

**Initial Study/Negative Declaration for the  
Amendments to Bay Area Air Quality  
Management District Regulation 8, Rule 20:  
Graphic Arts Printing and Coating Operations**

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September 2008

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# Chapter 1

## Introduction

### **Purpose of this Document**

This Negative Declaration assesses the environmental impacts of the proposed adoption of amendments to Regulation 8, Rule 20 – Graphic Arts Printing and Coating Operations - by the Bay Area Air Quality Management District (BAAQMD or District). This assessment is required by the California Environmental Quality Act (CEQA) and in compliance with the state CEQA Guidelines (Title 14 California Code of Regulations §15000 et seq.). A Negative Declaration serves as an informational document to be used in the decision-making process for a public agency that intends to carry out a project; it does not recommend approval or denial of the project analyzed in the document. The BAAQMD is the lead agency under CEQA and must consider the impacts of the proposed rule amendments when determining whether to adopt them. The BAAQMD has prepared this Negative Declaration because no significant adverse impacts are expected to result from the proposed rule amendments.

### **Scope of this Document**

This document evaluates the potential impacts of the proposed amendments on the following resource areas:

- aesthetics,
- agricultural resources,
- air quality,
- biological resources,
- cultural resources,
- geology and soils,
- hazards and hazardous materials,
- hydrology and water quality,
- land use planning,
- mineral resources,
- noise,

- population and housing,
- public services,
- recreation,
- transportation and traffic, and
- utilities and service systems.

### **Impact Terminology**

The following terminology is used in this IS/ND to describe the levels of significance of impacts that would result from the proposed rule amendments:

- An impact is considered *beneficial* when the analysis concludes that the project would have a positive effect on a particular resource.
- A conclusion of *no impact* is appropriate when the analysis concludes that there would be no impact on a particular resource from the proposed project.
- An impact is considered *less than significant* if the analysis concludes that an impact on a particular resource topic would not be significant (i.e., would not exceed certain criteria or guidelines established by BAAQMD). Impacts are frequently considered less than significant when the changes are minor relative to the size of the available resource base or would not change an existing resource.
- An impact is considered *less than significant with mitigation incorporated* if the analysis concludes that an impact on a particular resource topic would be significant (i.e., would exceed certain criteria or guidelines established by BAAQMD), but would be reduced to a less than significant level through the implementation of mitigation measures.

### **Organization of This Document**

The content and format of this document, described below, are designed to meet the requirements of CEQA.

- Chapter 1, “Introduction,” identifies the purpose, scope, and terminology of the document.
- Chapter 2, “Description of the Proposed Rule,” provides background information of Regulation 8, Rule 20, describes the proposed rule amendments, and describes the area and facilities that would be affected by the amendments.
- Chapter 3, “Environmental Checklist,” presents the checklist responses for each resource topic. This chapter includes a brief setting description for each resource

area and identifies the impact of the proposed rule amendments on the resources topics listed in the checklist.

- Chapter 4, “References Cited,” identifies all printed references and personal communications cited in this report.

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## Chapter 2

# Description of the Proposed Rule

### Background

The Bay Area Air Quality Management District (District) regulates Volatile Organic Compound (VOC) emissions from graphic art printing and coating operations under Regulation 8, Rule 20 (Regulation 8-20). Currently, Bay Area graphic arts businesses that have permits to operate emit 5.25 tons of VOC per day into the region's atmosphere. These VOC emissions include some, but not all VOC emissions from digital printing operations, a type of graphic arts operation not controlled by Regulation 8-20. The District estimates that digital printing operations emit an additional 0.07 – 0.15 tons of VOC per day (TPD). Not all digital printing operations require a permit to operate.

Regulation 8-20 was adopted April 12, 1980. Bay Area 2005 Ozone Strategy Control Measure SS-2 (Graphic Arts Operations) proposed amendments to Bay Area Air Quality Management District Regulation 8, Rule 20. The proposed amendments to Regulation 8-20 would implement Control Measure SS-2 by supplementing existing requirements in Regulation 8-20.

### Objectives

In Control Measure SS-2, the District suggested VOC reductions from printing operations by reducing the allowable VOC limit for flexographic inks used on porous substrates to 225 g/l to be equivalent to the South Coast AQMD limit and by limiting the VOC content of clean-up solvent used on flexographic presses based on the VOC limit for clean-up solvents used on flexographic presses in the Sacramento Metropolitan AQMD. The District is considering those and additional amendments to Regulation 8-20, to further reduce VOC emissions from graphic arts and printing operations. The Bay Area is not yet in attainment of state ozone standards, so the District must implement all feasible measures to reduce emissions of pollutants that form ozone, nitrogen oxides (NOx) and VOCs or reactive organic gases (ROG).

The U.S. Environmental Protection Agency (U.S. EPA) has set primary national ambient air quality standards for ozone and other air pollutants to define the levels considered safe for human health. The California Air Resources Board (CARB) has also set a California ozone standard. The Bay Area is a non-attainment area for the State one-hour and eight-hour ozone standards and federal eight-hour ozone standard. Under State law, ozone non-attainment areas must prepare plans showing how they will attain the state standard. The 2005 Ozone Strategy is the District's most recent planning document for the State one-hour ozone standard. Because the Bay Area is a marginal non-attainment area for the national one-hour standard, the least severe non-attainment classification, the BAAQMD is not required to prepare an attainment plan for the national standard.

## **Rule Amendments Being Considered**

The District is proposing amendments that will reduce VOC emissions from the Bay Area's printing industry in three ways: (1) lowering the exemption limit; (2) lowering the VOC limit for flexographic ink used on porous substrates; and, (3) lowering the VOC limits for graphic arts cleaning products in two stages. The majority of the VOC emission reductions will be achieved by tightening the VOC standards for existing graphic arts cleaning products and by adding VOC standards for other cleaning products.

The District is also proposing a number of other amendments. Those amendments include the modification of numerous definitions, including that of "graphic arts operations," and the addition of others in order to clarify the scope and applicability of the Rule. In addition, the District is proposing to correct and update other provisions, including modifications to Recordkeeping Requirements (Section 8-20-503) and Method of Determining VOC Emissions from graphic arts operations abated by an emission control system (Section 8-20-602). The District also recommends deleting the Alternate Emission Control Plan (Section 8-20-304) and the Extreme Performance Screen Printing Petition for low-VOC emitters (Section 8-20-407).

### **Lowering the VOC-Emitting Facilities Exemption**

Most California air districts provide an exemption from their graphic arts regulations for low-emitting graphic arts operations. There are 261 permitted graphic arts facilities within the District. Eighty-five of the 261 facilities emit less than 175 lbs of VOC per month and thus currently are exempt from the standards of Regulation 8-20. As a review of all feasible measures associated with the printing industry, the District considered lowering the threshold of graphic arts operations that are subject to Regulation 8-20 and eliminating the low-emitting operations exemption altogether. After reviewing the Bay Area's graphic arts emissions inventory, the District determined that eliminating the low emissions exemption is not warranted because considerable District resources (engineering, inspection, and technical staff) would be required to address a minimal emission reduction. However, the District determined there would be a benefit to lowering the threshold.

The District analyzed the emissions from those permitted graphic arts facilities that are currently exempt from Regulation 8-20. The District has identified a cluster of facilities that emitted substantially more than 75 pounds per month of VOC and another cluster that emitted at least 10 pounds less than 75 pounds per month. Based on that break at 75 pounds per month, the District is proposing to lower the threshold from 175 pounds VOC per month to 75 pounds VOC per month that become subject to the requirements of Regulation 8-20. The lower threshold will result in 77 percent of currently-exempt graphic arts facilities becoming subject to the standards of the graphic arts rule.

The current low-emitting facilities exemption in Regulation 8-20 is based on the quantity of VOC emissions per month from graphic arts operations. Currently, some of these exempt facilities require a permit to operate because they either emit 150 lbs of VOC per year or use 30 gallons of ink or coating per year (see District Regulation 2, Rule 1).

Some facilities may be permitted because they use 20 gallons of solvent per year. The District proposes to change Regulation 2, Rule 1 to require only those facilities that emit 400 lbs VOC or more per month to obtain a permit to operate. The District proposes to require those facilities that emit less than 400 lbs VOC per month but at least 75 lbs VOC per month (the level at which Regulation 8-20 standards will become effective) to register with the District in lieu of obtaining a permit.

There are several reasons for this proposal. First, if a graphic arts operation is subject to the rule, they will be required to either register or obtain a permit, depending on the level of emissions. This correlation will help clarify the applicability of District requirements to the printing industry. Second, due to the administrative costs of obtaining a permit, permit fees do not fully recover the cost of permitting and enforcement for many low-emitting facilities. In addition, a low-emitting facility in this industry can incur substantial permitting costs, particularly under “Waters Bill” notification requirements for use of any amount of a toxic air contaminant or a hazardous air pollutant within 1,000 feet of a school.<sup>1</sup> Registration, a much simpler process, will recover estimated costs for administration and enforcement activities for affected facilities.

In addition to reducing emissions by requiring some low VOC-emitting facilities to comply with the standards in Reg. 8-20, registration will cost the smaller facilities less than the cost of obtaining a permit to operate, and in many cases result in a savings. Staff is proposing an initial registration fee of \$215.00 and an annual renewal fee of \$135.00. By contrast, currently, a low-emitting facility subject to permitting requirements will pay approximately \$500.00 for the initial permit to operate and related fees and will pay approximately \$260.00 each year thereafter for the permit renewal and related fees, depending on the number of sources. If a facility is subject to the Waters Bill, there may be a requirement to submit a public notice for schools that will cost between \$2,000.00 and \$3,000.00. The registration fees are included in a proposed amendment to Regulation 3: Fees, Schedule R: Equipment Registration Fees.

Some low VOC-emitting facilities that currently require permits to operate would become exempt from the permit requirement, although they would be required to register as described above. These facilities have the option of retaining their permits or switching to the registration system. The District is currently developing a web-based registration system to simplify the registration procedure.

### **Proposed Amendments to Ink and Coating Standards**

Currently, Regulation 8-20 contains a VOC limit of 300 grams/liter (g/l) for all flexographic ink. The District is proposing to divide flexographic printing into porous and non-porous categories by proposing a VOC limit of 225 g/l for flexographic inks applied to porous substrates while retaining the existing 300 g/l limit for non-porous substrates.

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<sup>1</sup> California Health and Safety Code 42301.6(b) and BAAQMD Regulation 3, Section 318.

The purpose of this amendment is to align the Rule with current printing industry practices and regulatory standards elsewhere in the state. Flexographic inks containing less than 225 grams of VOC per liter have been used on porous substrates for several years. The SCAQMD has prohibited the use of flexographic printing inks for porous materials containing more than 225 grams VOC per liter since 2000. The District anticipates achieving a modest VOC emission reduction as a result of this amendment because the District's emissions data indicates that emissions from flexographic ink applied to porous substrates account for less than 5 percent of VOC emissions from all Bay Area graphic arts operations.

### **Proposed Amendments to Cleaning Product Standards**

The BAAQMD is proposing three changes to the current VOC standards for graphic arts operations' cleaning products.

