

**Initial Study/Negative Declaration for the
Bay Area Air Quality Management District
Regulation 8, Rule 53: Vacuum Truck Operations**

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Chapter 1

Introduction

Purpose of this Document

This Negative Declaration assesses the environmental impacts of the proposed adoption of Regulation 8, Rule 53 – Vacuum Truck Operations (Regulation 8-53) - 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 new rule 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 Regulation 8-53.

Scope of this Document

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

- aesthetics,
- agriculture and forestry resources,
- air quality,
- biological resources,
- cultural resources,
- geology / soils,
- greenhouse gas emissions,
- hazards & hazardous materials,
- hydrology / water quality,
- land use / planning,
- mineral resources,

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

Impact Terminology

The following terminology is used in this Initial Study/Negative Declaration to describe the levels of significance of impacts that would result from the proposed new rule:

- 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 53, describes the proposed rule, and describes the area and facilities that would be affected by the proposed rule.

- 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

INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD or District) is proposing a new regulation which would control emissions from vacuum trucks and similar equipment at certain Bay Area industrial facilities. Vacuum trucks are used to collect, contain and move materials, primarily waste liquids and semi-solids. If the materials contain petroleum, petroleum products, or other hydrocarbon liquids, vacuum truck operations have the potential to release ozone forming compounds into the atmosphere. The proposed new rule, Regulation 8, Rule 53 (Regulation 8-53): Vacuum Truck Operations, would apply only to certain types of facilities handling materials likely to produce ozone-forming emissions. The rule would reduce total organic compound (TOC) emissions by establishing a TOC emission limit that would apply at the outlet of a vacuum truck or associated equipment. In addition, the rule would establish TOC emission limits for vapor leaks and liquid leaks from vacuum truck equipment.

The BAAQMD currently does not regulate vacuum truck emissions. Regulation 2, Rule 1, Section 103.1 exempts vacuum truck operations from permitting requirements. However, permits may be required for control equipment used to limit organic vapor emissions from a vacuum truck. The District committed to investigating this type of equipment in Control Measure SSM-5 of the District's Bay Area 2010 Clean Air Plan, which sets forth a plan to achieve the California ozone standards as well as other air quality objectives. Organic compounds contribute to the formation of ground-level ozone, which is the principal ingredient in smog. The Bay Area is not in compliance with State and federal ozone standards, and has committed to implement all feasible measures to reduce emissions of ozone precursors, including organics.

The proposed limits would be consistent with the only current California air quality regulation – South Coast Air Quality Management District (SCAQMD) Rule 1149 – that limits organic vapor emissions from vacuum truck operations. Whereas SCAQMD Rule 1149 limits VOC emissions from vacuum trucks that are involved with the cleaning or degassing of storage tanks and pipelines, Regulation 8-53 would limit organic vapor emissions, including methane, from specific types of industrial facilities that utilize the services of vacuum truck operations. The emission limits in Regulation 8-53 have also been derived from vacuum truck emission limits that have been established for refinery maintenance, startup and shutdown operations by the Texas Commission on Environmental Quality (TCEQ).

Organic emission reductions from the proposed rule will depend upon the level of vacuum truck activity involving hydrocarbon-containing material. Co-benefits will

include the reduction of Toxic Air Contaminants (TAC) such as benzene, toluene, xylene, hexane, and greenhouse gas (GHG) emissions, specifically methane.

Industry impacts will depend upon the extent to which the Bay Area vacuum truck fleet is currently equipped with control technologies. Cost-effective technologies that can achieve the proposed TOC emission limits required by Regulation 8-53 are readily available. Such technologies are used in the South Coast Air Basin, Texas refineries, and New Jersey refineries. The necessity to use control technology may require facilities to adjust some of their operational procedures.

OBJECTIVES

The objective of the proposed Regulation 8-53 is to further reduce emissions of ozone precursors, specifically organic compounds, from vacuum trucks, in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins.

The Bay Area and neighboring regions are not yet in attainment of State and federal ozone standards. Further reductions in ozone precursors, organic vapor emissions (including methane), are needed. Reductions can be achieved by minimizing the agitation of the liquid and sludge which creates organic vapor. Once organic vapors are generated, a variety of technologies are available to limit emissions. By minimizing the introduction of air and turbulence into a loading event, and incorporating control devices, the District proposes to meet the objectives of reductions in organic and methane emissions into the ambient air, thus, reducing the formation of ground-level ozone.

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 ozone standard 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 2010 Clean Air Plan (CAP) is the most recent planning document for the State one-hour ozone standard. At a public hearing on September 15, 2010, the Air District Board of Directors adopted the final Bay Area 2010 CAP, and certified the Final Environmental Impact Report for the CAP. The Bay Area is also not in attainment of California ambient air standards for particulate matter of 10 microns or less (PM10) or for particulate matter of 2.5 microns or less (PM2.5).

PROPOSED REGULATION 8-53

Vacuum truck operations associated with maintenance, shutdown, and start-up activities in petroleum refineries in Texas and New Jersey are currently required to use control technology to limit organic vapor emissions from vacuum trucks. The SCAQMD currently requires vacuum truck operations that are associated with the cleaning and degassing of tanks and pipelines to control organic vapor emissions below 500 parts per million (ppm). BAAQMD staff has reviewed information from vacuum truck operations

in the Bay Area, Southern California, New Jersey, and Utah. BAAQMD staff has observed a variety of vacuum truck loading events at different facility types and has conducted thirty-two source tests in order to develop Regulation 8-53.

Emission and Leak Standards

Based on BAAQMD's technical evaluation as well as the source tests that have been conducted, the District proposes the following emission and leak standards for vacuum trucks that operate at petroleum refineries, bulk terminals, bulk plants, marine terminals and organic liquid pipeline facilities in the Bay Area:

- Exhaust Emission Limit: Vacuum truck pump, blower exhaust, or control device shall not emit TOC concentrations that are greater than or equal to 500 ppmv;
- Equipment Liquid Leaks: Components of vacuum trucks such as hoses, connectors, flanges, lines and stingers shall not emit liquid leaks at a rate in excess of three (3) drops per minute; and,
- Equipment Vapor Leaks: Components of vacuum trucks such as hoses, connectors, flanges, lines and stingers shall not emit TOC concentrations that are greater than or equal to 500 ppmv.

Staff believes the 500 ppmv limit is feasible based on the limits within SCAQMD and Texas. The equipment and vapor leak standards are consistent with requirements for gasoline handling in District Regulation 8 Rules.

