “...we encourage air districts, as they update applicable rules, to determine whether or not (the) use of TBAC would pose unacceptable exposures.”

¹⁰ Acute toxicity and cancer risk assessment values for tert-butyl acetate, OEHHA, Budroe et al., August 7, 2004, pp. 168-176.

Conclusion

Based on the preceding discussion, PAR 1107 is expected to reduce VOC emissions by 0.8 ton per day which is an air quality benefit. Thus, PAR 1107 is not expected to result in significant adverse air quality impacts. Further, another potential, albeit indirect, benefit of implementing PAR 1107 would be reductions in the quantities of toxics emitted since compliant metal coatings containing are expected to be formulated by increasing the solids content, resulting in lower amounts of VOCs. To the extent that VOCs in metal coating products are also considered to be TACs, reducing the VOC content will also reduce quantities of toxic compounds. Because there is no way to specifically know what lower VOC-containing metal coating materials will be used by PAR 1107 affected facilities, quantifying the potential amount of reduced toxics would be speculative. Use of TBAC to formulate compliant coatings is considered to be speculative at this time because there is currently no incentive to use it since it has not been delisted as a VOC by CARB or the SCAQMD.

Implementing PAR 1107 would not diminish an existing air quality rule or future compliance requirement, nor conflict with or obstruct implementation of the applicable air quality plan. The proposal has no provision that would cause a violation of any air quality standard or directly contribute to an existing or projected air quality violation. Since air quality impacts from implementing PAR 1107 are seen as benefits and do not exceed any of the air quality significance thresholds in Table 2-1, air quality impacts are not considered to be cumulatively considerable as defined in CEQA Guidelines §15065(c). Therefore, the proposed project is not expected to result in a cumulatively considerable net increase of any criteria pollutant.

III.d) Affected facilities are not expected to expose sensitive receptors to substantial pollutant concentrations from the implementation of PAR 1107 for the following reasons: 1) the affected facilities are existing facilities located in industrial or commercial areas; 2) there are no construction or operational VOC emission increases associated with the proposed rule changes; and, 3) the use of future compliant materials must comply with all applicable SCAQMD rules and regulations. Therefore, significant adverse air quality impacts to sensitive receptors are not expected from implementing PAR 1107.

III.e) Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. Affected facilities are not expected to create objectionable odors affecting a substantial number of people for the following reasons: 1) the affected facilities are existing facilities located in industrial or commercial areas with appropriate controls in place; 2) the use of any new compliant materials are expected to replace existing metal coating materials such that there will no additional odors generated; 3) the use of future compliant materials must comply with all applicable SCAQMD rules and regulations; and, 4) some of the future compliant materials with lower VOC contents may actually result in lower odor impacts compared to the current materials in use. Although TBAC has strong aromatic odor, its use as a replacement formulation is considered speculative at this time. Therefore, no significant additional odor impacts are expected to result from implementing the proposed amendments.

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

PAR 1107 would reduce VOC emissions from the metal coating industry by adjusting the VOC content limits and category descriptions for several existing categories of coatings. The expected options for compliance with the VOC content limits are the use of new high solids formulations of certain metal coating materials by July 1, 2007. As an optional alternative to complying with existing transfer efficiency requirements for application equipment, PAR 1107 would allow demonstrations of equivalency to HVLP spray equipment, the industry standard. In lieu of 95 percent destruction efficiency requirements for control equipment, PAR 1107 proposes to allow measured outlet concentrations to satisfy compliance with the requirements to reduce VOCs from non-compliant coatings.

IV.a), b), c), & d) PAR 1107 would only affect equipment or processes related to metal coating operations located at existing facilities in industrial or commercial areas, which have already been greatly disturbed. PAR 1107 will not require construction of any structures to comply with the lower VOC content requirements. In general, these areas currently do not typically support riparian habitat, federally protected wetlands, or migratory corridors. Additionally, special status plants, animals, or natural communities are not expected to be found in close proximity to the affected facilities.

IV.e) & f) PAR 1107 is not envisioned to conflict with local policies or ordinances protecting biological resources nor local, regional, or state conservation plans because it will only affect existing metal coating facilities located in industrial and commercial areas. Additionally, PAR 1107 will 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 the proposed project will have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in §753.5 (d), Title 14 of the California Code of Regulations.

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

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

V.a), b), c), & d) Since construction-related activities associated with the implementation of PAR 1107 are not expected, no impacts to historical resources will occur as a result of this project. PAR 1107 is not expected to require physical changes to the environment, which may disturb paleontological or archaeological resources. Furthermore, it is envisioned that the areas where metal coating facilities exist are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed.

Based upon these considerations, significant adverse cultural resources impacts are not expected from the implementing PAR 1107 and will not be further assessed in this Draft EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | 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 checked="" type="checkbox"/> |
| b) Result in the need for new or substantially altered power or natural gas utility systems? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Create any significant effects on local or regional energy supplies and on requirements for additional energy? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create any significant effects on peak and base period demands for electricity and other forms of energy? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Comply with existing energy standards? | <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) The primary effect of implementing PAR 1107 is that specified categories of metal coatings will be subject to lower VOC content requirements. This is typically accomplished by increasing the solids content of the materials or reformulating them with water-based or exempt compound solvents. Reformulating existing metal coatings is expected to create little or no demand for energy at affected facilities. As a result, PAR 1107 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 1107 would affect existing facilities, it will not conflict with adopted energy conservation plans because existing facilities would be expected to continue implementing any existing energy conservation plans. Additionally, affected facilities are expected to comply with existing energy conservation plans and standards to minimize operating costs but still comply with the requirements of PAR 1107. Accordingly these impact issues will not be further analyzed in the Draft EA.