First, staff recommends the deletion of all Vapor Pressure or Composite Partial Pressure limit (CPP limit) for cleaning products. Currently, the cleaning products used in flexographic printing, specialty flexographic printing, and ultraviolet printing operations must comply with both a VOC standard and CPP limit, whereas cleaning products used in lithographic printing, screen printing, and gravure printing operations must comply with either the applicable VOC limit or a CPP limit. Cleaning products meeting the CPP limit have a higher VOC content. The goal of this rule amendment is to reduce VOC emissions. Deleting the option to use cleaning products meeting CPP limits will help to achieve that goal.

Second, District staff recommends adopting VOC standards for cleaning products that have a lower VOC content but are effective in cleaning graphic arts equipment. Cleaning products with lower VOC contents, in the range of 500 g/l to 650 g/l, have been used successfully in other air districts. District staff recommends reducing the lower VOC limits in two phases – lowering the limit initially in 2009 and then again in 2010 or 2011. Lower VOC standards for two products, specialty flexographic or lithographic press cleaning and screen printing press cleaning will be allowed until 2011 to comply, based on reports of difficulty in finding low VOC cleaning products in these two categories. This approach will provide cleaning product manufacturers sufficient time to further refine low-VOC formulations and to ramp up production. An additional benefit of the phase-in period is that the printing industry will have time to adapt to using the new products. The final VOC limits will be the same as those required by the SCAQMD.

Third, District staff proposes to adopt VOC limits for the cleaning products not currently subject to Regulation 8-20. Staff recognizes the additional opportunity to reduce VOC emissions from the graphic arts industry by imposing VOC standards on products used to clean adhesive application equipment, letterpress printing parts, and other press parts (maintenance and repairs for non imaging equipment).

### **Emission Reductions Expected**

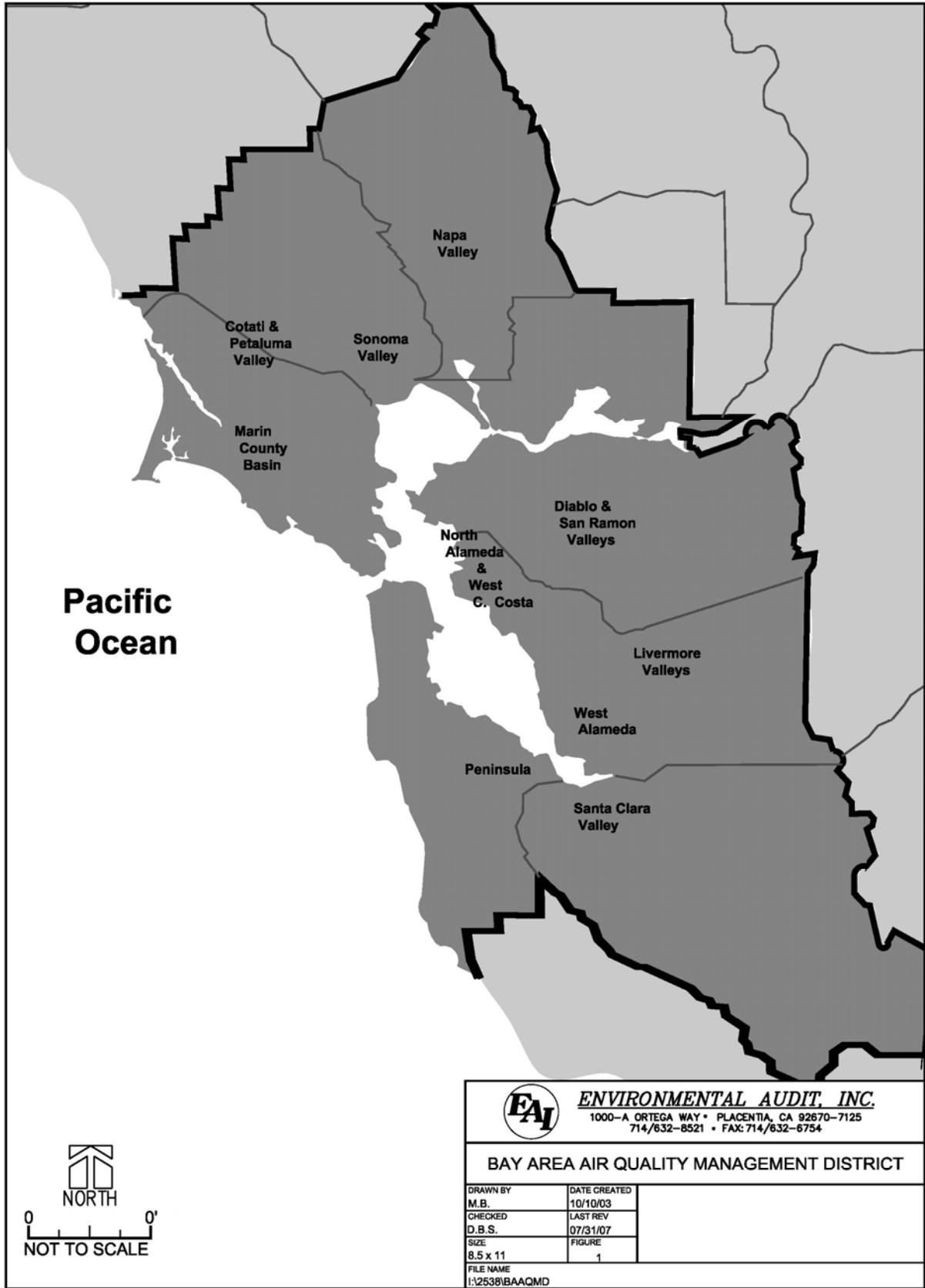
The calculations for estimated VOC emission reductions were based on the emissions inventories and reports from permitted Bay Area graphic arts operations. The District calculated the estimated emission reductions based on the anticipated reduction of VOC emissions from the current VOC limits multiplied by the quantities of each type of product used. The estimated quantities and emissions reductions are based on industry data and District permit information. The District also calculated estimated emissions reductions to be achieved when the VOC emissions exemption limit for low-emitting facilities is lowered. The emission reductions by 2009 are expected to be 0.58 tons per day and by 2011 are expected to be 1.07 tons per day, for a cumulative total of 1.65 TPD.

### **Affected Area**

The proposed rule amendments would apply to facilities under BAAQMD jurisdiction. The BAAQMD jurisdiction includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma counties (approximately 5,600 square miles). The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays.

The facilities affected by the proposed rule amendments are located within the jurisdiction of the Bay Area Air Quality Management District (see Figure 1).

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**Chapter 3**

**Environmental Checklist**

**ENVIRONMENTAL CHECKLIST FORM**

- 1. Project Title:** Bay Area Air Quality Management District (BAAQMD)  
Proposed Amendments to Regulation 8, Rule 20.
- 2. Lead Agency Name and Address:** Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109
- 3. Contact Person and Phone Number:** William Thomas Saltz, Planning, Rules and Research  
Division  
415/749-4698 or [wsaltz@baaqmd.gov](mailto:wsaltz@baaqmd.gov)
- 4. Project Location:** This rule amendment applies to the area within the jurisdiction of the Bay Area Air Quality Management District, which encompasses all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties.
- 5. Project Sponsor’s Name and Address:** Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109
- 6. General Plan Designation:** The rule amendments apply to graphic arts printing and coating operations.
- 7. Zoning** The rule amendments apply to graphic arts printing and coating operations which are generally found in industrial and commercial zones.
- 8. Description of Project** See “Background” in Chapter 2.
- 9. Surrounding Land Uses and Setting** See “Affected Area” in Chapter 2.
- 10. Other Public Agencies Whose Approval Is Required** None

### Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this Project (i.e., the project would involve one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                    | <input type="checkbox"/> Agriculture Resources              | <input type="checkbox"/> Air Quality            |
| <input type="checkbox"/> Biological Resources          | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology/Soils          |
| <input 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"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems     | <input type="checkbox"/> Mandatory Findings of Significance |   |

### Determination:

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION 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 to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" 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 IMPACT REPORT 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 IMPACT REPORT or NEGATIVE DECLARATION, pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
For

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

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses.

The proposed rule amendment is limited to graphic art printing and coating operations. These types of graphic art printing and coating operations are most often found in industrial and commercial applications. Rule amendments for graphic art printing and coating operations are expected to be located in commercial or industrial areas throughout the Bay Area. Scenic highways or corridors are generally not located in the vicinity of commercial or industrial areas.

## Regulatory Background

Visual resources are generally protected by the City and/or County General Plans through land use and zoning requirements.

## Discussion of Impacts

**I a-d.** The proposed amendments to Regulation 8-20 would further reduce VOC emissions from graphic art printing and coating operations in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The reductions would be accomplished by shifting from petroleum-based cleaning solvents to water-based solvents; lowering the VOC standard for flexographic ink used on porous substrates; and lowering rule applicability limits to include some smaller facilities. The proposed amendments are not expected to require the construction of any new structures that would be visible to scenic areas or resources outside of the affected facilities, and are not expected to result in any adverse aesthetic impacts. Regulation 8, Rule 20 allows the use of abatement equipment, typically thermal oxidizers, catalytic oxidizers or carbon adsorption as an alternative to meeting the VOC standards, but, as complying products are currently available and being developed, the District does not expect compliance with the rule to generate any new construction. The proposed amendments to Regulation 8-20 would also not require any new sources of light or glare, because no change in operations to comply with the amendments would require new abatement equipment.

Based upon these considerations, no significant adverse aesthetic impacts are expected from the implementation of the amendments to Regulation 8-20.

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	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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**II. AGRICULTURE RESOURCES.**

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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**Setting**

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Some of these agricultural lands are under Williamson Act contracts.

Printers affected by the proposed rule amendments are primarily located in industrial or commercial areas throughout the Bay Area. Agricultural resources are generally not located in the vicinity of industrial or commercial areas.

**Regulatory Background**

Agricultural resources are generally protected by the City and/or County General Plans, Community Plans through land use and zoning requirements, as well as any applicable specific plans, ordinances, local coastal plans, and redevelopment plans.

## Discussion of Impacts

**II a-c.** The proposed amendments to Regulation 8-20 would further reduce VOC emissions from graphic art printing and coating operations in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. Most facilities are expected to comply with Regulation 8-20 by shifting from petroleum-based cleaning solvents to water-based, and by complying with lower VOC standards. The proposed amendments are not expected to require the construction of any new structures, or that would affect agricultural resources. For existing facilities, changes to graphic arts operations to comply with the amendments would be implemented within existing structures. New graphic arts operations facilities must be built in accordance with zoning requirements controlled by a General Plan, and accordingly, not impact agricultural resources.

Based upon these considerations, no significant adverse impacts to agricultural resources are expected from the implementation of the proposed rule amendments.