Emission Monitoring Requirements

The District proposes the following emissions monitoring requirements for vacuum trucks during loading events:

- Vacuum trucks shall be checked for vapor and liquid leaks prior to and during each loading event;
- Prior to reaching 20 percent of fill capacity, vacuum trucks would be required to monitor TOC emissions. A second emissions reading would be required prior to reaching 60 percent of fill capacity;
- When carbon adsorption is used as the primary control, emissions monitoring would be required every ten minutes after the initial emissions reading is taken; and,
- Emission measurements shall include the date and time of the loading event, the TOC concentration, the material flow rate (in acfm or scfm), and the model of the emission control device.

If a control device is connected to a vacuum truck during a loading event, emissions monitoring would be required to be performed at the exhaust of the control device.

Recording and Reporting Requirements

The District proposes the following recordkeeping requirements for each vacuum truck loading event:

- Vacuum truck owners/operators would be required to maintain records of emission monitoring readings; and,
- Vacuum truck owners/operators and facilities would be required, within five working days of a request, to submit a list of future scheduled loading events. This will enable staff to schedule an inspection of operations from time to time to determine compliance.

Bay Area facilities that operate vacuum trucks or contract for the services of vacuum trucks would be responsible for compliance with the proposed requirements in Regulation 8-53. Vacuum trucks in petroleum refineries and other facilities are operated by independent companies under contract to the facility. The facility operator is responsible for ensuring compliance with District regulations, consistent with contractors who service and degas tanks, monitor fugitive emissions and construct new equipment.

PROPOSED METHOD OF CONTROL

Controlling Emissions

The organic vapor emissions generated from vacuum truck operations may be minimized by utilizing external positive displacement, submersible or diaphragm pumps. While these pumps may not load liquid and sludge materials into the barrel of a vacuum truck as quickly as the truck itself, they minimize the agitation of the liquid and sludge which decreases vapor emissions. The drawback to these methods of loading materials is the extra time it takes to complete the loading event.

Once vapors are generated, a variety of technologies are available to limit emissions. Most of them can achieve capture and control efficiencies that are greater than 95 percent. Technologies include carbon adsorption systems, internal combustion engines, thermal oxidizers, liquid condenser systems and liquid scrubbers. Sometimes these technologies are combined as in the case of an engine/chiller or carbon/scrubber.

However, most vacuum trucks in the Bay Area are not equipped with control equipment. Of the group that use control equipment, most are currently using carbon adsorption systems while others use thermal oxidation or internal combustion engine technologies, according to industry sources. Organic vapor emissions can be limited with control technologies that are integrated into the truck or connected to the truck via a mobile unit that is sometimes referred to as a “skid-mount” or “portable trailer unit”. Some of the

small percentage of vacuum trucks operating in the Bay Area that currently use control equipment are doing so on a voluntary basis for odor control, while others use control equipment to comply with Federal requirements, (e.g., Subpart FF—National Emission Standard for Benzene Waste Operations).

Carbon Adsorption Systems

A carbon adsorption system is a system that is comprised of a tank or vessel containing a specific amount of activated carbon onto which organic gases or vapors molecularly adhere as they flow through the particles. Activated carbon is a form of carbon that has been processed to make it extremely porous. Its porosity results in a very large internal surface which enables it to adsorb gases within its structure. The degree to which activated carbon adsorbs organic vapors is affected by the temperature, humidity, flowrate, concentration, and molecular structure of the gas. High vacuum truck blower discharge temperatures may actually desorb previously adsorbed hydrocarbons, thus allowing them to vent into the ambient air. According to various industry sources, it may take anywhere from two to ten pounds of carbon to control one pound of organics.

One type of carbon adsorption system is a small-to-intermediate sized container integrated into the vacuum truck which contains 200 - 300 pounds of carbon. This container is typically used to control during two types of loading events: 1) those lasting a short duration because a small amount of material-containing hydrocarbon is loaded into the vacuum truck barrels; and 2) loading events that include hydrocarbon-containing materials loaded into a vacuum truck barrel at a low flow rates. A second type of carbon adsorption is a larger, portable system that includes two or three vessels, each containing 1,000 pounds of activated carbon. This type of system controls larger volumes, flow rates and concentrations of organic emissions.

Portable carbon adsorption is best used for the control of emissions from small cleanup operations like spills; emissions from large operations like the degassing and cleaning of a large crude oil tank would quickly overwhelm the capacity of most portable carbon adsorption units. Once a carbon adsorption unit has reached its holding limit, “breakthrough” occurs, and organic emissions pass through unabated.

A potential drawback to using carbon adsorption as the primary method to control organic emissions is its inability to control methane, an organic compound that is a component of TOC emissions. Methane is not adsorbed effectively by activated carbon. Depending on the concentration and flow rate of a given hydrocarbon containing material in a given vacuum truck operation, if a carbon adsorption unit is used as the primary method of control, an additional control such as an engine or oxidation may be necessary to control methane vapor, if any is present during the loading event. As the loading events to be controlled are petroleum based, significant methane is not expected.

In order to be effective, carbon adsorption units must be monitored frequently to determine when breakthrough occurs. BAAQMD staff observed a vacuum truck loading event at a local refinery that used carbon adsorption to control organic vapor emissions

from naphtha that was extracted from a pipeline. In spite of an unusually low flow-rate (3-4 scfm) used to load the material, the emission concentrations were determined to be approximately 80,000 ppmv when the carbon adsorption unit reached breakthrough. Thus the emissions that should have been abated went straight through the carbon vessel and into the ambient air uncontrolled. This can be avoided by having the operator monitor the emissions from the carbon adsorption unit more frequently and be able to replace the carbon before breakthrough. A larger carbon adsorption system might be more suitable for larger jobs.

Under certain circumstances, carbon adsorption can be a less expensive technology compared to other control methods, specifically when it is used to control vapor emissions from materials containing relatively low organic compound concentrations. However, carbon adsorption is limited by virtue of the dimensions of portable carbon vessels because they must be sized to allow for sufficient residence time to maximize adsorption efficiency. Temperature and humidity also affect carbon's ability to adsorb. When carbon adsorption systems are used to control emissions from loading events with materials that have high organic concentrations, there is some risk of spontaneous combustion due to temperature increase.