VI.b), c), & d) PAR 1107 would not create any significant effects on peak and base period demands for electricity and other forms of energy since no construction activities are anticipated

as a result of facilities complying the lowered VOC content limits for metal coatings. However, during operation, approximately 761 of the affected facilities may need to buy one electric heater to help reduce the viscosity of the coatings that have been reformulated to contain higher quantities of solids in response to the requirements in PAR 1107. Thus, PAR 1107 is indirectly expected to slightly alter the energy demand of the affected facilities during operations.

Specifically, the use of 761 new heaters may require additional electricity. However, other energy sources, such as natural gas, diesel or gasoline, are not expected to be used for continued operations of existing metal coating facilities.

To derive the “worst-case” potential electricity demand impacts associated with implementing PAR 1107, the SCAQMD assumed that half of the affected facilities will increase demand for electrical energy associated with the operation of small electrical heaters. As shown in Appendix B of this document, it is estimated that 761 facilities will utilize 761 portable electrical heaters. This is a conservative assumption because many facilities already have heaters. The average power consumption of these heaters is two kilowatts per hour (kW/hr). Typically, the length of time needed to reduce the viscosity of high solids metal coatings is approximately two hours per day.

Electrical heaters used for the purpose of heating the coatings for viscosity reduction are needed for two hours per day, five days per week, and 50 weeks per year. Based on these assumptions, the annual energy demand, in megawatt-hours per year (MW-hr/yr), and the daily instantaneous electricity demand in megawatts (MW) was calculated. For all 761 heaters, the total projected electrical demand was calculated to be 761 MW-hr/yr and the instantaneous demand was calculated to be 1.52 MW.

Table 2-6 summarizes the projected electrical impacts associated with the operational phase of PAR 1107. The complete methodology and assumptions that the SCAQMD used to estimate the operational electrical impacts from the heaters are contained in Appendix B.

It should be noted that any incremental fuel (e.g., natural gas) that may be required by in-district power plants to generate the incremental electricity needed by affected facilities to comply with PAR 1107 is not included in this analysis for the following reasons. Almost 75 percent of the electricity used in the district is imported from out-of-state power plants. Any additional electricity needed to power electric fans or motors would most likely be provided by out-of-state power plants. Therefore, the SCAQMD does not anticipate that additional fuel beyond what is currently necessary to supply demand will be required by in-district power plants to provide electricity to affected facilities. In the event that additional fuel is needed to meet affected facilities’ electrical demands, the consumption of fuel would be for the purpose of aiding facilities in complying with PAR 1107. Further, fuel use at electricity generating facilities is limited to a certain extent because fuel combustion emissions from electricity generating equipment are capped either through Regulation XX – RECLAIM, or Rule 1135 – Emissions of Oxides of Nitrogen from Electric Power Generating Systems. The consumption of fuel to comply with air quality regulations is not considered a wasteful use of energy. Therefore, fuel consumed by in-district power plants to generate additional electricity for electric fans or motors used in conjunction with add-on controls is not considered to be a significant adverse energy impact. Furthermore, the small amount of additional fuel that may be used to generate electricity

would be negligible compared to existing supplies and, thus, would not substantially deplete existing energy resources.

**Table 2-6
Total Projected Energy Impacts for Operation Activities**

| Operation Activity | Total Energy Usage per Activity | |
|------------------------------------|---------------------------------|--------------------------|
| | Natural Gas | Electricity |
| Heaters | 0 | 761 MW-hr/yr |
| Total | 0 TCF | 1.52 MW (instantaneous) |
| Threshold Fuel Supply ^a | 0 TCF | 8,115 MW (instantaneous) |
| % of Fuel Supply | 0 % | 0.019% |
| Significant (Yes/No) ^b | No | No |

^a Year 2000 CEC projections. Construction activities in future years are expected to yield similar results.

^b SCAQMD's Energy Threshold for both Natural Gas Diesel and Electricity is 1% of Supply.

KEY: mmcf = million cubic feet

TCF = trillion cubic feet

MW = Megawatt

Based upon the above considerations, the proposed project is not expected to use energy in a wasteful manner, and will not exceed SCAQMD significance thresholds. There will be no substantial depletion of energy resources nor will significant amounts of fuel be needed when compared to existing supplies. Furthermore, if additional fuel is needed to generate electricity for heaters used to reduce viscosity in reformulated coatings, it would not be a wasteful use of energy nor substantially deplete existing energy resources.

In light of the preceding discussion and since it would affect existing facilities, PAR 1107 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 1107 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this Draft EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| VII. GEOLOGY AND SOILS. Would the project: | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | <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 checked="" type="checkbox"/> |
| • Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| • Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| • Landslides? | <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 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 offsite landslide, lateral spreading, subsidence, liquefaction or collapse? | <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 checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <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

PAR 1107 would reduce VOC emissions from the metal coating industry by adjusting the VOC content limits and category descriptions for several existing categories of coatings. The expected options for compliance with the VOC content limits are the use of new formulations of certain metal coating materials by July 1, 2007. As an optional alternative to complying with existing transfer efficiency requirements for application equipment, PAR 1107 would allow demonstrations of equivalency to HVLP spray equipment, the industry standard. In lieu of 95 percent destruction efficiency requirements for control equipment, PAR 1107 proposes to allow measured outlet concentrations to satisfy compliance with the requirements to reduce VOCs from non-compliant coatings.