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	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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### III. AIR QUALITY

When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>

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## Setting

### Meteorological Conditions

The summer climate of the West Coast is dominated by a semi-permanent high centered over the northeastern Pacific Ocean. Because this high pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus the conditions that persist along the coast of California during summer are a northwest air flow and negligible precipitation. A thermal low pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

In winter, the Pacific High weakens and shifts southward, upwelling ceases, and winter storms become frequent. Almost all of the Bay Area's annual precipitation takes place in the November through April period. During the winter rainy periods, inversions are weak or nonexistent, winds

are often moderate and air pollution potential is very low. During winter periods when the Pacific high becomes dominant, inversions become strong and often are surface based; winds are light and pollution potential is high. These periods are characterized by winds that flow out of the Central Valley into the Bay Area and often include tule fog.

### **Topography**

The San Francisco Bay Area is characterized by complex terrain consisting of coastal mountain ranges, inland valleys, and bays. Elevations of 1,500 feet are common in the higher terrain of this area. Normal wind flow over the area becomes distorted in the lower elevations, especially when the wind velocity is not strong. This distortion is reduced when stronger winds and unstable air masses move over the areas. The distortion is greatest when low level inversions are present, with the surface air beneath the inversion, flowing independently of the air above the inversion.

### **Winds**

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate produces a jet that sweeps eastward but widens downstream producing southwest winds at Berkeley and northwest winds at San Jose; a branch curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Carquinez Strait, the Golden Gate, or the San Bruno Gap.

In winter, the Bay Area experiences periods of storminess and moderate-to-strong winds and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, weak onshore flows in the afternoon and otherwise light and variable winds.

### **Temperature**

In summer, the distribution of temperature near the surface over the Bay Area is determined in large part by the effect of the differential heating between land and water surfaces. This process produces a large-scale gradient between the coast and the Central Valley as well as small-scale local gradients along the shorelines of the ocean and bays. The winter mean temperature high and lows reverse the summer relationship; daytime variations are small while mean minimum nighttime temperatures show large differences and strong gradients. The moderating effect of the ocean influences warmer minimums along the coast and penetrating the Bay. The coldest temperatures are in the sheltered valleys, implying strong radiation inversions and very limited vertical diffusion.

## **Inversions**

A primary factor in air quality is the mixing depth, i.e., the vertical dimension available for dilution of contaminant sources near the ground. Over the Bay Area, the frequent occurrence of temperature inversions limits this mixing depth and consequently limits the availability of air for dilution. A temperature inversion may be described as a layer or layers of warmer air over cooler air.

## **Precipitation**

The San Francisco Bay Area climate is characterized by moderately wet winters and dry summers. Winter rains (December through March) account for about 75 percent of the average annual rainfall; about 90 percent of the annual total rainfall is received in November to April period; and between June and September, normal rainfall is typically less than 0.10 inches. Annual precipitation amounts show greater differences in short distances. Annual totals exceed 40 inches in the mountains and are less than 15 inches in the sheltered valleys.

## **Pollution Potential**

The Bay Area is subject to a combination of physiographic and climatic factors which result in a low potential for pollutant buildups near the coast and a high potential in sheltered inland valleys. In summer, areas with high average maximum temperatures tend to be sheltered inland valleys with abundant sunshine and light winds. Areas with low average maximum temperatures are exposed to the prevailing ocean breeze and experience frequent fog or stratus. Locations with warm summer days have a higher pollution potential than the cooler locations along the coast and bays.

In winter, pollution potential is related to the nighttime minimum temperature. Low minimum temperatures are associated with strong radiation inversions in inland valleys that are protected from the moderating influences of the ocean and bays. Conversely, coastal locations experience higher average nighttime temperatures, weaker inversions, stronger breezes and consequently less air pollution potential.

## **Air Quality**

### **Criteria Pollutants**

It is the responsibility of the BAAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-1. The BAAQMD monitors levels of various criteria pollutants at 25 monitoring stations. The 2007 air quality data from the BAAQMD's monitoring stations are presented in Table 3-2.

Air quality conditions in the San Francisco Bay Area have improved since the Air District was created in 1955. Ambient concentrations of air pollutants and the number of days on which the region exceeds air quality standards have fallen dramatically (see Table 3-3). The Air District is in attainment of the State and federal ambient air quality standards for CO, nitrogen oxides (NO<sub>x</sub>), and sulfur dioxides (SO<sub>2</sub>). The Air District is not considered to be in attainment with the State PM<sub>10</sub> and PM<sub>2.5</sub> standards.

The 2007 air quality data from the BAAQMD monitoring stations are presented in Table 3-2. All monitoring stations were below the state standard and federal ambient air quality standards for CO, NO<sub>2</sub>, and SO<sub>2</sub>. The federal 8-hour ozone standard was exceeded one (1) day in the District in 2007, while the state standard was exceeded on nine (9) days. The Bay Area is designated as a non-attainment area for the California 1-hour ozone standard. The State 1-hour ozone standard was exceeded on four (4) days in 2007 in the District, most frequently in the Eastern District (Livermore) (see Table 3-2).

All monitoring stations were in compliance with the federal PM<sub>10</sub> standards. The California PM<sub>10</sub> standards were exceeded on four (4) days in 2007, most frequently in San Jose. The Air District exceeded the federal PM<sub>2.5</sub> standard on 14 days, most frequently in San Jose, in 2007 (see Table 3-2).

**TABLE 3-1**

**Federal and State Ambient Air Quality Standards**

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.075 ppm, 8-hr avg. >	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.25 ppm, 1-hr avg. >	0.053 ppm, ann. avg.>	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	0.04 ppm, 24-hr avg.> 0.25 ppm, 1-hr. avg. >	0.03 ppm, ann. avg.> 0.14 ppm, 24-hr avg.>	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM10)	20 µg/m <sup>3</sup> , annarithmic mean > 50 µg/m <sup>3</sup> , 24-hr average>	50 µg/m <sup>3</sup> , annual arithmetic mean > 150 µg/m <sup>3</sup> , 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter (PM2.5)	12 µg/m <sup>3</sup> , annual arithmetic mean>	15 µg/m <sup>3</sup> , annual arithmetic mean> 35 µg/m <sup>3</sup> , 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/m <sup>3</sup> , 24-hr avg. >=		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead	1.5 µg/m <sup>3</sup> , 30-day avg. >=	1.5 µg/m <sup>3</sup> , calendar quarter>	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average (10am – 6pm PST)		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent

**TABLE 3-2  
Bay Area Air Pollution Summary - 2007**

MONITORING STATIONS	OZONE						CARBON MONOXIDE			NITROGEN DIOXIDE			SULFUR DIOXIDE			PM <sub>10</sub>				PM <sub>2.5</sub>					
	Max 1-hr	Cal Days	Max 8-hr	Nat Days	Cal Days	3-Yr Avg	Max 1-hr	Max 8-hr	Nat/Cal Days	Max 24-hr	Ann Avg	Nat/Cal Days	Max 24-hr	Ann Avg	Nat/Cal Days	Ann Avg	Max 24-hr	Nat Days	Cal Days	Max 24-hr	Nat Days	3-Yr Avg	Ann Avg	3-Yr Avg	
<b>North Counties</b>	(ppb)						(ppm)			(ppb)			(ppb)			(µm <sup>3</sup> )				(µm <sup>3</sup> )					
Napa	74	0	61	0	2	57	3.2	2.0	0	53	10	0	-	-	-	21.4	50	0	0	-	-	-	-	-	-
San Rafael	72	0	57	0	0	48	2.8	1.3	0	57	14	0	-	-	-	17.5	56	0	1	-	-	-	-	-	-
Santa Rosa	71	0	59	0	0	47	2.6	1.7	0	46	11	0	-	-	-	17.1	37	0	0	32.0	0	30.4	7.6	8.1	
Vallejo	78	0	66	0	0	54	3.3	2.7	0	58	11	0	4	1.3	0	19.0	52	0	2	40.8	4	36.2	9.8	9.8	
<b>Coast/Central Bay</b>																									
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	7	1.6	0	-	-	-	-	-	-	-	-	-	-
San Francisco	60	0	49	0	0	45	2.5	1.6	0	69	16	0	6	1.5	0	21.9	70	0	2	45.2	5	29.3	8.7	9.3	
San Pablo	74	0	51	0	0	47	2.4	1.2	0	52	12	0	5	1.6	0	20.6	57	0	2	-	-	-	-	-	
<b>Eastern District</b>																									
Benicia	83	0	71	0	1	n/a	1.1	0.6	0	39	n/a	0	7	n/a	0	n/a	31	0	0	-	-	-	-	-	
Bethel Island	93	0	78	0	4	73	1.1	0.8	0	48	8	0	5	1.5	0	18.8	49	0	0	-	-	-	-	-	
Concord	105	1	81	0	4	73	2.2	1.4	0	49	11	0	5	1.7	0	16.8	52	0	2	46.2	7	34.0	8.4	8.9	
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	9	2.0	0	-	-	-	-	-	-	-	-	-	
Fairfield	89	0	67	0	0	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Livermore	120	2	91	1	3	77	3.3	1.8	0	52	13	0	-	-	-	19.8	75	0	2	54.9	3	34.8	9.0	9.3	
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	8	1.7	0	-	-	-	-	-	-	-	-	-	
Pittsburg	100	1	74	0	2	70	2.8	1.5	0	51	10	0	7	2.2	0	19.4	59	0	4	-	-	-	-	-	
<b>South Central Bay</b>																									
Fremont	79	0	68	0	0	58	2.5	1.6	0	58	14	0	-	-	-	19.6	61	0	1	51.2	2	30.4	8.7	9.4	
Hayward	75	0	65	0	0	n/a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Redwood City	77	0	69	0	0	51	5.5	2.3	0	57	13	0	-	-	-	19.6	56	0	1	45.4	1	31.0	8.3	8.9	
San Leandro	71	0	54	0	0	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Santa Clara Valley</b>																									
Gilroy	91	0	70	0	0	70	-	-	-	-	-	-	-	-	-	-	-	-	-	21.5	0	n/a	n/a	n/a	
Los Gatos	84	0	65	0	0	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
San Jose Central	83	0	68	0	0	61	3.5	2.7	0	65	17	0	-	-	-	22.0	69	0	3	57.5	9	38.3	10.7	11.1	
San Jose, Tully Rd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.6	78	0	3			-	-	-	
San Martin	96	1	73	0	4	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sunnyvale	77	0	68	0	0	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Days over Standard</b>		<b>4</b>		<b>1</b>	<b>9</b>				<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>	<b>4</b>		<b>14</b>				

(ppm) = parts per million, (pphm) = parts per hundred million, (ppb) = parts per billion

**TABLE 3-3**  
**Bay Area Air Quality Summary**  
**Days over standards**

YEAR	OZONE			CARBON MONOXIDE				NO <sub>2</sub>	SULFUR DIOXIDE		PM10		PM2.5
	1-Hr	8-Hr		1-Hr		8-Hr		1-Hr	24-Hr		24-Hr*		24-Hr**
	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat
1996	34	-	-	0	0	0	0	0	0	0	0	3	-
1997	8	-	-	0	0	0	0	0	0	0	0	4	-
1998	29	16	-	0	0	0	0	0	0	0	0	5	-
1999	2	9	-	0	0	0	0	0	0	0	0	12	-
2000	12	4	-	0	0	0	0	0	0	0	0	7	1
2001	15	7	-	0	0	0	0	0	0	0	0	10	5
2002	16	7	-	0	0	0	0	0	0	0	0	6	5
2003	19	7	-	0	0	0	0	0	0	0	0	6	0
2004	7	0	-	0	0	0	0	0	0	0	0	7	1
2005	9	1	-	0	0	0	0	0	0	0	0	6	0
2006	18	12	-	0	0	0	0	0	0	0	0	15	10
2007	4	1	9	0	0	0	0	0	0	0	0	4	14

\* PM10 is sampled every sixth day – actual days over standard can be estimated to be six times the numbers listed.  
 \*\* 2000 is the first full year for which the Air District measured PM2.5 levels.