All adsorption is exothermic, meaning that the adsorption process releases heat, causing the temperature in the carbon bed to rise. U.S. EPA, as well as industry sources, indicate that under certain conditions, especially when high concentrations of organic vapors are adsorbed on activated carbon at a high flow rate, the temperature of the carbon bed can increase to a level at which the carbon or the organic vapors spontaneously ignite, starting a fire in the carbon vessel. Common practice is to add a pre-scrubbing type of device to lower organic levels, and thus the temperature, before the organic vapor stream reaches the carbon.

Internal Combustion Engines

Internal combustion engine technology is currently available to control organic vapor emissions. The equipment contains the vacuum source and vapor control device in one unit. Internal combustion engines that are utilized to control organic vapors from vacuum trucks are able to do so because they have a large cubic inch displacement and are able to run on compressed gas such as propane. When an internal combustion engine is used to control organic vapor emissions, it initially runs on propane and then switches to the incoming organic vapors as the primary fuel source. In some applications, the engines can power a refrigerated condenser to condense a portion of the organic vapor stream back to liquid.

Thermal Oxidizers

Portable or “skid-mounted” thermal oxidizers can be used at controlled flow rates to control organic emissions in vapor streams containing hydrocarbons diluted down to less than 50 percent of the lower explosive limit (LEL) to meet National Fire Protection Association (NFPA) Safety Guidelines. Thermal oxidizers are sometimes referred to as “afterburners.” Thermal oxidizers are a type of incinerator that destroys organic emissions by raising the temperature of the organic materials in the vapor stream above their auto-ignition point in the presence of oxygen, and maintains the high temperature for a sufficient amount of time to complete the combustion of the materials to carbon dioxide and water. Time, temperature, turbulence (for mixing), and the availability of oxygen are all factors that affect the rate and efficiency of the combustion process. Destruction efficiency depends upon design criteria which include chamber temperature, residence time, inlet concentration, compound type, and degree of mixing. Typical design efficiencies range from 98 percent and above depending on system requirements and characteristics of the vapor stream.

Refrigerated Condenser Systems

A refrigerated condenser system can effectively reduce organic vapor discharge. It is a device that cools a vapor emission stream containing hydrocarbons by changing it from a vapor state to a liquid state. The condensed organic vapors can be recovered for transportation or refining, preventing their release to the ambient air. A refrigerated condenser works best on emission streams containing high concentrations of volatile organic emissions. They are less effective on dilute streams (i.e., where the air flow is much greater than organic vapor flow).

A refrigerated condenser functions by exposing influent organic vapor streams to a chilled heat exchanger surface, causing the organic vapors to condense on the cold heat exchanger (or heat transfer) surface. As the organic vapor stream condenses, it loses volume, which produces a lower vapor concentration near the heat exchanger surface. The condensation process is assisted by turbulence in the emission stream that also brings the emission stream close enough for heat transfer and subsequent condensation of the organic vapors.

Liquid Scrubbers

Organic emissions can be controlled effectively by liquid scrubbing technology via a chemical process known as absorption. A variety of wet scrubber designs are used to extract gaseous pollutants from vacuum truck vapor streams: packed towers, bubble tray towers, sparging scrubbers, and a new wet scrubber process called hydraulic amalgamation. Usually, the exhaust stream from a vacuum truck is introduced at the bottom of the scrubber tower. The gas stream flows upward through the tower where the organic compounds come into contact with the absorptive chemicals. Packed and bubble tray towers are designed to introduce the waste gas into the tower chamber where a liquid absorption chemical is introduced through a series of spray nozzles that emit liquid

droplets downward in a counter direction to the stream. The interaction between the upward flowing waste gas and the downward flowing liquid absorption chemical creates an environment for the absorption process. Sparging scrubbers and hydraulic amalgamation scrubbers introduce the waste gas through a submerged reaction chamber. The interaction between the waste gas and the absorption liquid within the reaction chamber creates an environment in which the organics are absorbed.

A high hydrocarbon-to-liquid contact ratio is essential to maximize the efficiency of the absorption process. Physical absorption depends on properties of the exhaust stream and the liquid such as density and viscosity, as well as specific characteristics of the hydrocarbons in the exhaust stream. These properties are temperature dependent: lower temperatures generally favor absorption of hydrocarbons by solvent. Absorption is also enhanced by higher liquid-gas ratios and higher concentrations in the hydrocarbon stream. Chemical absorption may be limited by the rate of reaction, although the rate-limiting factor is typically the physical absorption rate, not the chemical reaction rate.

Conclusion

To achieve desired hydrocarbon control objectives, some companies provide custom designed systems that utilize combinations of control technologies discussed above. In order to comply with the proposed 500 ppmv TOC emission limit in Regulation 8-53, client-specific configurations will sometimes be necessary. For example, under certain conditions, controls that utilize carbon adsorption as the primary method to minimize organic emissions might have to be further customized to control methane emissions.

POTENTIAL EMISSION REDUCTIONS

Vacuum trucks are used by a variety of Bay Area industries to remove materials from storage tanks, vessels, boxes, and pipelines; to transfer materials from one container to another; and, to transport materials from one location to another such as a landfill or processing facility. Vacuum trucks are also used to clean equipment such as barges and to clean up spills. The types of industries that utilize vacuum truck services include petroleum refineries, marine terminals, industrial wharfs, gasoline bulk terminals, gasoline bulk plants, gasoline cargo tanks and pipelines that deliver gasoline and other petroleum products.

In order to determine accurate information on vacuum truck activity and emission rates, staff requested throughput information from the refineries, vacuum truck operators and conducted source tests at various facilities using vacuum trucks during loading of various materials. Source tests have found that emission rates range from very few to over 600 pounds organic compounds per hour per loading event. Emission rates depend on material vapor pressure, material flow rate into the vacuum truck barrel, ambient temperature, and other factors as well, including the diameter and length of hose the material travels through. Based on staff's analysis, emissions from vacuum trucks in the Bay Area are estimated to be 1.50 tons/day. The proposed rule is estimated to reduce emissions by 1.05 tons/day.

Greenhouse Gas and Toxic Reductions

Limiting vapor stream emissions from vacuum truck loading events may result in methane emission reductions as well. Methane, a significant GHG that has over 20 times the global warming potential of CO₂, is present in several materials that are typically loaded into vacuum trucks. Because methane is included in the definition of TOC, and is therefore subject to the 500 ppmv emission limit proposed to be included in Regulation 8-53, compliance with the limit will reduce methane emissions.