VII.a) Southern California is an area of known seismic activity. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that a proposed project complies with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some non-structural damage; and (3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code bases seismic design on minimum lateral seismic forces (“ground shaking”). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

Accordingly, buildings and equipment at existing affected facilities are likely to conform with the Uniform Building Code and all other applicable state codes in effect at the time they were constructed. Since the expected options for compliance with the VOC content limits are the use of new formulations of certain metal coating materials by July 1, 2007, no new buildings or structures are expected to be constructed in response to implementing PAR 1107. As a result, substantial exposure of people or structure to the risk of loss, injury, or death involving seismic-related activities is not anticipated and will not be further analyzed in this Draft EA.

VII.b) PAR 1107 will affect metal coating activities, which occur at existing industrial or commercial facilities. Since the primary effect of PAR 1107 is a change in formulation of metal coatings currently in use, 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 PAR 1107.

VII.c) Since PAR 1107 will affect operations of existing metal coating facilities, it is expected that the soil types present at the affected facilities will not be further susceptible to expansion or liquefaction. Furthermore, subsidence is not anticipated to be a problem since no excavation, grading, or filling activities will occur at affected facilities. Further, the proposed project does not involve drilling or removal of underground products (e.g., water, crude oil, et cetera) that could produce subsidence effects. Additionally, the affected areas are not envisioned to be prone to landslides or have unique geologic features since the affected facilities are located in industrial or commercial areas where such features have already been altered or removed.

VII.d) & e) In addition, since the proposed project will affect operations at existing facilities, it is expected that people or property will not be exposed to expansive soils or soils incapable of supporting water disposal. Further, the proposed project does not require installation of septic tanks or other alternative waste water systems. The main effect of the proposed project will be a change in the formulations of materials already in use at the affected facilities.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PAR 1107 and will not be further analyzed in this Draft EA. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|--------------------------------|------------------------------|-------------------------------------|
| VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project: | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| 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"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) 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"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Significantly increased fire hazard in areas with flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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) Though there are no provisions in the proposed amended rule that would increase the total amount of metal coatings currently used by affected facilities, the use of new formulations of metal coatings may alter the chemical constituents of the solvents used in these operations. Since these facilities already use metal coating materials that contain toxics, such as ethylbenzene, formaldehyde, MEK, MIBK, toluene, triethylamine, 1,2,4-trimethylbenzene, and xylene, which all currently require product delivery and waste transport services, it is assumed that there will be no increase in potential material delivery or waste disposal truck trips in response to PAR 1107. Further, as discussed previously in the Air Quality Section III.b., future compliant products are expected to be formulated using a higher solids content or by using water-based or exempt products, which tend to be less hazardous than the formulations they replace. For example, if PAR 1107 affected facilities convert to using more powder coatings, hazardous waste disposal amounts and the associated fees could be reduced since typical waste from powder coatings can be baked into a cube and would not be considered reportable hazardous wastes.

As indicated in the discussion under air quality, in the Federal Register notice delisting TBAC as a VOC, EPA notes the uncertainty regarding the toxicity of TBAC and that further toxicity testing is warranted. Also noted previously is that there is currently no incentive to formulate products in California unless TBAC is delisted by CARB and local air agencies as a VOC. Such delisting is currently considered to be speculative.

In summary, implementation of PAR 1107 is not expected to increase any existing hazard that the routine transport, use, or disposal of metal coating materials used may have or lead to a reasonably foreseeable accident involving the release of new formulations into the environment.

VIII.b) & i) Since the metal coating activities occur at existing industrial or commercial facilities, existing emergency planning is anticipated to adequately minimize the risk associated with the use of new formulations. Businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. As noted in item VIII.a), reformulated materials tend to be less hazardous than the formulations they replace. For example, if PAR 1107 affected facilities choose to use more powder coatings, there are minimal off-gasses that associated with baking powder and thus, potential reductions in flammability.

In addition, local fire departments ensure that adequate permit conditions are in place to protect against potential risk of upset. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations.

Further, all hazardous materials are expected to be used in compliance with established OSHA or Cal/OSHA regulations and procedures, including providing adequate ventilation, using

recommended personal protective equipment and clothing, posting appropriate signs and warnings, and providing adequate worker health and safety training. When taken together, the above regulations provide comprehensive measures to reduce hazards of explosive or otherwise hazardous materials. Compliance with these and other federal, state and local regulations and proper operation and maintenance of equipment should ensure the potential for explosions or accidental releases of hazardous materials is not significant.

VIII.c), e), & f) In general, the purpose of PAR 1107 is to achieve VOC emission reductions at metal coating facilities, which will ultimately improve air quality and reduce adverse human health impact related to poor air quality. Since metal coating activities occur at existing industrial or commercial facilities, implementation of PAR 1107 is not expected to increase or create any new hazardous emissions which would adversely affect existing/proposed schools or public/private airports located in close proximity to the affected facilities. Because compliant coating products are expected to be formulated using high solids content, TAC emissions may decline at affected facilities. Accordingly, these impact issues are not further evaluated in this Draft EA.

VIII.d) Even if some affected facilities are designated pursuant to Government Code §65962.5 as a large quantity generator of hazardous waste, it is not anticipated that complying with PAR 1107 will alter in any way how affected facilities manage their hazardous wastes and that they will continue to be managed in accordance with all applicable federal, state, and local rules and regulations.

VIII.g) It should again be noted that the proposed amended rule has no provisions that dictate the use of any specific material. Owners or operators of regulated facilities have the flexibility of choosing the metal coating best suited for their operations. If available, it is likely that facility operators would chose a qualified new formulation that does not pose a substantial safety hazard. Therefore, it is not anticipated that PAR 1107 would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

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

- Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
- Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Procedures to notify the necessary persons who can respond to an emergency within the facility;
- Details of evacuation plans and procedures;
- Descriptions of the emergency equipment available in the facility;
- Identification of local emergency medical assistance; and

- Training (initial and refresher) programs for employees in:
 1. The safe handling of hazardous materials used by the business;
 2. Methods of working with the local public emergency response agencies;
 3. The use of emergency response resources under control of the handler;
 4. 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.