**Toxic Air Pollutants**

Table 3-4 (BAAQMD, 2007) contains a summary of ambient air toxics monitoring data of TACs measured at monitoring stations in the Bay Area by the District in 2003.

**Regulatory Background**

**Criteria Pollutants**

At the federal level, the Clean Air Act (CAA) Amendments of 1990 give the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and particulate matter in non-attainment areas. The amendments set attainment deadlines based on the severity of problems. At the state level, CARB has traditionally established state ambient air quality standards, maintained oversight authority in air quality planning, developed programs for reducing emissions from motor vehicles, developed air emission inventories, collected air quality and meteorological data, and approved state implementation plans. At a local level, California’s air districts, including the BAAQMD, are responsible for overseeing stationary source emissions, approving permits, maintaining emission inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

**TABLE 3-4**

**Summary of 2003 BAAQMD Ambient Air Toxics Monitoring Data**

Compound	LOD (ppb) <sup>(1)</sup>	% of Samples < LOD <sup>(2)</sup>	Max. Conc. (ppb) <sup>(3)</sup>	Min. Conc. (ppb) <sup>(4)</sup>	Mean Conc. (ppb) <sup>(5)</sup>
Acetone	0.30	0	121.4	0.6	6.80
Benzene	0.10	1.78	2.4	0.5	0.401
1,3-butadiene	0.15	75.7	0.89	0.075	0.12
Carbon tetrachloride	0.01	0	0.16	0.09	0.108
Chloroform	0.02	62.5	1.47	0.01	0.024
Ethylbenzene	0.10	44.2	0.90	0.05	0.135
Ethylene dibromide	0.02	100	0.01	0.01	0.01
Ethylene dichloride	0.10	100	0.05	0.05	0.05
Methylene chloride	0.50	82.9	3.40	0.25	0.356
Methyl ethyl ketone	0.20	7.7	5.80	0.1	0.496
Metyl tert-butyl ether	0.30	32.9	4.80	0.15	0.532
Perchloroethylene	0.01	42.4	0.28	0.005	0.026
Toluene	0.10	0.2	6.0	0.05	1.062
1,1,1-Trichloroethane	0.05	72.3	2.47	0.025	0.084
Trichloroethylene	0.05	93.8	0.33	0.025	0.029
Trichlorofluoromethane	0.01	0	.046	0.18	0.266
1,1,2-trichlorotrifluoroethane	0.01	0	1.16	0.06	0.077
Vinyl chloride	0.30	100	0.15	0.15	0.15
m/p-xylene	0.10	2.8	3.40	0.05	0.535
o-xylene	0.10	27.9	1.30	0.05	0.186

**NOTES:** Table 3-4 summarizes the results of the BAAQMD gaseous toxic air contaminant monitoring network for the year 2003. These data represent monitoring results at 19 of the 20 separate sites at which samples were collected. Data from the Fort Cronkhite "clean-air" background site was not included. Data from the Oakland-Davie Stadium site was available from January through March.

- (1) "LOD" is the limit of detection of the analytical method used.
- (2) "% of samples < LOD" is the percent of the total number of air samples collected in 2003 that had pollutant concentrations less than the LOD.
- (3) "Maximum Conc." is the highest daily concentration measured at any of the 19 monitoring sites.
- (4) "Minimum Conc." is the lowest daily concentration measured at any of the 19 monitoring sites.
- (5) "Mean Conc." is the arithmetic average of the air samples collected in 2003 at the 19 monitoring sites. In calculating the mean, samples with concentrations less than the LOD were assumed to be equal to one half the LOD concentration.

The BAAQMD is governed by a 22-member Board of Directors composed of publicly-elected officials apportioned according to the population of the represented counties. The Board has the authority to develop and enforce regulations for the control of air pollution within its jurisdiction. The BAAQMD is responsible for implementing emissions standards and other requirements of federal and state laws. It is also responsible for developing air quality planning documents required by both federal and state laws.

**Toxic Air Contaminants**

TACs are regulated in the District through federal, state, and local programs. At the federal level, TACs are regulated primarily under the authority of the CAA. Prior to the amendment of the CAA in 1990, source-specific National Emission Standards for Hazardous Air Pollutants (NESHAPs) were promulgated under Section 112 of the CAA for certain sources of radionuclides and Hazardous Air Pollutants (HAPs).

Title III of the 1990 CAA amendments requires U.S. EPA to promulgate NESHAPs on a specified schedule for certain categories of sources identified by U.S. EPA as emitting one or more of the 189 listed HAPs. Emission standards for major sources must require the maximum achievable control technology (MACT). MACT is defined as the maximum degree of emission reduction achievable considering cost and non-air quality health and environmental impacts and energy requirements. All NESHAPs were to be promulgated by the year 2000. Specific incremental progress in establishing standards must be made by the years 1992 (at least 40 source categories), 1994 (25 percent of the listed categories), 1997 (50 percent of remaining listed categories), and 2000 (remaining balance). The 1992 requirement was met; however, many of the four-year standards were not promulgated as scheduled. Promulgation of those standards has been rescheduled based on court-ordered deadlines, or the aim to satisfy all Section 112 requirements in a timely manner.

Many of the sources of TACs that have been identified under the CAA are also subject to the California TAC regulatory programs. CARB developed three regulatory programs for the control of TACs. Each of the programs is discussed in the following subsections.

**Control of TACs Under the TAC Identification and Control Program:** California's TAC identification and control program, adopted in 1983 as Assembly Bill 1807 (AB 1807) (California Health and Safety Code §39662), is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. Since adoption of the program, CARB has identified 18 TACs, and CARB adopted a regulation designating all 189 federal HAPs as TACs.

**Control of TACs Under the Air Toxics "Hot Spots" Act:** The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code §39656) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with those emissions. Inventory reports must be updated every four years under current state law. The BAAQMD uses a maximum individual cancer risk of 10 in one million, or an ambient concentration above a non-cancer reference exposure level, as the threshold for notification. Senate Bill (SB) 1731, enacted in 1992 (California Health and Safety Code §44390 et seq.), amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. At a minimum, such facilities must, as quickly as feasible, reduce cancer risk levels that exceed 100 per one million. The BAAQMD adopted risk reduction requirements for perchloroethylene dry cleaners to fulfill the requirements of SB 1731.

**Targeted Control of TACs Under the Community Air Risk Evaluation Program:** In 2004, BAAQMD established the Community Air Risk Evaluation (CARE) program to identify locations with high emissions of TACs and high exposures of sensitive populations to TACs and to use this information to help establish policies to guide mitigation strategies that obtain the greatest health benefit from TAC emission reductions. For example, BAAQMD will use information derived from the CARE program to develop and implement targeted risk reduction programs, including grant and incentive programs, community outreach efforts, collaboration with other governmental agencies, model ordinances, new regulations for stationary sources and indirect sources, and advocacy for additional legislation.

## Discussion of Impacts

**III a.** The objectives of the proposed rule amendments are to implement Control Measure SS-2 from the Bay Area 2005 Ozone Strategy in order to help reduce VOC emissions from graphic art printing and coating operations. Because the proposed amendments directly implement the control measure, the proposed amendments are in compliance with the local air quality plan and are expected to provide beneficial impacts associated with implementation of the local air quality plan.

**III b, d, and f.** Regulation 8-20 was adopted April 12, 1980. Bay Area 2005 Ozone Strategy Control Measure SS-2 (Graphic Arts Operations) proposed amendments to Bay Area Air Quality Management District Regulation 8, Rule 20. The proposed amendments to Regulation 8-20 would implement Control Measure SS-2 by supplementing existing requirements in Regulation 8-20. In Control Measure SS-2, the District suggested ROG reductions from printing operations by reducing the allowable VOC limit for flexographic inks used on porous substrates and by limiting the VOC content of clean up solvent used on all presses. The Bay Area is not yet in attainment of state ozone standards, so the region must implement all feasible measures to reduce the pollutants that form ozone (NO<sub>x</sub> and ROG). Control Measure SS-2 of the Air District's 2005 Ozone Strategy included consideration of amendments to Regulation 8-20: Graphic Arts Printing and Coating Operations. If adopted as proposed, Regulation 8-20 would regulate VOC emissions from all graphic art printing and coating operations. The VOC emissions from these regulated facilities would be reduced in 2009 by approximately 0.58 tons per day and by 2011 by approximately 1.07 tons per day, for a cumulative total reduction of 1.65 TPD, providing an environmental benefit (see Table 3-5)

Compliance with the proposed amendments to Regulation 8-20 is expected to be achieved through the use of inks and solvents that are water based with lower VOC contents (potential impacts addressed below). The use of control devices such as afterburners or incinerators is not expected. Therefore, no secondary air emission impacts are expected due to the use of control devices.

The proposed amendments to Regulation 8-20 may result in the substitution of reactive solvents with exempt compounds. The exempt compounds for Regulation 8-20 are limited to acetone, methyl acetate, parachlorobenzotrifluoride (PCBTF), and methylated siloxanes (VMS). These compounds are considered to be negligibly reactive VOCs and, thus, an increase in their use associated with a reduction in the use of more reactive compounds would reduce ozone formation. According to the most recent studies conducted for the technological assessment, these types of materials have a low toxicity (SCAQMD, 2006).

CARB expects that future compliant materials will contain less hazardous materials (or will contain nonhazardous materials) as compared to solvent-borne coatings, resulting in an environmental benefit. The long-term and short-term human health impacts associated with the use of various replacement solvents in compliant coating formulations were evaluated by CARB. It was concluded that the general public and coating applicators would not be exposed to either long-term (carcinogenic or chronic) or short-term (acute) health risks due to exposure to alternative solvents (CARB, 2007). In addition, a number of cleaners are water-based which is not expected to generate toxic air contaminants. Therefore, the proposed amendments to Regulation 8-20 are not expected to result in an increase in toxic air contaminants.