However, the compliance technology used will determine the overall effects of the rule on GHGs. Internal combustion engines utilize energy from the organic vapor waste stream to run the engine and destroy methane in the process. In addition to organic and methane emission reductions, organic TAC emissions will be reduced as well. Toxic air contaminants include benzene, toluene, xylene, and hexane.

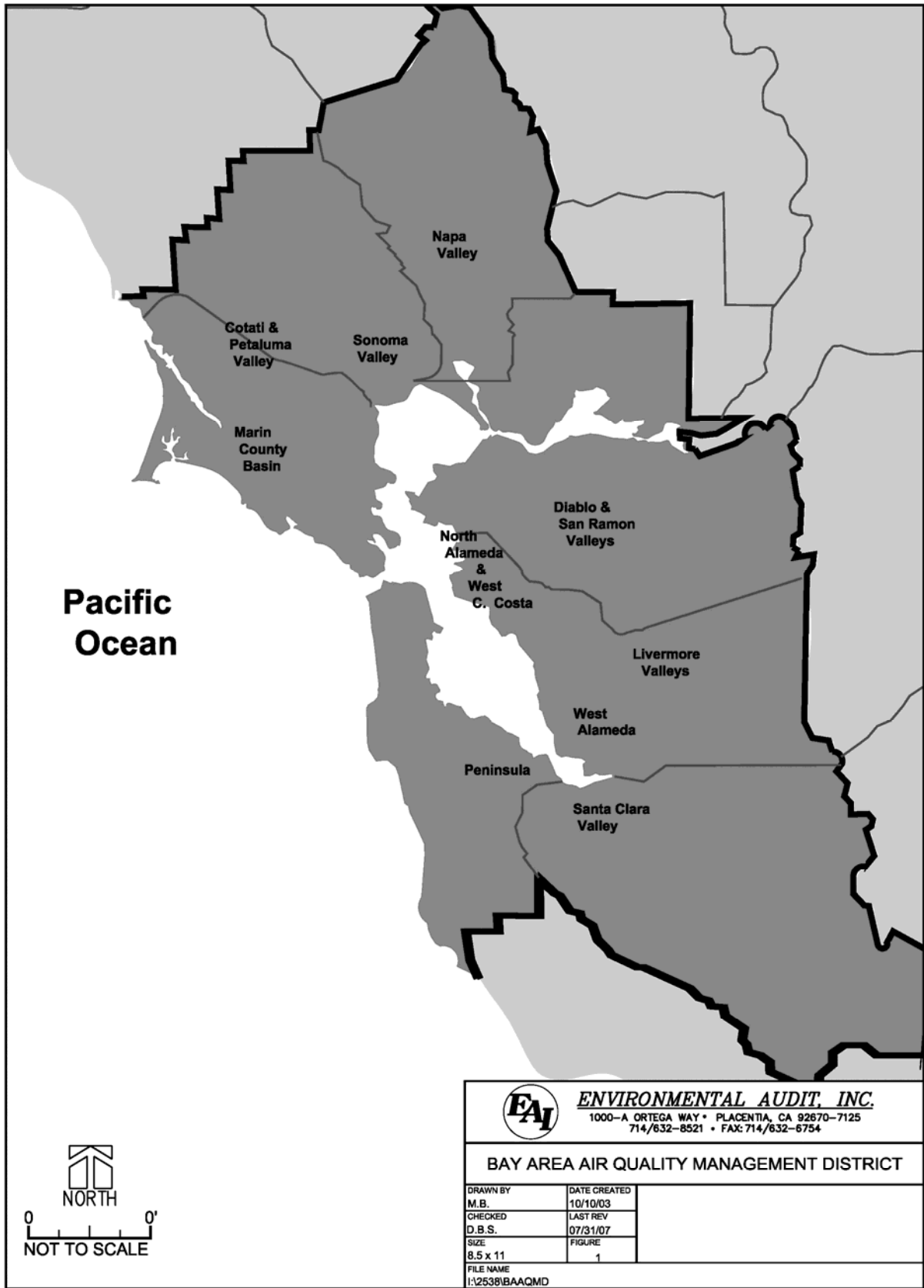
Even though refrigerated condensation technology emits a small amount of GHGs from the energy source used to generate the cold temperatures needed to condense organic vapor streams, generally speaking, this technology has the potential to emit the least amount of GHG emissions of all the vacuum truck control technologies that are available. This is because the vapors that are condensed can be re-refined or blended with fresh product and resold. The recycling of organic vapors offsets CO₂ emissions that are generated during the condensation process, which can result in a net global warming benefit.

AFFECTED AREA

The proposed new Regulation 8-53 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. See Figure 1 depicting the area covered by the Bay Area Air Quality Management District.

BAAQMD proposes to regulate certain materials in specific facilities currently subject to District regulations. These facilities are petroleum refineries, gasoline bulk plants, gasoline bulk terminals, marine terminals and organic liquid pipeline facilities. In an effort to provide certainty to the regulated community and to control vacuum truck loading events with significant emissions, the proposed new rule is further limited to a subset of the types of materials already regulated in these facilities, gasoline and other high vapor pressure organic liquids. Regulated materials are iterated in the proposed rule. BAAQMD does not propose to require control on vacuum truck operations associated with emergencies such as spills.

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Chapter 3

Environmental Checklist

INTRODUCTION

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

GENERAL INFORMATION

Project Title:	Bay Area Air Quality Management District (BAAQMD) Proposed Regulation 8, Rule 53.
Lead Agency Name:	Bay Area Air Quality Management District
Lead Agency Address:	939 Ellis Street San Francisco, California 94109
Contact Person:	William Thomas Saltz
Contact Phone Number:	415-749-4698
Project Location:	This proposed new rule 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.
Project Sponsor's Name:	Bay Area Air Quality Management District
Project Sponsor's Address:	939 Ellis Street San Francisco, California 94109
General Plan Designation:	Regulation 8-53 applies to vacuum trucks that are used in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines that deliver gasoline, natural gas, crude oil, petroleum products, and ethanol throughout the District, which are primarily located in industrial areas.
Zoning:	See "General Plan Designation" above
Description of Project:	See "Background" in Chapter 2.
Surrounding Land Uses and Setting:	See "Affected Area" in Chapter 2.
Other Public Agencies Whose Approval is Required:	None

Environmental Factors Potentially Affected:

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

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <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 |

An analysis was conducted and an Environmental Impact Report was prepared in association with the District's 2010 Clean Air Plan that assessed the potential environmental impacts of this control measure (SSM-5) as described in the plan. The EIR examined potential impacts from this control measure on secondary air quality impacts, greenhouse gas emissions, energy and solid and hazardous waste. The potential for impacts was analyzed because the use of carbon adsorption to control organic emissions requires energy use associated with reclamation (stripping) of the carbon for re-use, and carbon is eventually disposed in hazardous waste landfills. The EIR found that these impacts would be less than significant.