VIII.h) Since the facilities that conduct metal coating operations are located at existing industrial or commercial sites in urban areas where wildlands are not prevalent, risk of loss or injury associated with wildland fires is not expected. Accordingly, this impact issue is not further evaluated in this Draft EA.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PAR 1107 and will not be further analyzed in this 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 Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| IX. HYDROLOGY AND WATER QUALITY. | | | |
| Would the project: | | | |
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|--------------------------------|------------------------------|-------------------------------------|
| c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| l) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| m) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| n) 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 checked="" type="checkbox"/> |
| o) Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

Water Quality:

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

Water Demand:

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

Discussion

The expected options for compliance with the proposed VOC content limits in PAR 1107 are the use of new formulations of certain metal coatings by July 1, 2007. Although some coatings may be formulated using water-based materials (e.g., prefabricated architectural one-component systems), most compliant coatings are expected to be formulated using a higher solids content. As a result, increased demand for water is expected to be small. Further, disposal practices associated with existing organic solvent-based products are not expected to change.

The change in allowable VOC content limits for certain metal coatings used for specific applications has little or no potential to affect hydrology or water quality. The changes to PAR 1107 would merely establish VOC content limits at levels which would allow the continued use of most metal coatings.

PAR 1107 has no provision that would require the construction of additional water resource facilities, the need for new or expanded water entitlements, or an alteration of drainage patterns. The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. PAR 1107 would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

There are no provisions in the proposed amended rule that would require an increase in the amount of materials used by the metal coating industry. If all the affected facilities comply with PAR 1107 by using compliant materials in accordance with the effective date, no change or a slight reduction in the amount of materials used at these facilities would be anticipated. Consequently, there would be no change in the composition or volume of existing wastewater streams from the affected facilities. In addition, the proposed amended rule is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality.

IX.a), f), k), l), & o) Complying with the proposed project will not change existing operations at affected facilities, nor would it result in generation of increased volumes of wastewater. As a result, there are little or no potential changes in wastewater volume or composition expected from facilities complying with the requirements in PAR 1107. Further, PAR 1107 is not expected to cause affected facilities to violate any water quality standard or wastewater discharge requirements since wastewater volumes associated with PAR 1107 are expected to remain unchanged. PAR 1107 is not expected to have significant adverse water demand or water quality impacts for the following reasons:

- The proposed project does not increase demand for water by more than 5,000,000 gallons per day.
- The proposed project does not require construction of new water conveyance infrastructure.
- 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) & n) Because some facility operators may choose to use compliant water-based coatings, the proposed changes to PAR 1107 may increase slightly the existing water demand. Because most compliant coating products are expected to be formulated by increasing the solids content, increased water demand is expected to be small and, therefore, is not expected to substantially 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 1107 will not substantially increase demand for water from existing entitlements and resources, and will not require new or expanded entitlements. Therefore, no water demand impacts are expected as the result of implementing the proposed amendments.

IX.c), d), & e) Implementation of PAR 1107 will occur at existing facilities, what are typically located in industrial or commercial areas that are paved and the drainage infrastructures are already in place. Since PAR 1107 does not involve construction activities, no changes to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PAR 1107.

IX.g), h), i), & j) The project will not require 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 as a result of implementing PAR 1107. PAR 1107 is not expected to require additional workers at affected facilities. Therefore, PAR 1107 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. As a result, PAR 1107 is not expected to expose people or structures to significant flooding risks. Finally, PAR 1107 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.

IX.m) PAR 1107 will not increase storm water discharge, since no construction activities are expected at affected facilities. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities will be required due to the implementation of PAR 1107. Accordingly, PAR 1107 is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon the above considerations, significant hydrology and water quality impacts are not expected from the implementation of PAR 1107 and will not be further analyzed in this 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 Impact | No Impact |
|--|---|---|-------------------------------------|
| X. LAND USE AND PLANNING. Would the project: | | | |
| a) Physically divide an established community? | <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 checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation or natural community conservation plan? | <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) The proposed project would regulate metal coating operations at existing industrial or commercial facilities. The expected option for compliance is expected to be the use of coatings formulated with a high solids content. Since PAR 1107 affects existing facilities, it does not include any components that would require physically dividing an established community.

X.b) & c) There are no provisions in PAR 1107 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 will be altered by regulating VOC emissions from metal coating operations. Since PAR 1107 would establish lower VOC content requirements for coatings used at affected facilities, PAR 1107 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 will not be significantly adversely affected as a result of the proposed amended rule

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PAR 1107 and will not be further analyzed in this 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 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 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 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 1107 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.

Based upon the above considerations, significant mineral resources impacts are not expected from the implementation of PAR 1107 and will not be further analyzed in this Draft EA. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|---|---|-------------------------------------|
| XI. NOISE. Would the project result in: | | | |
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <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 checked="" type="checkbox"/> |

| | | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|----|--|--------------------------------|------------------------------|-------------------------------------|
| c) | A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | 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 checked="" 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 airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels? | <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) PAR 1107 will affect metal coating facilities that are located in existing industrial or commercial settings. The expected options for compliance with the VOC content limits are the use of new formulations of certain metal coating materials by July 1, 2007. No other physical modifications or changes associated with the implementation of PAR 1107 are expected. Thus, the proposed project is not expected to expose persons to the generation of excessive noise levels above current facility levels because the proposed project primarily involves using different formulations of metal coatings while generally using the same coating application techniques. It is expected that any facility affected by PAR 1107 will comply with all existing noise control

laws or ordinances. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health. It is expected that all workers at affected facilities will continue complying with applicable noise standards.