**TABLE 3-5  
ESTIMATED VOC EMISSION REDUCTIONS**

<b>Graphic Arts Operation</b>	<b>2009 VOC Emission Reductions (tons/day)</b>	<b>2010 (2011*) VOC Emission Reductions (tons/day)</b>	<b>Total VOC Emission Reduction (tons/day)</b>
Flexographic Ink	0.1	--	0.1
Adhesive Cleaning Products	0.022	0.034	0.056
Flexographic Cleaning Products	0.013	0.019	0.038
Specialty Flexo and Litho Cleaning Products	0.007	0.009*	0.009
Gravure Cleaning Products	0.0009	0.0001	0.001
Letterpress Cleaning Products	0.013	0.018	0.031`
Lithographic Hand Cleaning Products	0.26	0.52	0.78
Lithographic Automated Cleaning Products	0.113	0.41	0.523
Screen Printing Cleaning Products	0.029	0.05*	0.08
Ultraviolet Ink Cleaning Products	0.005	0.008	0.0085
New Exemption Limit	0.023	--	0.023
<b>TOTAL EMISSION REDUCTIONS</b>	<b>0.5</b>	<b>1.07</b>	<b>1.65</b>

\* Most facilities use high VOC-containing products (700 to 800 grams/liter VOC) and comply with the vapor pressure requirements, based on conversations with industry representatives.

**III c.** CEQA Guidelines indicate that cumulative impacts of a project shall be discussed when the project’s incremental effect is cumulatively considerable, as defined in CEQA Guidelines §15065(c). The overall impact of the proposed amendment to the rule is a decrease in VOC emissions. Therefore, the cumulative air quality impacts of the proposed rule amendments are expected to be beneficial.

It is widely accepted that the accumulation of increasing amounts of greenhouse gases (GHG) in the Earth’s atmosphere is a cause of global warming and may result in global climate change. In June, 2005, the District’s Board of Directors adopted a resolution recognizing the link between global climate change and localized air pollution impacts. Climate change, or global warming, is the process whereby emissions of anthropogenic pollutants, together with other naturally-occurring gases, absorb infrared radiation in the atmosphere, leading to increases in the overall average global temperature.

While CO<sub>2</sub> is the largest contributor to global warming, methane, halogenated carbon compounds, nitrous oxide, and other species also contribute to climate change. Gases in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when the gas itself is a GHG. While there is relative agreement on how to account for these direct effects of GHG emissions, accounting for indirect effects is more problematic. Indirect effects occur when chemical transformations of the original compound produce other GHGs, when a gas influences the atmospheric lifetimes of CH<sub>4</sub>, and/or when a gas affects atmospheric processes that alter the radiative balance of the earth (e.g., affect cloud formation).

VOCs have some direct global warming effects. However they may be considered greenhouse gases due to their indirect effects. VOCs react chemically in the atmosphere to increase concentrations of ozone and may prolong the life of methane. The magnitude of the indirect effect of VOCs is poorly quantified and depends on local air quality. Global warming not only exacerbates ozone formation, but ozone formation exacerbates global warming. Consequently, reducing VOCs to make progress towards meeting California air quality standards for ozone will help reduce global warming.

District VOC rules typically allow a facility to reduce emissions to the atmosphere through the use of air pollution abatement equipment as an option to the use of low-VOC products. Such abatement equipment may be thermal or catalytic oxidizers or carbon adsorption. These devices are rarely a cost-effective solution except in the largest facilities, however, if they were employed, emissions of CO<sub>2</sub> would be expected to increase due to the use of natural gas to fire an oxidizer. Historically, low-VOC products have been successfully implemented. As complying ink products are currently available and complying cleaning products are currently available and in the process of being developed, it is not expected that there will be any use of abatement equipment to meet these standards in the proposed amendments. Therefore it is not expected that there will be an increase in greenhouse gas emissions.

**III e.** The proposed project is not expected to result in an increase in odors. The amendments to Regulation 8-20 propose the use of water-based solvents for reducing VOC emissions from graphic art printing and coating operations. Affected facilities are expected to comply by shifting from petroleum based cleaning solvents to water-based; lowering the VOC standard for flexographic ink used on porous substrates; and lowering applicability limits to include smaller facilities. Water-based cleaning materials usually generate less odor than solvent-based products. Potential odor impacts associated with the proposed amendments to Regulation 8-20 are not expected to be significant. Therefore, no significantly adverse incremental odor impacts are expected due to the proposed rule amendments.

Based upon these considerations, no significant adverse air quality impacts are expected from the implementation of the proposed rule amendments. In fact, the proposed rule amendments are expected to provide beneficial air quality impacts by reducing VOC emissions.

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	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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**IV. BIOLOGICAL RESOURCES.** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. A wide variety of biological resources are located within the Bay Area.

The areas affected by the proposed rule amendments are located in the Bay Area-Delta Bioregion (as defined by the State's Natural Communities Conservation Program). This Bioregion is comprised of a variety of natural communities, which range from salt marshes to chaparral to oak woodland. The areas affected by the proposed rule amendments address graphic arts operations which are located in generally industrial or commercial areas throughout the Bay Area. The affected areas have been graded to develop various industrial or commercial structures. Native vegetation, other than landscape vegetation, has generally been removed from areas to minimize safety and fire hazards. Any new development must comply with the zoning and other land use requirements of the City or County General Plans.

## **Regulatory Background**

Biological resources are generally protected by the City and/or County General Plans through land use and zoning requirements which minimize or prohibit development in biologically sensitive areas. Biological resources are also protected by the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service and National Marine Fisheries Service oversee the federal Endangered Species Act. Development permits may be required from one or both of these agencies if development would impact rare or endangered species. The California Department of Fish and Game administers the California Endangered Species Act which prohibits impacting endangered and threatened species. The U.S. Army Corps of Engineers and the U.S. EPA regulate the discharge of dredge or fill material into waters of the United States, including wetlands.

## **Discussion of Impacts**

**IV a – f.** No impacts on biological resources are anticipated from the proposed rule amendments which would apply to existing or newly constructed facilities with graphic art printing and coating operations. The existing graphic art printing and coating operations are generally located in industrial and commercial areas, which do not usually include sensitive biological species. The areas have typically been graded and developed, and biological resources, with the exception of landscape species, have generally been removed. Affected facilities are expected to comply by shifting from petroleum-based cleaning solvents to water-based solvents; meeting the lower VOC standard for flexographic ink used on porous substrates; and meeting the lower exemption limits applicable to smaller facilities. The proposed amendments are not expected to require the construction of any new structures or to affect biological resources. For existing facilities, changes to graphic arts operations to comply with the amendments would be implemented within existing structures. New graphic arts operations facilities must be built in accordance with zoning requirements controlled by a General Plan, and accordingly, not impact biological resources.

Based upon these considerations, no significant adverse impacts to biological resources are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>V. CULTURAL RESOURCES.</b> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural and open space uses. Cultural resources are defined as buildings, sites, structures, or objects that might have historical architectural, archaeological, cultural, or scientific importance.

The Carquinez Strait represents the entry point for the Sacramento and San Joaquin Rivers into the San Francisco Bay. This locality lies within the San Francisco Bay and the west end of the Central Valley archaeological regions, both of which contain a rich array of prehistoric and historical cultural resources. The areas surrounding the Carquinez Strait and Suisun Bay have been occupied for millennia given their abundant combination of littoral and oak woodland resources.

The areas affected by the proposed rule amendments are primarily located in industrial or commercial areas throughout the Bay Area. These sites have already been graded to develop industrial or commercial facilities and are typically surrounded by uses of a kind similar to those affected by the rule amendments. Cultural resources are generally not located within these areas.

## Regulatory Background

The State CEQA Guidelines define a significant cultural resource as a “resource listed or eligible for listing on the California Register of Historical Resources” (Public Resources Code Section 5024.1). A project would have a significant impact if it would cause a substantial adverse change in the significance of a historical resource (State CEQA Guidelines Section 15064.5(b)). A substantial adverse change in the significance of a historical resource would result from an action that would demolish or adversely alter the

physical characteristics of the historical resource that convey its historical significance and that qualify the resource for inclusion in the California Register of Historical Resources or a local register or survey that meets the requirements of Public Resources Code Sections 50020.1(k) and 5024.1(g).

## **Discussion of Impacts**

**V a – d.** No impacts on cultural resources are anticipated from the proposed rule amendments that would apply to graphic art printing and coating operations. The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities and areas. The existing areas have been graded and developed. The District does not expect that adoption of the proposed amendments would require new construction outside of the existing facility boundaries. New graphic arts printing and coating operations are expected to be installed in similar areas. Therefore, no significant adverse impacts to cultural resources are expected due to the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant adverse impacts to cultural resources are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>VI. GEOLOGY AND SOILS.</b>				
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. The facilities affected by the proposed rule amendments are expected to be located primarily in industrial and commercial areas throughout the Bay Area.

The affected areas with natural gas-fired heaters are located in the natural region of California known as the Coast Ranges geomorphic province. The province is characterized by a series of northwest trending ridges and valleys controlled by tectonic folding and faulting, examples of which include the Suisun Bay, East Bay Hills, Briones Hills, Vaca Mountains, Napa Valley, and Diablo Ranges.

Regional basement rocks consist of the highly deformed Great Valley Sequence, which include massive beds of sandstone inter-fingered with siltstone and shale. Unconsolidated alluvial deposits, artificial fill, and estuarine deposits (including Bay Mud), underlie the low-lying region along the margins of the Carquinez Straight and Suisun Bay. The estuarine sediments found along the shorelines of Solano County are soft, water-saturated mud, peat and loose sands. The organic, soft, clay-rich sediments along the San Francisco and San Pablo Bays are referred to locally as Bay Mud and can present a variety of engineering challenges due to their inherent low strength, compressibility and saturated conditions. Landslides in the region occur in weak, easily weathered bedrock on relatively steep slopes.

The San Francisco Bay Area is a seismically active region, which is situated on a plate boundary marked by the San Andreas Fault System. Several northwest trending active and potentially active faults are included within this fault system. Under the Alquist-Priolo Earthquake Fault Zoning Act, Earthquake Fault Zones were established by the California Division of Mines and Geology along “active” faults, or faults along which surface rupture occurred in Holocene time (the last 11,000 years). In the Bay area, these faults include the San Andreas, Hayward, Rodgers Creek-Healdsburg, Concord-Green Valley, Greenville-Marsh Creek, Seal Cove/San Gregorio and West Napa faults. Other smaller faults in the region classified as potentially active include the Southampton and Franklin faults.

Ground movement intensity during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geological material. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill. Earthquake ground shaking may have secondary effects on certain foundation materials, including liquefaction, seismically induced settlement, and lateral spreading.

## **Regulatory Background**

Construction is regulated by the local City or County building codes that provide requirements for construction, grading, excavations, use of fill, and foundation work including type of materials, design, procedures, etc. which are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Necessary permits, plan checks, and inspections are generally required.

The City or County General Plan includes the Seismic Safety Element. The Element serves primarily to identify seismic hazards and their location in order that they may be taken into account in the planning of future development. The Uniform Building Code is the principle mechanism for protection against and relief from the danger of earthquakes and related events.

In addition, the Seismic Hazard Zone Mapping Act (Public Resources Code §§2690 – 2699.6) was passed by the California legislature in 1990 following the Loma Prieta earthquake. The Act required that the California Division of Mines and Geology (DMG) develop maps that identify the areas of the state that require site specific investigation for earthquake-triggered landslides and/or potential liquefaction prior to permitting most urban developments. The act directs cities, counties and state agencies to use the maps in their land use planning and permitting processes.

Local governments are responsible for implementing the requirements of the Seismic Hazards Mapping Act. The maps and guidelines are tools for local governments to use in establishing their land use management

policies and in developing ordinances and review procedures that will reduce losses from ground failure during future earthquakes.