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 in 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 a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL 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 EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature:

Date:

Printed Name:

Date:

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This checklist is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
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I. AESTHETICS.

Would the project:

a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 new rule focuses on organic emissions from vacuum trucks used in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines. The new rule for these vacuum trucks will affect numerous facilities currently operating within the Bay Area which are generally located in industrial areas. Scenic highways or corridors are generally not located in the vicinity of these facilities.

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 new Regulation 8-53 would further reduce organic emissions from vacuum trucks in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The proposed new rule is not expected to require the construction of any new structures that would be visible to areas outside of existing facility boundaries, and are not expected to result in any adverse aesthetic impacts. Once implemented, the new rule would affect vacuum trucks which are not expected to be permanently visible as they would move from location to location to perform service and any air emission control devices would also move with the vacuum truck. The vacuum trucks affected by the proposed new rule operate within existing facilities within the Bay Area, which are not typically located in areas with scenic vistas. The proposed Regulation 8-53 is not expected to require construction of any major new structures that would be visible to areas outside of the affected facilities, and is not expected to result in adverse aesthetic impacts. The proposed Regulation 8-53 would also not require any new sources of light or glare, since no new construction would be required as a result of the proposed new rule.

Based upon these considerations, no significant adverse aesthetic impacts are expected from the implementation of Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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II. AGRICULTURE and FOREST 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 as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.--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) Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | | | | |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | | | | |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

conversion of forest land to non-forest use?

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.

The proposed new rule focuses on organic emissions from vacuum trucks used in petroleum refineries, gasoline bulk terminals, gasoline bulk plants and pipelines. The new rule for these vacuum trucks will affect numerous facilities currently operating within the Bay Area which are generally located in industrial areas. Agricultural or forest resources are currently not located within the confines of the existing facilities located within the Bay Area associated with Regulation 8-53.

Regulatory Background

Agricultural and forest 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-e. The proposed Regulation 8-53 would reduce organic emissions from vacuum trucks in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The affected facilities are located in industrial areas where agricultural or forest resources are generally not located. The facilities operating within the Bay Area may comply with Regulation 8-53 by using various control technologies incorporated on existing or new vacuum trucks, thus reducing the emissions of TOC and methane. No development outside of existing facilities would be required by the proposed Regulation 8-53.

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

	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"/> |

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 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 (NO₂), PM₁₀, PM_{2.5}, sulfur dioxide (SO₂) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards. 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 monitored levels of various criteria pollutants at 23 monitoring stations in 2010. The 2010 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 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 District is in attainment of the State and federal ambient air quality standards for CO, NO_x, and SO₂. The District is not considered to be in attainment with the State PM₁₀ and PM_{2.5} standards.

The 2010 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, NO₂, and SO₂. The federal 8-hour ozone standard was exceeded on 9 days in the District in 2010, while the state 8-hour standard was exceeded on 11 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 8 days in 2010 in the District. The ozone standards are most frequently exceeded in the Eastern District (Bethel Island (7 days) and Livermore (6 days)), and the Santa Clara Valley (San Martin (8 days), and Gilroy (7 days)) (see Table 3-2).

All monitoring stations were in compliance with the federal PM₁₀ standards. The California PM₁₀ standards were exceeded on two days in 2010, at the San Rafael and Bethel Island monitoring stations. The Air District exceeded the federal PM_{2.5} standard on 6 days, most frequently in San Rafael in 2010 (see Table 3-2).

TABLE 3-1

Federal and State Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD CONCENTRATION/ AVERAGING TIME	FEDERAL PRIMARY STANDARD CONCENTRATION/ AVERAGING TIME	MOST RELEVANT EFFECTS
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.075 ppm, 8-hour 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-hour avg.> 35 ppm, 1-hour 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.> 0.100 ppm, 1-hour 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-hour avg.> 0.075 ppm, 1-hour 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 ³ , annarithmic mean > 50 µg/m ³ , 24-hr average>	50 µg/m ³ , annual arithmetic mean > 150 µg/m ³ , 24-hour 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 ³ , annual arithmetic mean>	15 µg/m ³ , annual arithmetic mean> 35 µg/m ³ , 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/m ³ , 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 ³ , 30-day avg. >=	1.5 µg/m ³ , calendar quarter> 0.15 ug/m ³ , rolling 3-month avg.>	(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 - 2010**