XII.b) PAR 1107 is not anticipated to expose people to or generate excessive groundborne vibration or groundborne noise levels since no construction activities are expected to occur at the existing facilities and switching to reformulated products does not involve, in any way, equipment that generates vibrations..

XII.c) A permanent increase in ambient noise levels at the affected facilities above existing levels without the proposed project is unlikely to occur because no new equipment would be installed as part of implementing PAR 1107. The existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the existing facilities to above a level of significance because the proposed project primarily involves using different formulations of metal coatings while generally using the same coating application techniques.

XII.d) No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to PAR 1107 is anticipated because the proposed project would not require construction-related activities at affected facilities or change the existing operations at the affected facilities.

XII.e) & f) Implementation of PAR 1107 would not consist of improvements within the existing facilities requiring construction activities. Even if an affected facility is located near a public/private airport, there are no new noise impacts expected from any of the existing facilities as a result of complying with the proposed project. Thus, PAR 1107 is not expected to expose people residing or working in the project vicinities to excessive noise levels.

Based upon these considerations, significant noise impacts are not expected from the implementation of PAR 1107 and are not further evaluated in this Draft EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

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

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|--------------------------------|------------------------------|-------------------------------------|
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <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 the proposed amendments. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1107. As such, PAR 1107 will not result in changes in population densities or induce significant growth in population.

XIII.b) & c) Because the proposed project affects existing industrial and commercial facilities, PAR 1107 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 people elsewhere.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of PAR 1107 and are not further evaluated in this Draft EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|---|---|-------------------------------------|
| XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: | | | |
| a) Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Other public facilities? | <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) & b) Although facilities will likely switch to using new formulations of metal coatings, the overall amount of usage at any one facility over current levels is not expected to change to the extent that would increase the chances for fires or explosions. Furthermore, additional inspections at affected facilities associated with the use of the new formulations by city building departments or local fire departments are not expected to be necessary because compliant coatings will generally be similar to existing coatings except for a higher anticipated solids content. Finally, PAR 1107 is not expected to have any adverse effects on local police departments because enforcement of the rule will be the responsibility of the SCAQMD.

XIV.c) & d) The local labor pool (e.g., workforce) of particular affected facility areas is expected to remain the same since PAR 1107 would not trigger any changes to current production requirements at metal coating facilities. Therefore, with no increase in local population anticipated, no significant adverse impacts are expected to local schools or parks.

XIV.e) The proposed project will result in the use of new formulations of metal coatings. Besides permitting the equipment or altering permit conditions, there is no other need for government services. The proposal would not result in the need for new or physically altered

government facilities 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 PAR 1107 and are not further evaluated in this Draft EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|---------------------------------------|-------------------------------------|-------------------------------------|
| XV. RECREATION. | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <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? | <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 effects existing recreational opportunities.

Discussion

XV.a) & b) As discussed under “Land Use and Planning” above, there are no provisions in the PAR 1107 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 will be altered by the changes proposed in PAR 1107. The proposed project 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 will not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PAR 1107 and are not further evaluated in this Draft EA. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|---|---|-------------------------------------|
| XVI. SOLID/HAZARDOUS WASTE. Would the project: | | | |
| a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <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 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) There are no solid or hazardous waste impacts associated with the proposed amendments to Rule 1107. The primary focus of the proposed amendments would merely lower the VOC content limits for certain metal coatings effective July 1, 2007. As a result, no change in the amount or character of solid or hazardous waste streams is expected to occur. PAR 1107 is not expected to increase (but may reduce slightly) the volume of solid or hazardous wastes from metal coating operations, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based on these considerations, PAR 1107 is not expected to increase the volume of solid or hazardous wastes from metal coating operations that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing PAR 1107 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| XVII. TRANSPORTATION/TRAFFIC. Would the project: | | | |
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | <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 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 checked="" type="checkbox"/> |
| e) Result in inadequate emergency access or? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)? | <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.
- 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) Proposed amended Rule 1107 affects VOC content limits of coatings used in metal coatings operations and has no potential to adversely affect transportation. The proposed amendments would have no affect on existing metal coating operations that would change or cause additional transportation demands or services. Therefore, since no additional operational-related trips are anticipated, the implementation of PAR 1107 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities. Therefore, this impact issue is not further evaluated in this Draft EA.

XVII.c) PAR 1107 will affect existing metal coating facilities. The height and appearance of the existing structures are not expected to change and therefore, implementation of PAR 1107 is not expected to adversely affect air traffic patterns. Further, PAR 1107 will not affect in any way air traffic in the region. Therefore, this impact issue is not further evaluated in this Draft EA.

XVII.d) PAR 1107 will involve existing metal coating facilities such that no offsite modifications to roadways are anticipated for the proposed project that would result in an additional design hazard or incompatible uses. Therefore, this impact issue is not further evaluated in this Draft EA.

XVII.e) PAR 1107 will involve existing metal coating facilities with no changes expected to emergency access at or in the vicinity of the affected facilities. The proposed project is not expected to adversely impact emergency access. Therefore, this impact issue is not further evaluated in this Draft EA.

XVII.f) PAR 1107 will involve existing metal coating facilities with no changes expected to the parking capacity at or in the vicinity of the affected facilities. PAR 1107 is not expected to require additional workers, so additional parking capacity will not be required. Therefore, the project is not expected to adversely impact on- or off-site parking capacity. Therefore, this impact issue is not further evaluated in this Draft EA.