## Discussion of Impacts

**VI a.** The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. No new construction activities would be required as a result of adopting the proposed amendments to Regulation 8-20. Rather, shifting from petroleum-based cleaning solvents to water-based solvents, and complying with lower emission limits would lower VOC emissions. Regulation 8, Rule 20 allows the use of abatement equipment, typically thermal oxidizers, catalytic oxidizers or carbon adsorption as an alternative to meeting the VOC standards, but as complying products are currently available and being developed, the District does not expect compliance with the rule to generate any new construction. Therefore, no construction activities are anticipated to be required for compliance with the proposed amendments to Regulation 8-20.

New industrial or commercial structures must be designed to comply with the Uniform Building Code Zone 4 requirements. The local cities and counties are responsible for assuring that new construction complies with the Uniform Building Code as part of the issuance of the building permits and are able to 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.

The issuance of building permits from the local agency will assure compliance with the Uniform Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since no new development is required due to implementation of the proposed amendments to Regulation 8-20.

**VII b.** The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. New graphic arts printing and coating operations are expected to be installed in similar areas, and must comply with the amendments of the proposed Regulation 8-20. No new construction activities would be required due to the adoption of Regulation 8-20. Therefore, the proposed amendments are not expected to result in substantial soil erosion or the loss of topsoil as no major construction activities would be required.

**VII c – e.** The graphic art printing and coating operations that already exist are located within the confines of existing industrial or commercial facilities so no major construction activities are expected. Since the industrial or commercial facilities already exist, no additional structures would be constructed on a geologic unit or soil that is unstable or that would become unstable, or potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. Likewise, no structure would be constructed on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to

life or property. Compliance with the Uniform Building Code would minimize the impacts associated with existing geological hazards. Therefore, no adverse significant impacts to geology and soils are expected due to the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant geology and soils impacts are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or involve handling 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Be located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

Many of the affected facilities handle and process large quantities of flammable, hazardous, and acutely hazardous materials. Accidents involving these substances can result in worker or public exposure to fire, heat, blast from an explosion, or airborne exposure to hazardous substances.

The potential hazards associated with handling such materials are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facilities where they exist. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions, including the following events:

- **Toxic gas clouds:** Toxic gas clouds are releases of volatile chemicals (e.g., anhydrous ammonia, chlorine, and hydrogen sulfide) that could form a cloud and migrate off-site, thus exposing individuals. “Worst-case” conditions tend to arise when very low wind speeds coincide with an accidental release, which can allow the chemicals to accumulate rather than disperse.
- **Torch fires (gas and liquefied gas releases), flash fires (liquefied gas releases), pool fires, and vapor cloud explosions (gas and liquefied gas releases):** The rupture of a storage tank or vessel containing a flammable gaseous material (like propane), without immediate ignition, can result in a vapor cloud explosion. The “worst-case” upset would be a release that produces a large aerosol cloud with flammable properties. If the flammable cloud does not ignite after dispersion, the cloud would simply dissipate. If the flammable cloud were to ignite during the release, a flash fire or vapor cloud explosion could occur. If the flammable cloud were to ignite immediately upon release, a torch fire would ensue.
- **Thermal Radiation:** Thermal radiation is the heat generated by a fire and the potential impacts associated with exposure. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire.
- **Explosion/Overpressure:** Process vessels containing flammable explosive vapors and potential ignition sources are present at many types of industrial facilities. Explosions may occur if the flammable/explosive vapors came into contact with an ignition source. An explosion could cause impacts to individuals and structures in the area due to overpressure.

For all affected facilities, risks to the public are reduced if there is a buffer zone between industrial processes and residences or other sensitive land uses, or the prevailing wind blows away from residential areas and other sensitive land uses. The risks posed by operations at each facility are unique and determined by a variety of factors. The areas affected by the proposed amendments are typically located in industrial and commercial areas.

## Regulatory Background

There are many federal and state rules and regulations that facilities handling hazardous materials must comply with which serve to minimize the potential impacts associated with hazards at these facilities.

Under the Occupational Safety and Health Administration (OSHA) regulations [29 Code of Federal Regulations (CFR) Part 1910], facilities which use, store, manufacture, handle, process, or move highly hazardous materials must prepare a fire prevention plan. In addition, 29 CFR Part 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals, and Title 8 of the California Code of Regulations, General Industry Safety Order §5189, specify required prevention program elements to protect workers at facilities that handle toxic, flammable, reactive, or explosive materials.

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 CFR Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19, Division 2, Chapter 4.5) was issued by the Governor's Office of Emergency Services (OES). RMPs consist of three main elements: a hazard assessment that includes off-site consequences analyses and a five-year accident history, a prevention program, and an emergency response program.

Affected facilities that store materials are required to have a Spill Prevention Control and Countermeasures (SPCC) Plan per the requirements of 40 Code of Federal Regulations, Section 112. The SPCC is designed to prevent spills from on-site facilities and includes requirements for secondary containment, provides emergency response procedures, establishes training requirements, and so forth.

The Hazardous Materials Transportation (HMT) Act is the federal legislation that regulates transportation of hazardous materials. The primary regulatory authorities are the U.S. Department of Transportation, the Federal Highway Administration, and the Federal Railroad Administration. The HMT Act requires that carriers report accidental releases of hazardous materials to the Department of Transportation at the earliest practical moment (49 CFR Subchapter C). The California Department of Transportation (Caltrans) sets standards for trucks in California. The regulations are enforced by the California Highway Patrol.

California Assembly Bill 2185 requires local agencies to regulate the storage and handling of hazardous materials and requires development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

Contra Costa County has adopted an industrial safety ordinance that addresses the human factors that lead to accidents. The ordinance requires stationary sources to develop a written human factors program that includes considers human factors as part of process hazards analyses, incident investigations, training, operating procedures, among others.

## Discussion of Impacts

**VII a, b, and d.** It is expected that the proposed amendments to Regulation 8-20 will lead to a reduction in VOC emissions from existing graphic art printing and coating operations thus reducing ROG emissions.

The 2005 Ozone Strategy EIR evaluated the potential impacts of reformulating coatings and solvent to regulate VOC emissions. It is expected that VOC content limits required for coatings and consumer products can be achieved, in part, through the use of coatings and products reformulated with acetone or other exempt solvents. Acetone is a compound exempt from air quality rules and regulations because of its low reactivity. With regard to possible replacement solvents, CARB indicates that the trend in coatings technology is to replace solvents with less toxic/less hazardous coalescing solvents. Additionally, CARB staff indicates that a majority of water-based formulations do not contain solvents that are hazardous air pollutants (BAAQMD, 2005).

As shown in Table 3-6, the flammability classifications by the National Fire Protection Association (NFPA) are the same for acetone, t-butyl acetate, toluene, xylene, MEK, isopropanol, butyl acetate, and isobutyl alcohol. Recognizing that as a “worst-case,” acetone has the lowest flash point, it still has the highest Lower Explosive Limit, which means that acetone vapors will not cause an explosion unless the vapor concentration exceeds 26,000 ppm. Under operating guidelines of working with flammable coatings under well-ventilated areas, as prescribed by the fire department codes, it would be difficult to achieve concentrated streams of such vapors.

**TABLE 3  
Chemical Characteristics for Common Coating Solvents**

Chemical Compounds	Flashpoint (°F)	Lower Explosive Limit (% by Vol.)	Flammability Classification (NFPA)
Toluene	40	1.3	Serious
Xylene	90	1.1	Serious
MEK	21	2.0	Serious
Isopropanol	53	2.0	Serious
Butyl Acetate	72	1.7	Serious
Isobutyl Alcohol	82	1.2	Serious
Stoddard Solvent	140	0.8	Moderate
Petroleum Distillates (Naptha)	105	1.0	Severe
EGBE	141	1.1	Moderate
EGME	107	2.5	Moderate
EGEE	120	1.8	Moderate
Acetone	1.4	2.6	Serious
Di-Propyl Glycol	279	1	Slight
Propylene Glycol	210	2.6	Slight
Ethylene Glycol	232	3.2	Slight
Texanol	248	0.62	Slight
Oxsol 100	109	0.90	Slight
t-Butyl Acetate	59	1.5	Serious
Hexamethylene Diisocyanate	284	1	Slight
Methylene Bisphenyl Diisocyanate	385	1	Slight
Toluene Diisocyanate	270	1	Slight
Source: BAAQMD, 2005			

As a “worst-case” assumption, from a hazards standpoint, it is assumed most affected inks and solvents would be reformulated with acetone to meet the interim and final VOC content limits. However this is unlikely because numerous water-based products have already been developed and because acetone is incompatible with rubber press parts. The labels and MSDSs accompanying acetone-based products caution the user regarding acetone’s flammability and advise the user to “keep the container away from heat, sparks, flame and all other sources of ignition.” All of the large coating manufacturers currently offer pure acetone for sale in quart or gallon containers with similar warnings.

The fire departments regulate spray application of flammable or combustible liquids. They require no open flame, spark-producing equipment or exposed surfaces exceeding the ignition temperature of the material being used within the area. Anyone not complying with the guidelines would be in violation of the current

fire codes. The fire departments limit residential storage of flammable liquids to five gallons and recommends storage in a cool place. If the flammable coating container will be exposed to direct sunlight or heat, storage in cool water is recommended. Finally, all metal containers involving the transfer of five gallons or more should be grounded and bonded (BAAQMD, 2005).

Based upon the above considerations, hazard impacts and impacts to fire departments are expected to be less than significant. Similarly, any increase in future compliant coating materials would be expected to result in a concurrent reduction in the number of accidental releases of coating materials. As a result, the net number of accidental releases would be expected to remain constant. Furthermore, if manufacturers use solvents such as Texanol, propylene glycol, etc., in future compliant water-borne coatings, no significant adverse hazard impacts would be expected to occur, because in general, these solvents are less flammable solvents as rated by the NFPA.

**VII c.** Facilities impacted by Regulation 8-20 may be located within one-quarter mile of school sites. The amendments to Regulation 8-20 are expected to result in a reduction in VOC emissions associated with graphic art facilities and a related reduction in toxic air contaminants. Alternative solvents are expected to be less toxic than petroleum based solvents and materials. Therefore, no significant impact to schools is expected due to the proposed rule amendments.

**VII d.** Most affected facilities are expected to comply with the proposed amendments to Regulation 8-20 by shifting from petroleum-based cleaning solvents to water-based solvents and by using lower VOC flexographic ink on porous substrates. A lower applicability limit will include some smaller facilities. No impacts on hazardous material sites are anticipated from the proposed rule amendments that would typically apply to existing industrial or commercial operations. Some of the affected areas may be located on the hazardous materials sites list pursuant to Government Code Section 65962.5. However, the proposed rule amendments would have no effect on hazardous materials nor would the amendment create a significant hazard to the public or environment. The proposed rule amendments neither require, nor are likely to result in, activities that would affect hazardous materials or existing site contamination. Therefore, no significant adverse impacts on hazards are expected.