MONITORING STATIONS	OZONE						CARBON MONOXIDE			NITROGEN DIOXIDE			SULFUR DIOXIDE			PM ₁₀				PM _{2.5}				
	Max 1-hr	Cal 1-hr Days	Max 8-hr	Nat 8-Hr Days	Cal Days	3-Yr Avg	Max 1-hr	Max 8-hr	Nat/ Cal Days	Max 1-Hr	Ann Avg	Nat/ Cal Days	Max 1-hr	Max 24-hr	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
North Counties	(ppb)						(ppm)			(ppb)			(ppb)			(µm ³)				(µm ³)				
Napa	106	1	89	2	2	66	2.3	1.4	0	56.0	9	0	--	--	--	17.4	37	0	0	--	--	--	--	--
San Rafael*	83	0	69	0	0	54	1.7	1.1	0	57.0	12	0	--	--	--	16.7	51	0	1	46.5	4	*	10.7	*
Santa Rosa	84	0	68	0	0	54	2.5	1.1	0	42.0	8	0	--	--	--	--	--	--	--	26.6	0	26	7.2	8.1
Vallejo	91	0	80	1	2	63	2.9	1.9	0	55.0	9	0	11.0	2.4	0	--	--	--	--	29.5	0	31	7.7	9.1
Coast/Central Bay																								
Berkeley*	75	0	49	0	0	44	2.5	1.5	0	53.4	13	0	9.0	2.4	0	21.0	43	0	0	--	--	--	--	--
Oakland	97	1	58	0	0	53	3.0	1.6	0	64.1	13	0	11.0	3.7	--	--	--	--	--	25.2	0	23	7.8	8.9
Oakland West	--	--	--	--	--	--	2.7	1.7	0	68.6	16	0	--	--	--	--	--	--	--					
Richmond	--	--	--	--	--	--	--	--	--	--	--	--	26.0	6.5	0	--	--	--	--	--	--	--	--	--
San Francisco	79	0	51	0	0	47	1.8	1.4	0	92.9	13	0	--	--	--	19.9	40	0	0	45.3	3	26	10.5	10.0
San Pablo*	97	1	81	1	1	*	*	*	*	*	*	*	*	*	*	*	*	*	*	--	--	--	--	--
Eastern District																								
Bethel Island	106	3	86	4	7	76	1.4	0.8	0	32.3	6	0	19.0	3.3	0	18.7	70	0	1	--	--	--	--	--
Concord	103	2	87	1	4	74	1.2	1.0	0	42.0	8	0	9.0	2.4	0	13.7	41	0	0	36.4	1	30	7.6	9.0
Crockett	--	--	--	--	--	--	--	--	--	--	--	--	16.3	4.1	0	--	--	--	--	--	--	--	--	--
Fairfield	103	1	81	2	3	69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Livermore	150	3	97	3	6	80	--	--	0	58.4	11	0	--	--	--	--	--	--	--	34.7	0	30	7.6	9.0
Martinez	--	--	--	--	--	--	--	--	--	--	--	--	37.0	5.5	0	--	--	--	--	--	--	--	--	--
South Central Bay																								
Fremont*	120	1	81	1	1	62	*	*	*	*	*	*	--	--	--	--	--	--	--	*	*	*	*	*
Hayward*	*	*	*	*	*	*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Redwood City	113	2	77	1	1	57	3.3	1.7	0	52.7	12	0	--	--	--	--	--	--	--	36.5	1	25	8.3	8.7
Santa Clara Valley																								
Gilroy	94	0	81	5	7	74	--	--	--	--	--	--	--	--	--	--	--	--	--	29.9	0	23	8.2	8.6
Los Gatos	109	2	87	2	3	73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Jose Central	126	5	86	3	3	66	2.8	2.2	0	64.0	14	0	4.9	1.8	0	19.5	47	0	0	41.5	3	30	8.8	10.1
San Martin	109	2	87	5	8	75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Days over Standard		8		9	11				0			0			0			0	2		6			

* The Fremont site was closed on October 31, 2010; statistics are not available for all but the summer 2010 ozone season. The Berkeley site was closed on December 31, 2010 at the conclusion of a 3-year monitoring study. The San Pablo site was temporarily closed from March 2009 to May 2010 due to damage from a building fire. 2010 statistics are not available except for the summer peak ozone season. 3-year ozone statistics are not available. The Hayward site was temporarily closed in 2010 due to a major construction project adjacent to the site. Annual and 3-year average ozone statistics are not available. PM_{2.5} monitoring began in San Rafael in October 2009. Three-year average PM_{2.5} statistics are not available. A new site was opened in Cupertino on September 1, 2010 for a one-year monitoring study. Due to the brief period of monitoring in 2010, Cupertino data are not shown in this table.

(ppb) = parts per billion (ppm) = parts per million, (µg/m³) = micrograms per cubic meter.

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

YEAR	OZONE			CARBON MONOXIDE				NO _x	SULFUR DIOXIDE		PM10		PM2.5
	1-Hr	8-Hr	8-Hr*	1-Hr		8-Hr		1-Hr	24-Hr		24-Hr*		24-Hr**
	Cal	Cal	Nat	Nat	Cal	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat
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	7
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	9	1	0	0	0	0	0	0	0	0	6	0
2006	18	22	12	0	0	0	0	0	0	0	0	15	10
2007	4	9	1	0	0	0	0	0	0	0	0	4	14
2008	9	20	12	0	0	0	0	0	0	0	0	5	12
2009	11	13	8	0	0	0	0	0	0	0	0	1	11
2010	8	11	9	0	0	0	0	0	0	0	0	2	6

* Ozone exceedance days beginning in 2008 reflect new U.S.EPA standard of 0.075 ppm.
 ** PM2.5 exceedance days beginning in 2006 reflect new U.S.EPA standard of 35 µg/m³.

Toxic Air Pollutants

The BAAQMD maintains a database that contains information concerning emissions of TACs from permitted stationary sources in the Bay Area. This inventory, and a similar inventory for mobile and area sources compiled by CARB, is used to plan strategies to reduce public exposure to TACs. The detailed concentrations of various TACs are reported in the BAAQMD, Toxic Air Contaminant Control Program, 2009 Annual Report (BAAQMD, 2012) and summarized in Table 3-4. The 2009 TAC data show decreasing concentrations of many TACs in the Bay Area. The most dramatic emission reductions in recent years have been for certain chlorinated compounds that are used as solvents including 1,1,1-trichloroethane, methylene chloride, and perchloroethylene. Table 3-4 contains a summary of ambient air toxics listed by compound.

TABLE 3-4

Summary of 2009 BAAQMD Ambient Air Toxics Monitoring Data

Compound	LOD (ppb) ⁽¹⁾	% of Samples < LOD ⁽²⁾	Max. Conc. (ppb) ⁽³⁾	Min. Conc. (ppb) ⁽⁴⁾	Mean Conc. (ppb) ⁽⁵⁾
1,3-butadiene	0.10	88	0.25	0.05	0.039
Acetaldehyde ⁽⁶⁾	0.0344*	0	4.26*	0.31*	1.300*
Acetone	0.10	0	16.2	0.3	1.757
Acetonitrile ⁽⁷⁾	0.12	29	3.36	0.06	0.726
Benzene	0.02	2	1.14	0.01	0.172
Carbon tetrachloride	0.01	0	0.15	0.09	0.095
Chloroform	0.01	48	0.09	0.005	0.021
Dichloromethane (MeCl)	0.10	45	2.00	0.05	0.155
Ethyl Alcohol ⁽⁷⁾	0.39	0	70.6	4.5	15.894
Ethylbenzene	0.04	47	0.68	0.02	0.072
Ethylene dibromide	0.01	100	-	0.005	0.005
Ethylene dichloride	0.10	100	-	0.05	0.05
Formaldehyde ⁽⁶⁾	0.0541*	0	5.53*	0.51*	0.054*
Freon 113 (CFC 113)	0.01	0	1.22	0.04	0.01
Methyl chloroform (1,1,1 TCE)	0.02	91	1.79	0.01	0.035
Methyl ethyl ketone	0.10	21	1.68	0.05	0.168
Tetrachloroethylene (Perc)	0.005	43	0.157	0.0025	0.013
Toluene	0.04	0	5.41	0.02	0.571
Trichloroethylene	0.01	90	0.16	0.005	0.009
Trichlorofluoromethane	0.01	0	0.68	0.06	0.283
Vinyl chloride	0.05	100	-	0.025	0.025
m/p-xylene	0.04	5	2.63	0.02	0.301
o-xylene	0.04	29	0.88	0.02	0.101