XVII.g) PAR 1107 will involve existing metal coating facilities with no facility modifications or changes expected. The implementation of PAR 1107 will not result in conflicts with alternative transportation, such as bus turnouts, bicycle racks, et cetera. Therefore, this impact issue is not further evaluated in this Draft EA.

Based upon these considerations, PAR 1107 is not expected to generate significant adverse transportation/traffic impacts and, therefore, this topic will not be considered further. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

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

XVIII.a) As discussed in the “Biological Resources” section, PAR 1107 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the affected equipment or processes are located at existing facilities in industrial or commercial areas which have already been greatly disturbed and that currently do not support such habitats. Additionally, special status plants, animals, or natural communities are not expected to be found within close proximity to the facilities affected by PAR 1107.

XVIII.b) Based on the foregoing analyses, since PAR 1107 will not generate any project-specific significant environmental impacts, PAR 1107 is not expected to cause cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project. Related projects to the currently proposed project include existing and proposed rules and regulations, as well as AQMP control measures. Furthermore, the effects of PAR 1107 will not be "cumulatively considerable" because there are no incremental impacts and there will 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 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) would not be expected to make any contribution to potential cumulative impacts whatsoever. For the environmental topic checked 'Less than Significant Impact' (e.g., air 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. Also, in the case of air quality impacts, the net effect of implementing the proposed project with other proposed rules and regulations, and AQMP control measures is an overall reduction in district-wide emissions leading to the attainment of state and national ambient air quality standards. Therefore, the potential for significant cumulative or cumulatively considerable impacts is not further evaluated in this Draft EA.

XVIII.c) Based on the foregoing analyses, PAR 1107 is not expected to cause adverse effects on human beings. Significant air quality impacts are not expected from the implementation of PAR 1107. The direct impact from the proposed project, however, is a VOC reduction of 0.8 ton per day or approximately 1,600 pounds of VOC per day beginning July 1, 2007. No impacts to aesthetics, agriculture 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 the implementation of PAR 1107. Therefore, these environmental issues will not be further analyzed in this Draft EA.

As discussed in items I through XVIII above, the proposed project has no potential to cause significant adverse environmental effects.

APPENDIX A

PROPOSED AMENDED RULE 1107

In order to save space and avoid repetition, please refer to the latest version of proposed amended Rule 1107 located elsewhere in the rule amendment package.

The version “PAR 1107 August 2005” of the proposed amended rule was circulated with the Draft Environmental Assessment that was released on September 8, 2005 for a 30-day public review and comment period ending October 7, 2005.

Original hard copies of the Draft Environmental Assessment, which include the version “PAR 1107 August 2005” of the proposed amended rule, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

ENERGY CONSUMPTION FROM OPERATION OF HEATERS

Energy Consumption From Heater Operations

Total Number of Facilities: 761

Total Number of New Heaters: 761

Assumptions:

- 1) Electricity is used to operate the heaters.
- 2) Typical power consumption of a heater used to reduce the viscosity of metal coatings is approximately 2.0 kW based on an operating schedule of each heater is assumed to be 2 hr/day; 5 days/wk; 50 wk/yr (500 hr/yr).
- 3) Abbreviations Key:

| | | | |
|----|--------------|---|--------|
| hp | = horsepower | W | = watt |
| hr | = hour | M | = mega |
| yr | = year | k | = kilo |
| wk | = week | | |

Facilities installing heaters = 761

Typical Power Consumption per heater = 2.0 kW

Total kilowatt-hours required for one heater =
(2.0 kW) x (500 hr/yr) = 1000 kW-hr/yr

GRAND TOTALS FOR FACILITY UNIVERSE:

**Total kW-hr for 761 facilities each equipped with a 2.0 kW heater=
(1000 kW-hr/yr x 761) = 761,000 kW-hr/yr**

**Instantaneous Electricity Used for 761 facilities equipped with a 2.0 kW heater =
761,000 kW-hr/yr x 1 work yr/250 days x 1 work day for heater/2 hr x 1 MW/1000 kW =
1.52 MW (instantaneous demand)**

APPENDIX C

FUTURE COMPLIANT METAL COATINGS

**Table C-1: Examples of Single-Component Metal Coatings
Available at 340 grams VOC per liter or Less**

| Coating Type | Manufacturer | Resin System | Name | VOC Content (gm/l) | Volume Solids |
|---|---------------------|-----------------------------------|---------------------|---------------------------|----------------------|
| Extreme High-Gloss (Single Component) | PPG | Water Reducible Alkyd | Aquacron 880 Series | 340 | 27% |
| | Watson Coatings | Water Reducible Alkyd | WSR Series | 312 | 30% |
| | Dupont | Waterborne Polyurethane Copolymer | Imron 1.2 HG | 144 | 42% |
| | Dupont | Waterborne Acrylic | 72P | 230 | 36% |
| | Cardinal | Water Reducible Alkyd | 4000 Series | 340 | 28% |
| | Ellis | Waterborne Acrylic | Shaft-lac | 250 | 27% |
| | PPG | Silicone Alkyd | Aquapon 35 | 317 | 63% |
| | Dupont | Waterborne Polyurethane | Copolymer | 220 | 40% |
| Prefabricated Architectural (Single-Component) | Ellis | Red Oxide Primer | No. 682 | 250 | 60% |
| | Ellis | PCBTF and Acetone Primer | No. 633 | 250 | 19% |
| | Cardinal | Acrylic Waterborne Primer | No. 3860 | 250 | 37% |