**VII e – f.** No impacts on airports or airport land use plans are anticipated from the proposed rule amendments, which would apply to graphic art printing and coating operations. The graphic art printing and coating operations that already exist are located within the confines of existing industrial or commercial facilities. Once the proposed amendment is implemented, facilities would be expected to comply by shifting from petroleum-based cleaning solvents to water-based solvents and by using lower VOC flexographic ink on porous substrates. Lowering the applicability limits in the rule will include some smaller facilities. These changes are expected to be made within the confines of the existing facilities. No development outside of existing facilities is expected to be required by the proposed amendments to Regulation 8-20. Therefore, no significant adverse impacts on an airport land use plan or on a private air strip are expected.

**VII g.** No impacts on emergency response plans are anticipated from the proposed rule amendments that would apply to existing industrial or commercial facilities. The graphic arts printing and coating operations which already exist are located within the confines of existing industrial or commercial facilities. The proposed rule amendments neither require, nor are likely to result in, activities that would impact the emergency response plan, and new industrial or commercial development would consider emergency response as part of the City/County General Plans prior to approval. Therefore, no significant adverse impacts on emergency response plans are expected.

**VII h.** No increase in hazards related to wildfires are anticipated from the proposed rule amendments. The graphic art printing and coating operations affected by the proposed amendments that already exist and those that will become affected by the lower applicability limit are located within the confines of existing industrial or commercial facilities. No increase in exposure to wildfires will occur due to the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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**VIII. HYDROLOGY AND WATER QUALITY.**

Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<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 that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<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 onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and affected environment vary substantially throughout the area and include commercial, industrial, residential, agricultural, and open space uses.

The industrial or commercial facilities affected by the proposed rule amendments are located throughout the Bay Area. Affected areas are generally surrounded by other industrial or commercial facilities. Reservoirs and drainage streams are located throughout the area and discharge into the Bays. Marshlands incised with numerous winding tidal channels containing brackish water are located throughout the Bay Area.

The affected areas are located within the San Francisco Bay Area Hydrologic Basin. The primary regional groundwater water-bearing formations include the recent and Pleistocene (up to two million years old) alluvial deposits and the Pleistocene Huichica formation. Salinity within the unconfined alluvium appears to increase with depth to at least 300 feet. Water of the Huichica formation tends to be soft and relatively high in bicarbonate, although usable for domestic and irrigation needs.

## Regulatory Background

The Federal Clean Water Act of 1972 primarily establishes regulations for pollutant discharges into surface waters in order to protect and maintain the quality and integrity of the nation's waters. This Act requires industries that discharge wastewater to municipal sewer systems to meet pretreatment standards. The regulations authorize the U.S. EPA to set the pretreatment standards. The regulations also allow the local treatment plants to set more stringent wastewater discharge requirements, if necessary, to meet local conditions.

The 1987 amendments to the Clean Water Act enabled the U.S. EPA to regulate, under the National Pollutant Discharge Elimination System (NPDES) program, discharges from industries and large municipal sewer systems. The U.S. EPA set initial permit application requirements in 1990. The State of California, through the State Water Resources Control Board, has authority to issue NPDES permits, which meet U.S. EPA requirements, to specified industries.

The Porter-Cologne Water Quality Act is California's primary water quality control law. It implements the State's responsibilities under the Federal Clean Water Act but also establishes state wastewater discharge requirements. The RWQCB administers the state requirements as specified under the Porter-Cologne Water Quality Act, which include storm water discharge permits. The water quality in the Bay Area is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board.

In response to the Federal Act, the State Water Resources Control Board prepared two state-wide plans in 1991 and 1995 that address storm water runoff: the California Inland Surface Waters Plan and the California Enclosed Bays and Estuaries Plan, which have been updated in 2005 as the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. San Francisco Bay, and its constituents parts, including Carquinez Strait and Suisun Bay, fall under this category.

The San Francisco Bay Basin Plan identifies the: (1) beneficial water uses that need to be protected; (2) the water quality objectives needed to protect the designated beneficial water uses; and (3) strategies and time schedules for achieving the water quality objectives. The beneficial uses of the Carquinez Strait that must be protected which include water contact and non-contact recreation, navigation, ocean commercial and sport fishing, wildlife habitat, estuarine habitat, fish spawning and migration, industrial process and service supply, and preservation of rare and endangered species. The Carquinez Strait and Suisun Bay are included on the 1998 California list as impaired water bodies due to the presence of chlordane, copper, DDT, diazinon, dieldrin, dioxin and furan compounds, mercury, nickel, PCBs, and selenium.

## Discussion of Impacts

**VIII a, f.** No significant adverse impacts on hydrology/water quality resources are anticipated from the proposed rule amendments, which would apply primarily to existing graphic art printing and coating operations. The proposed rule amendments are not expected to require additional water use and no increase in wastewater discharge is expected. Therefore, no violation of any water quality standards or waste discharge requirements, and no decrease in water quality is expected from the proposed amendments to Regulation 8-20.

**VIII b.** The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. The 2005 Ozone Strategy addressed the impacts of control measures on water demand. The proposed amendments to Regulation 8-20 are not expected to require additional water use. Therefore, the proposed amendments are not expected to deplete groundwater supplies or interfere with groundwater recharge. Therefore, no significant impacts on groundwater supplies are expected due to the proposed amendments to Regulation 8-20.

**VIII c - f.** Graphic arts printing and coating operations are expected to comply by shifting from petroleum-based cleaning solvents to water-based solvents; lowering the VOC standard for flexographic ink used on porous substrates; and lowering applicability limits to include smaller facilities. All affected equipment is primarily located in industrial or commercial areas, where storm water drainage has been controlled and no construction activities outside of the existing facilities are expected to be required. Therefore, the proposed amendments are not expected to substantially alter the existing drainage or drainage patterns, result in erosion or siltation, alter 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 onsite or offsite. Nor are the proposed amendments expected to 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. The proposed amendments are not expected to substantially degrade water quality. Therefore, no significant adverse impacts to storm water runoff are expected.

**VIII g – i.** The graphic arts printing and coating operations affected by the proposed rule amendments are primarily located within industrial and commercial areas. No major construction activities outside the boundaries of existing facilities are expected due to the adoption of the proposed amendments to Regulation 8-20. Industrial and commercial facilities are generally located to avoid flood zone areas and other areas subject to flooding. The proposed amendments are not expected to require additional construction activities,

place any additional structures within 100-year flood zones, or other areas subject to flooding. Therefore, no significant adverse impacts due to flooding are expected.

**VIII j.** The graphic arts printing and coating operation facilities affected by the proposed rule amendments are located within industrial and commercial areas. No major construction activities are expected outside of the boundaries of the existing facilities due to the adoption of the proposed amendments to Regulation 8-20. The proposed amendments are not expected to place any additional structures within areas subject to inundation by seiche, tsunami or mudflow. Therefore, no significant adverse impacts on hydrology/water due to seiche, tsunami or mudflow are expected.

Based upon these considerations, no significant adverse hydrology and water quality impacts are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>IX. LAND USE AND PLANNING.</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to a general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. The facilities affected by the proposed rule amendments are primarily located in industrial and commercial areas throughout the Bay Area.

## Regulatory Background

Land uses are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

## Discussion of Impacts

**IX a-c.** The graphic arts printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. Industrial or commercial facilities are expected to comply with Regulation 8-20 by shifting from petroleum-based cleaning solvents to water-based solvents; lowering the VOC standard for flexographic ink used on porous substrates; and meeting lower applicability limits for applicable smaller facilities. These operational changes are expected to be made within the confines of existing facilities. Regulation 8, Rule 20 allows the use of abatement equipment, typically thermal oxidizers, catalytic oxidizers or carbon adsorption as an alternative to meeting the VOC standards, but, the District does not expect an increased use of abatement equipment to comply with the rule. Consequently, no new construction outside of the confines of the existing facilities is expected to be required due to the adoption of the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant adverse impacts to land use are expected due to the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>X. MINERAL RESOURCES.</b> Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The facilities affected by the proposed rule amendments are primarily located in industrial and commercial areas throughout the Bay Area.

## Regulatory Background

Mineral resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

## Discussion of Impacts

**X a-b.** The graphic arts printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial and commercial facilities. New graphic art printing and coating operations equipment are expected to be installed in areas similar to the existing facilities. The proposed rule amendments are not associated with any action that 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, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, no impacts on mineral resources are expected.

Based upon these considerations, significant mineral resource impacts are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XI. NOISE. Would the project:</b>				
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Expose persons to or generate of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Be 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 and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The facilities affected by the proposed rule amendments are primarily located in industrial or commercial areas throughout the Bay Area. A majority of the affected areas are surrounded by other industrial or commercial facilities.

## Regulatory Background

Noise issues related to construction and operation activities are addressed in local General Plan policies and local noise ordinance standards. The General Plan and noise ordinances generally establish allowable noise limits within different land uses including residential areas, other sensitive use areas (e.g., schools, churches, hospitals, and libraries), commercial areas, and industrial areas.

## Discussion of Impacts

**XI a-d.** The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial and commercial facilities. The rule amendments impose limitations on the VOC emissions from these operations. Affected facilities are expected to comply by shifting from petroleum-based cleaning solvents to water-based; lowering the VOC standard for flexographic ink used on porous substrates; and lowering the rule's applicability limits to include some smaller facilities.

No new construction activities would be required due to the adoption of the proposed amendments to Regulation 8-20. No noise impacts associated with construction would result from adoption of the proposed rule. No increase in noise is expected due to operation of graphic art printing and coating operations. All activities associated with affected facilities will be located within the confines of existing facilities. Therefore, no adverse significant impacts to noise are expected due to the proposed project.

**XI a-d.** Owners/operators of facilities affected by the proposed rule amendments would be required to comply by shifting from petroleum-based cleaning solvents to water-based solvents; adhering to lower VOC standards for flexographic ink used on porous substrates and meeting the lower exemption limits for smaller facilities. Physical modifications or operational changes associated with the implementation of the proposed amendments will take place at existing facilities that are located in industrial and commercial settings. The existing noise environment at each of the affected facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting facility premises. No construction activities are anticipated for implementation of the proposed rule amendments. Noise from the proposed project is not expected to be produced in excess of current operations at each of the existing facilities. Each facility affected will comply with all existing noise control laws or ordinances. Occupational Safety and Health Administration (OSHA) and California-OSHA (Cal/OSHA) have established noise standards to protect worker health. Noise impacts from the proposed rule amendments are expected to be less than significant.

**XI e-f.** Though some of the facilities affected by the proposed project are located at sites within an airport land use plan, or within two miles of a public airport, no new equipment is expected to be required due to amendments to Regulation 8-20. All noise producing equipment must comply with local noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. Based upon the above considerations, significant noise impacts are not expected from the implementation of the proposed project.

Based upon these considerations, significant noise impacts are not expected from the implementation of the proposed rule amendments.

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

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The areas affected by the proposed rule amendments are primarily located in industrial and commercial areas throughout the Bay Area.