NOTES: Table 3-4 summarizes the results of the BAAQMD gaseous toxic air contaminant monitoring network for the year 2009. These data represent monitoring results at 19 sites at which samples were collected, except as indicated. Data from the Fort Cronkhite "clean-air" background site was not included. Acetone, ethyl alcohol, Freon 113 and trichlorofluoromethane are not toxic air contaminants, but are included in the monitoring network.

* Indicates concentration measured in $\mu\text{g}/\text{m}^3$.

- (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. Non-detects reported as one half the LOD concentration.
- (5) "Mean Conc." is the arithmetic average of the air samples collected in 2003 at the 19 monitoring sites. One half the LOD (for minimum concentrations) was used to calculate the mean.
- (6) Samples collected only at Berkeley and San Jose – Jackson Street stations.
- (7) Samples collected only at San Jose – Jackson Street station.

Regulatory Background

Criteria Pollutants

At the federal level, the Clean Air Act (CAA) Amendments of 1990 gave 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.

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 were to 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 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.

Facility Risk Reduction Plans: 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.

In addition to federal and State programs, BAAQMD implements a Toxics New Source Review Program, implemented through Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. This program applies preconstruction permit review to new and modified sources of toxic air contaminants; contains project health risk limits and requirements for Toxics Best Available Control Technology. Also, in 2004, BAAQMD developed the Community Air Risk Evaluation Program (CARE) program to identify locations with high emissions of toxic air contaminants (TAC) and high exposures of sensitive populations to TAC 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. Regulation 8-53 is a proposed new rule that would apply to vacuum trucks generally operating at specified industrial facilities located in the jurisdictional area of BAAQMD. The objectives of the proposed rule is to implement SSM-5 from the Bay Area 2010 Clean Air Plan in order to help reduce ozone emissions from vacuum trucks, thus, tightening organic compound emission limits to further reduce ozone concentrations in the Bay Area. Because the proposed new rule would directly implement a control measure in the 2010 Clean Air Plan, the proposed project is in compliance with the local air quality plan and is expected to provide beneficial impacts associated with reduced ozone concentrations in the Bay Area.

III b and c. Currently, the District does not regulate vacuum truck emissions. The District committed to investigating this type of equipment in Control Measure SSM-5 of the District's Bay Area 2010 Clean Air Plan, which sets forth a plan to achieve the California ozone standards as well as other air quality objectives. The proposed limits would be consistent with the only current California air quality regulation – South Coast Air Quality Management District (SCAQMD) Rule 1149 – which limits organic vapor emissions from vacuum truck operations. Whereas SCAQMD Rule 1149 limits VOC emissions from vacuum trucks that are involved with the cleaning or degassing of storage tanks and pipelines, Regulation 8, Rule 53 would limit organic vapor emissions, including methane, from specific types of industrial facilities that utilize the services of vacuum truck operations.

Controlling Organic Vapor Emissions

The organic vapor emissions generated from vacuum truck operations may be minimized by utilizing external positive displacement, submersible or diaphragm pumps. While these pumps may not load liquid and sludge materials into the barrel of a vacuum truck as quickly as the truck itself, they minimize the agitation of the liquid and sludge which decreases vapor emissions. The drawback to these methods of loading materials is the extra time it takes to complete the loading event.

Once vapors are generated, a variety of technologies are available to limit organic emissions. Most of them can achieve capture and control efficiencies that are greater than 95 percent. Technologies include carbon adsorption systems, internal combustion engines, thermal oxidizers, refrigerated condensers and liquid scrubbers. Sometimes these technologies are combined as in the case of an engine/chiller or carbon/scrubber.

Vacuum trucks are used by a variety of Bay Area industries to remove materials from storage tanks, vessels, boxes, and pipelines; to transfer materials from one container to another; and, to transport materials from one location to another such as a landfill or processing facility. Vacuum trucks are also used to clean equipment such as barges and to clean up spills. The types of industries that utilize vacuum truck services include petroleum refineries, marine terminals, industrial wharfs, gasoline dispensing facilities, gasoline bulk terminals, gasoline bulk plants, gasoline cargo tanks, gas well and oil well fields, railcar loading facilities, soil remediation projects, truck loading racks, auto dismantlers, and pipelines that deliver gasoline, natural gas, crude oil, petroleum products, and ethanol.

Based on approximately 32 source tests that have been conducted thus far, the emission rates have ranged from very few to over 600 pounds per hour per loading event. Emission rates depend on material vapor pressure, material flow rate into the vacuum truck barrel, ambient temperature, and other factors as well, including the diameter and length of hose the material travels through. In Control Measure SSM-5, the District estimated potential emission reductions for the control measure to be up to six tons per day. As a result of the source testing and throughput information that staff was able to gather, vacuum truck emissions are estimated to be 1.50 tons per day from the targeted facilities.

A detailed description potential control technologies can be found in Chapter 2, under the Proposed Method of Control Section. The overall impact of the proposed Regulation 8-53 is a decrease in organic emissions including methane. Therefore, no air quality standard is expected to be violated, and no contribution is expected to be made to an existing or projected air quality violation.

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 Regulation 8-53 is a decrease in organic emissions, including methane, and an associated decrease in ozone concentrations. Therefore, the cumulative air quality impacts of the proposed new rule are expected to be beneficial.

III d. Vacuum truck operations are expected to comply with the proposed Regulation 8-53 by adding control and monitoring equipment. No new waste streams are expected to be involved in loading events as a result of the proposed new rule. Disposal of materials involved in loading events will continue to be processed as they are currently. As a result, no increase in exposure of sensitive receptors to substantial pollutant concentrations is anticipated as a result of the proposed project. Additionally, the organic reductions associated with the proposed Regulation 8-53 will also lead to a reduction in TAC emissions throughout the Bay Area. Reductions in both organics and TACs will actually reduce exposure of sensitive receptors to pollutant concentrations. Therefore, no significant impacts associated with Regulation 8-53 are expected.