**Table C-2: Examples of Multi-Component Metal Coatings
Available at 340 grams VOC per liter or Less**

| Coating Type | Manufacturer | Resin System | Name | VOC Content (gm/l) | Volume Solids |
|---|----------------------|--------------------------------|----------------------------|--------------------|---------------|
| Extreme High-Gloss (Multi Component) | Tnemec | Aliphatic Acrylic Polyurethane | Endra-Shiled II | 240 | 66% |
| | International (AKZO) | Modified Acrylic | 629 HS | 335 | 65% |
| | Dupont | Aliphatic Polyurethane | Imron 2.8 HG | 340 (unthinned) | 63% |
| | International (AKZO) | Acrylic Polyurethane | 990 UHS | 245 | 75% |
| | Ameron | Aliphatic Polyurethane | Amercoat 450H | 340 | 67% |
| | Ellis | Acrylic Polyurethane | PX-2000 | 340 | 58% |
| | Spraylat | Waterborne Urethane | NZ (Near Zero) | 25 | 65% |
| | Spraylat | Solvent-Based Polyurethane | NZ (Near Zero) | 120 | 65% |
| | PPG | Acrylic Polyurethane | Pitthane II 94-2800 Series | 314 | 64% |
| | Genesis Coatings | Acrylic Polyurethane | GCR 37 | 330 | 60% |
| | Cardinal | High Solids Epoxy | 7100 Series | 340 | 60% |
| | Dupont | Epoxy | Corlar 26P | 340 | 61% |
| | Ellis | Epoxy Polyamine | AM-E-POX Enamel | 340 | 63% |

**Table C-2: Examples of Multi-Component Metal Coatings
Available at 340 grams VOC per liter or Less (concluded)**

| Coating Type | Manufacturer | Resin System | Name | VOC Content (gm/l) | Volume Solids |
|--|---------------------|-----------------------------------|-------------|---------------------------|----------------------|
| Prefabricated Architectural (Multi-Component) | Tnemec | 2K Cycloaliphatic amine epoxy | No. 104 | 230 | 82% |
| | Tnemec | 2K Modified Polyamidoamine Epoxy | no. 135 | 247 | 84% |
| | Tnemec | 2K Polyamidoamine Epoxy | no. 20 | 333 | 57% |
| | Tnemec | 2K Polyamidoamine Epoxy | no. 69 | 330 | 64% |
| | Carboline | 2K Aliphatic Acrylic Polyurethane | no. 133 | 250 | 72% |
| | Carboline | 2K Epoxy Polyamide | no. 888 | 330 | 65% |
| | Carboline | 2K Cycloaliphatic amine epoxy | no. 891 | 260 | 75% |
| | Carboline | 2K Cycloaliphatic amine epoxy | no. 893 | 260 | 77% |
| | Carboline | 2K Polyamine Epoxy | no. 309 | 12 | 98% |

APPENDIX D

**COMMENT LETTER ON THE DRAFT EA AND
RESPONSES TO THE COMMENTS**

Comment Letter #1



Daniel B. Pourreau, Ph.D.
Technical Advisor

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September 19, 2005

Ms. Barbara Radlein
Air Quality Specialist
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Re: Draft Environmental Assessment: Proposed Amended Rule 1107 – Coating of Metal Parts and Products

Dear Ms. Radlein,

1-1

As the leading producer of tertiary-butyl acetate (TBAC), Lyondell Chemical appreciates the opportunity to comment on this draft environmental assessment (DEA) for the Proposed Amended Rule 1107 – Coating Metal Parts and Products. In particular, we would like to comment on the potential use of TBAC in these types of coatings and the DEA's risk assessment for TBAC.

Lyondell agrees that TBAC will likely be a useful compliance tool for solvent-borne metal coatings instead of more reactive and toxic solvents such as toluene, xylene, MEK, and MIBK. TBAC is also likely to replace exempt acetone and PCBTF in solvent-borne formulations such as lacquers, alkyd and polyester enamels, 2K urethanes and epoxies. However, this substitution will not occur unless the SCAQMD adds TBAC to its Group 1 list of VOC-exempt compounds.

1-2

The DEA correctly states that the US EPA has exempted TBAC from VOC regulations and stated that "additional toxicity testing is warranted to resolve the uncertainty associated with the limited evidence that is currently available." However, the EPA final rule exempting TBAC does not mention a potential cancer concern and the agreed toxicity testing program does not include cancer bioassays.

1-3

The DEA goes on to suggest that the uncertainty is based on TBAC's ability to metabolize to tertiary-butanol, which the DEA describes as a "known carcinogen." This characterization is not factual and needs to be removed from the final assessment. Neither TBAC nor TBA has been classified as a carcinogen by any authoritative agency, including EPA, NTP, or OEHHA. Specifically, in California, a chemical becomes a known carcinogen when the state's qualified experts (Carcinogen Identification Committee) vote to add the chemical to the list of Chemicals Known to the State of California to Cause Cancer (Prop 65). TBAC and TBA are NOT on that list.

1-4

Although OEHHA has expressed concern that there is limited chronic data on TBAC and that it metabolizes to TBA, which has been shown to cause tumors in some laboratory animals, the weight of the evidence on TBAC and TBA suggests that neither is genotoxic nor likely to be human carcinogens. NTP toxicologists have reviewed the same data, and characterized it only as

Lyondell Chemical comments on SCAQMD DEA on Proposed Rule 1107 – Coating Metal parts and Products
September 19, 2005

1-4
cont.

“some evidence” of carcinogenicity. EPA has also chosen to exempt TBAC after reviewing the same toxicological data. Moreover, independent toxicology experts have stated that the male rat tumors in the TBA study are not relevant to humans and that the female mouse data are, at most, indicative of a threshold mechanism for TBA. Finally, only a small fraction of inhaled TBAC is metabolized to TBA. The vast majority is exhaled, excreted, or metabolized to other compounds. It would be impossible to dose animals, or humans, to high enough levels of TBAC to produce TBA at levels of concern.