## Regulatory Background

Population and housing growth and resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

## Discussion of Impacts

**XII. a.** Construction activities are not expected to be associated with the proposed rule amendments. Implementation of the rule amendments at each affected facility is not expected to involve the relocation of individuals, require new housing or commercial facilities, or change the distribution of the population. No new employees are expected to be required at facilities affected by the amendments to Regulation 8-20. Human population within the jurisdiction of the BAAQMD is anticipated to grow regardless of implementing the proposed project. As a result, the proposed project is not anticipated to generate any significant adverse effects, either direct or indirect, on population growth in the district or population distribution.

**XII b-c.** Because the proposed amendments include operations at existing facilities located in industrial and commercial settings, the proposed project 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 or housing elsewhere in the Bay Area. Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed project.

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

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	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XIII. PUBLIC SERVICES.** Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental 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:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The areas affected by the proposed rule amendments are primarily located in industrial or commercial areas throughout the Bay Area.

Given the large area covered by the BAAQMD, public services are provided by a wide variety of local agencies. Fire protection and police protection/law enforcement services within the BAAQMD are provided by various districts, organizations, and agencies. There are several school districts, private schools, and park departments within the BAAQMD. Public facilities within the BAAQMD are managed by different county, city, and special-use districts.

## Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate public services are maintained within the local jurisdiction.

## Discussion of Impacts

XIII a. Implementation of the proposed rule amendments is not anticipated to significantly alter current operations at existing affected facilities. The proposed project is not expected to increase the need or demand for additional public services (e.g., fire departments, police departments, schools, parks, and government) above current levels.

As noted in the “Population and Housing” discussion above, the proposed rule amendments are not expected to induce population growth in any way because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate any additional activities that may be necessary at affected facilities and operational changes and new or modified equipment, if any, is not expected to require additional employees. Therefore, there will be no increase in local population and thus no impacts are expected to local schools or parks.

As noted in the “Hazard and Hazardous Materials” discussion above, the proposed rule amendments are not expected to result in significant hazard impacts that would require the services of the fire department. Facilities affected by the proposed rule amendments are generally located in industrial and commercial areas and operational changes are expected to occur within the confines of existing facilities. Therefore, no significant impacts to the local fire or police departments are expected.

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

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XIV. RECREATION.</b> Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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 type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that there are numerous areas for recreational activities. The facilities areas affected by the proposed rule amendments are located in industrial and commercial areas throughout the Bay Area. Public recreational land uses are generally located adjacent to these areas.

## Regulatory Background

Recreational areas are generally protected and regulated by the City and/or County General Plans at the local level through land use and zoning requirements. Some parks and recreation areas are designated and protected by state and federal regulations.

## Discussion of Impacts

**XIV a-b.** As discussed under “Land Use” above, there are no provisions of the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposed project. Further, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment because the proposed project is not expected to induce population growth. Therefore, no significant adverse impacts on recreation are expected.

Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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**XV. TRANSPORTATION/TRAFFIC.** Would the project:

a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in 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"/>	<input type="checkbox"/>
b) Cause, either individually or cumulatively, exceedance of 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"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards because of a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>

**Setting**

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles). Transportation systems located within the Bay Area include railroads, airports, waterways, and highways. The Port of Oakland and three international airports in the area serve as hubs for commerce and transportation. The transportation infrastructure for vehicles and trucks in the Bay Area ranges from single lane roadways to multilane interstate highways. The Bay Area contains over 19,600 miles of local streets and roads, and over 1,400 miles of state highways. In addition, there are over 9,040 transit route miles of services including rapid rail, light rail, commuter, diesel and electric buses, cable cars, and ferries. The Bay Area also has an extensive local system of bicycle routes and pedestrian paths and sidewalks. At a regional level, the share of workers driving alone was about 68 percent in 2000. The portion of commuters that carpool was about 12.9 percent in 2000. About 3.2 percent of commuters walked to work

in 2000. In addition, other modes of travel (bicycle, motorcycle, etc.), account for 2.2 percent of commuters in 2000 (MTC, 2004). Cars, buses, and commercial vehicles travel about 143 million miles a day (2000) on the Bay Area Freeways and local roads. Transit serves about 1.7 million riders on the average weekday (MTC, 2004).

The region is served by numerous interstate and U.S. freeways. On the west side of San Francisco Bay, Interstate 280 and U.S. 101 run north-south. U.S. 101 continues north of San Francisco into Marin County. Interstates 880 and 660 run north-south on the east side of the Bay. Interstate 80 starts in San Francisco, crosses the Bay Bridge, and runs northeast toward Sacramento. Interstate 80 is a six-lane north-south freeway which connects Contra Costa County to Solano County via the Carquinez Bridge. State Routes 29 and 84, both highways that allow at-grade crossings in certain parts of the region, become freeways that run east-west, and cross the Bay. Interstate 580 starts in San Rafael, crosses the Richmond-San Rafael Bridge, joins with Interstate 80, runs through Oakland, and then runs eastward toward Livermore. From the Benicia-Martinez Bridge, Interstate 680 extends north to Interstate 80 in Cordelia. Caltrans constructed a second freeway bridge adjacent and east of the existing Benicia-Martinez Bridge. The new bridge consists of five northbound traffic lanes. The existing bridge was re-striped to accommodate four lanes for southbound traffic. Interstate 780 is a four lane, east-west freeway extending from the Benicia-Martinez Bridge west to I-80 in Vallejo.

## Regulatory Background

Transportation planning is usually conducted at the state and county level. Planning for interstate highways is generally done by the California Department of Transportation.

Most local counties maintain a transportation agency that has the duties of transportation planning and administration of improvement projects within the county and that implements the Transportation Improvement and Growth Management Program, and the congestion management plans (CMPs). The CMP identifies a system of state highways and regionally significant principal arterials and specifies level of service standards for those roadways.

## Discussion of Impacts

**XV a-b.** The proposed emission reductions would be accomplished by shifting from petroleum-based cleaning solvents to water-based solvents; by using lower VOC flexographic ink on porous substrates; and by complying with the lower exemption limit. The proposed rule amendments are not expected to require the construction of any new structures and are not expected to require additional employees. Therefore, the proposed project is not expected to cause an increase in traffic on local street systems surrounding the affected facilities. Also, the proposed rule amendments are not expected to exceed, either individually or cumulatively, the current level of service of the areas surrounding the affected facilities. The work force at each affected facility is not expected to increase as a result of the proposed rule amendments and no increase in operation-related traffic is expected. Thus, the traffic impacts associated with the proposed rule amendments are expected to be less than significant.

**XV c.** Though some of the facilities that will be affected by the proposed project may be 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, actions that would be taken to comply with the proposed rule amendments are not

expected to significantly influence or affect air traffic patterns because the actions will occur on-site for existing facilities within similar commercial and industrial areas for new facilities. Further, the proposed rule amendments would not be expected to affect navigable air space. Thus, the proposed project would not result in a change in air traffic patterns, including an increase in traffic levels or a change in location, that results in substantial safety risks.

**XV d - e.** The siting of each affected facility is expected to be consistent with surrounding land uses and traffic/circulation in the surrounding areas of the affected facilities. Thus, the proposed rule amendments are not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the affected facilities. The proposed rule amendments are not expected to alter the existing long-term circulation patterns, nor are they expected to require a modification to circulation, thus, no long-term impacts on the traffic circulation system are expected to occur. The proposed rule amendments do not involve construction of any roadways, so there would be no increase in roadway design feature that could increase traffic hazards. Emergency access at each affected facility is not expected to be impacted by the proposed rule amendments. Further, each affected facility is expected to continue to maintain their existing emergency access gates and will not be impacted by the proposed rule amendments.

**XV f.** No additional parking will be needed because the work force at each facility is not expected to change as a result of the proposed project. Therefore, the proposed rule amendments will not result in significant adverse impacts on parking.

**XV g.** Operation activities resulting from the proposed project are not expected to conflict with policies supporting alternative transportation since the proposed project does not involve or affect alternative transportation modes (e.g. bicycles or buses) because the operational changes related to the proposed project will occur primarily in existing industrial and commercial areas.

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

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
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**XVI. UTILITIES AND SERVICE SYSTEMS.**

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Setting**

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area.

Given the large area covered by the BAAQMD, public utilities are provided by a wide variety of local agencies. The most affected facilities have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of NPDES permits.

Water is supplied to affected facilities by several water purveyors in the Bay Area. Solid waste is handled through a variety of municipalities, through recycling activities and at disposal sites.

There are no hazardous waste disposal sites within the jurisdiction of the BAAQMD. Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

## Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate utilities and service systems are maintain within the local jurisdiction.

## Discussion of Impacts

**XVI a, b, d and e.** The graphic arts printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. The proposed rule amendments are not expected to generate additional wastewater generated by the affected industrial or commercial facilities. The proposed amendments to Regulation 8-20 are not expected to adversely impact water quality since the use of less toxic exempt solvents is expected to result in equivalent or lesser water quality impacts than solvents that are currently used (CARB, 2007). Therefore impacts on water resources including wastewater treatment requirements, wastewater treatment facilities and water quality are expected to be less than significant.

**XVI c.** Industrial or commercial facilities are expected to comply by shifting from petroleum based cleaning solvents to water based; lowering the VOC standard for flexographic ink used on porous substrates; and lowering applicability limits to include smaller facilities. Therefore, the proposed amendments are not expected to alter the existing drainage or require the construction of new storm water drainage facilities. Nor are the proposed amendments expected to create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, no significant adverse impacts on storm drainage facilities are expected.

**XVI f and g.** The proposed rule amendments are not expected to affect the ability of industrial and commercial facilities to comply with federal, state, and local statutes and regulations related to solid waste. No significant impacts on waste generation are expected from the proposed rule amendments. Facilities are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

Based upon these considerations, significant impacts to utilities and service systems are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XVII. MANDATORY FINDINGS OF SIGNIFICANCE.</b>				
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 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 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 type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion of Impacts

**XVII a.** The proposed rule amendments do not 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, as discussed in the previous sections of the CEQA checklist. The proposed rule amendments are expected to result in emission reductions from graphic arts facilities, thus providing a beneficial air quality impact and improvement in air quality. As discussed in Section IV, Biological Resources and Section V, Cultural Resources, no significant adverse impacts are expected to biological or cultural resources.

**XVII b-c.** The proposed amendments are expected to result in emission reductions of VOCs from affected graphic art printing and coating operations, thus providing a beneficial air quality impact and improvement in air quality. The proposed rule amendments are part of a long-term plan to bring the Bay Area into compliance with the state ambient air quality standards for ozone, thus reducing the potential health impacts due to ozone exposure. The proposed rule amendments do not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. The proposed rule amendments are not expected to have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. No significant adverse environmental impacts are expected.

**Chapter 4****References**

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- BAAQMD, 2007. Toxic Air Contaminant Control Program Annual Report 2003 Volume I. August 2007.
- BAAQMD, 2008. BAAQMD Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations, Workshop Report, June 2008.
- California Air Resources Board (CARB, 2008). “Initial Statement of Reasons, Proposed Amendments to the Consumer Products Regulation, Technical Support Document,” May 9, 2008.
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- SCAQMD, 2006. Final Subsequent Assessment for Proposed Amended Rule 1171 – Solvent Cleaning Operations, May 23, 2006.