1-5

Nonetheless, Lyondell has agreed to commission additional sub-chronic toxicity testing to reduce this uncertainty. This study does not include cancer bio-assays and will not be completed until mid-2006 at the earliest. The testing is specifically designed to determine TBAC sub-chronic toxicity and to determine if male rat kidney data are relevant to humans and whether TBAC has an effect on thyroid function in mice. Lyondell has submitted the attached detailed comments in response to CARB’s Draft Environmental Impact Assessment on TBAC, challenging OEHHA’s claims that TBA and TBAC may be genotoxic, that TBA is a non-threshold carcinogen, and the appropriateness of calculating a cancer slope factor for TBAC. Therefore, a more factual statement on the toxicity uncertainty might read:

"Uncertainty exists because TBAC has not been tested in animal carcinogenicity bioassays. On the one hand, it was negative in a battery of genotoxicity tests, but on the other, it is metabolized in part to tert-butyl alcohol (TBA). TBA has caused kidney tumors in male rats and thyroid tumors in female mice. However, it has not been agreed whether the mode of action for these tumors from TBA is relevant for human risk assessment."

1-6

We urge the SCAQMD to consider this information and form its own opinion of the potential risks associated with increased use of TBAC instead of other solvents already in use. We also encourage the AQMD to consider the significant health and environmental benefits that will likely result from increased TBAC use in the form of reduced TAC emissions and ozone formation once it adds it to its list of exempt compounds.

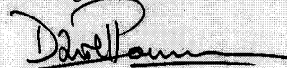
1-7

TAC solvents such as toluene, MIBK, and xylene produce 20 to 50 times more ozone than TBAC and will continue to be used in metal coating formulations until industry has an incentive to use TBAC. TBAC is already non-HAP but so are several other VOC solvents. Replacement of these reactive air toxics will only occur once TBAC is added to the District’s Group I list of exempt compounds or is exempted in specific rules such as 1107.

1-8

The need for VOC-exempt solvents such as TBAC is great and immediate. So will be the health and environmental benefits that will result from its exemption. We urge the AQMD to complete its evaluation promptly and remove TBAC from the definition of a VOC in rule 1107 and from its general definition in rule 102.

Best Regards,



Daniel B. Pourreau, Ph.D.
Technical Advisor

cc: Steve Smith, Lee Lockie, Laki Tisopulos, Bill Milner.

Response to Comment Letter #1
Lyondell Chemical Company
September 19, 2005

1-1 The proposed amendments to Rule 1107 are limited in scope and compliance with the proposed VOC limits does not rely on the use of TBAC as a substitute solvent. As indicated in the staff report, there are several products available in the market that already comply with the proposed VOC limits. Therefore, exempting TBAC from Rule 1107 or Rule 102 is not within the scope of this amendment.

SCAQMD staff acknowledges that replacing conventional photochemically reactive solvents with non-photochemically reactive solvents could be a useful and desirable compliance tool, provided the replacement solvents are non-toxic. TBAC has very low photochemical reactivity and is not currently listed as a HAP. However, there is concern regarding its potential long-term health effects due to its metabolization to TBA that warrants a more careful evaluation. Until more conclusive long-term health impacts information becomes available and in an effort to minimize potential health risks, SCAQMD staff intends to evaluate the exemption of TBAC on a case-by-case basis, as part of each of the future amendment efforts to SCAQMD's coating and solvent rules. These case-by-case evaluations will analyze potential health risks that may be associated with the use of TBAC, regulatory approaches to minimize such risks, and benefits due to its low photochemical reactivity.

1-2 With regard to EPA's delisting of TBAC as a VOC and whether there a potential cancer concern, page 69301 of the Federal Register (November 29, 2004) states, "In response to these concerns, Lyondell has agreed to work with EPA to perform the toxicity testing need to resolve the current uncertainty." Though the "concerns" are not specified as "potential cancer concerns", the underlying message is that EPA acknowledges a potential for increased use of TBAC even though there are limited data available about its chronic toxicity. Further, since the discussion in the Federal Register does not specify the criteria for the chronic toxicity testing program, the SCAQMD cannot comment as to whether Lyondell's testing agreement also includes or requires cancer bioassays.

1-3 Regarding the comment that the statement that tert-butyl alcohol (TBA) is a "known carcinogen" is incorrect, the Final EA has been edited to state that it is a "substance that has been shown to produce tumors in rats and mice."

1-4 The SCAQMD relies on OEHHA for guidance on evaluating health risks. OEHHA, whose overall mission is to protect and enhance public health and the environment by scientific evaluation of risks posed by hazardous substances, is the state agency responsible for characterizing risk from chemical contaminants found in air, including those identified as toxic air contaminants. Risk characterizations include development of cancer potency factors to assess the cancer risk from carcinogens in air, and development of reference exposure levels to assess noncancer health impacts. OEHHA provides health-related assistance to CARB, air pollution control districts including the SCAQMD, local health officers and environmental health officers. Since SCAQMD staff is not qualified to make such determinations, SCAQMD staff defers the decision of whether TBAC and TBA are genotoxic

and human carcinogens to OEHHA and will follow OEHHA guidance for the appropriate risk factors to use.

1-5 SCAQMD staff believes that commissioning a 90-day sub-chronic toxicity study in accordance with EPA's agreement is a positive first step. SCAQMD staff will defer the determination of any potential toxicity of TBA and TBAC to OEHHA. Should OEHHA alter its assessment of health risk for TBAC based on new or additional information, SCAQMD staff will rely on OEHHA guidance.

1-6 See Responses to Comments 1-4 and 1-5.

1-7 See Response to Comment 1-5.

1-8 See Response to Comment 1-5.