III e. The proposed project is not expected to result in an increase in odors. The proposed Regulation 8-53 proposes to minimize organic emissions from vacuum truck operation. Affected vacuum truck operations are expected to comply by installing control and monitoring equipment to existing vacuum trucks. The control and monitoring equipment added to vacuum trucks will reduce organic and methane emissions, and will not change the fuel source or result in odors produced during loading events.

Based upon these considerations, no significant adverse air quality impacts are expected from the implementation of the proposed new rule. In fact, the proposed Regulation 8-53 is expected to provide beneficial air quality impacts by reducing organic and methane emissions and subsequent formation of ozone.

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

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 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 new rule are located within the boundaries of existing facilities within the Bay Area. The affected areas have been graded to develop various permanent structures. Native vegetation, other than landscape vegetation, has generally been removed from areas to minimize safety and fire hazards.

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 new rule which would apply to existing facilities. Existing vacuum trucks affected by the proposed Regulation 8-53 will operate within existing industrial facilities which do not typically include sensitive biological species. The facilities have been graded and developed, and biological resources, with the exception of landscape species, have been removed. No construction activities are expected and no new permanent structures are expected to be required as a result of proposed Regulation 8-53.

Based upon these considerations, no significant adverse impacts to biological resources are expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 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 of 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 which 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 petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule are existing facilities within the Bay Area. These facilities have already been graded to develop and are typically surrounded by other industrial uses. 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 Regulation 8-53 which would apply to vacuum trucks operating within the Bay Area. The vacuum trucks affected by the proposed new rule already exist and are typically operated within the confines of existing facilities. Any modifications to existing equipment and any new equipment would be installed or modified on existing or new vacuum trucks and operate in existing facilities. The existing areas have been graded and developed. No new construction would be required outside of the existing facility boundaries due to the adoption of the proposed Regulation 8-53. Therefore, no significant adverse impacts to cultural resources are expected due to the proposed Regulation 8-53.

Based upon these considerations, no significant adverse impacts to cultural resources are expected from the implementation of the proposed Regulation 5-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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VI. GEOLOGY AND SOILS.

Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) 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 know fault? Refer to Division of Mines and Geology Special Publication 42.
 - ii) Strong seismic ground shaking?
 - iii) Seismic-related ground failure, including liquefaction?
 - iv) Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

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 new rule are located primarily in industrial areas within the Bay Area.

The affected petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines 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 Strait 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 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 with 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 vacuum trucks affected by the proposed rule already exist and operate within the confines of existing industrial facilities in the Bay Area. No new construction activities are expected to be required as a result of adopting the proposed Regulation 8-53, rather, existing and new vacuum trucks would need to be upgraded or put into service incorporating new control equipment. No new permanent structures are expected to be required as a result of the new rule. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. Any new construction at industrial facilities being serviced by vacuum trucks regulated by the new rule will be constructed in compliance with the Uniform Building Code. 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.

Any new development at facilities being serviced by vacuum trucks regulated by the new rule would be required to obtain building permits, as applicable, for new structures at any 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 Regulation 8-53.

VI b. No new significant construction activities would be required due to the adoption of Regulation 8-53. Vacuum trucks affected by the proposed new rule already exist and operate within the confines of existing industrial facilities. No new construction or new permanent structures are expected as a result

of the proposed new rule. Therefore, the proposed Regulation 8-53 is not expected to result in substantial soil erosion or the loss of topsoil as no major construction activities would be required.

VI c – e. The vacuum trucks affected by the proposed new rule already exist and are operated within the confines of existing industrial facilities so no major construction activities are expected. No new structures are expected to be required as a result of the proposed new rule. Since the industrial facilities already exist, no construction activities are expected to occur 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. If construction were to occur at industrial facilities serviced by the vacuum trucks affected by the proposed new rule, it would not affect 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, as the proposed rule has no impact on wastewater treatment/disposal systems. Therefore, no adverse significant impacts to geology and soils are expected due to the proposed Regulation 8-53.

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

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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VII. GREENHOUSE GAS EMISSIONS.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth’s surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. The six major GHGs identified by the Kyoto Protocol are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, sea level rise, more extreme heat days per year, and more drought years.

Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. The GHG inventory for California is presented in Table 3-5 (CARB, 2007 and CARB, 2009). Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions (see Table 3-5).

TABLE 3-5
California GHG Emissions and Sinks Summary
(Million Metric Tons CO₂ Equivalent)

Categories Included in the Inventory	1990 ⁽¹⁾	2006 ⁽²⁾
ENERGY	386.41	419.32
Fuel Combustion Activities	381.16	414.03
Energy Industries	157.33	160.82
Manufacturing Industries & Construction	24.24	19.03
Transport	150.02	184.78
Other Sectors	48.19	49.41
Non-Specified	1.38	2.16
Fugitive Emissions from Fuels	5.25	5.28
Oil and Natural Gas	2.94	3.25
Other Emissions from Energy Production	2.31	2.03
INDUSTRIAL PROCESSES & PRODUCT USE	18.34	30.22
Mineral Industry	4.85	5.92
Chemical Industry	2.34	0.37
Non-Energy Products from Fuels & Solvent Use	2.29	1.85
Electronics Industry	0.59	0.77
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.38
Other Product Manufacture & Use Other	3.18	1.67
Other	5.05	6.25
AGRICULTURE, FORESTRY, & OTHER LAND USE	19.11	25.10
Livestock	11.67	15.68
Land	0.19	0.19
Aggregate Sources & Non-CO ₂ Emissions Sources on Land	7.26	9.24
WASTE	9.42	9.23
Solid Waste Disposal	6.26	6.31
Wastewater Treatment & Discharge	3.17	2.92
EMISSION SUMMARY		
Gross California Emissions	433.29	483.87
Sinks and Sequestrations	-6.69	-4.07
Net California Emissions	426.60	479.80

Source: (1) CARB, 2007.
 (2) CARB, 2009.

Regulatory Background

In response to growing scientific and political concern regarding global climate change, California has adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the state. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted by non-commercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. Setting emission standards on automobiles is normally the responsibility of the U.S. EPA. The Federal Clean Air Act, however, allows California to set a state-specific emission standard on automobiles if it first obtains a waiver from the U.S. EPA. On March 6, 2008 the U.S. EPA denied California’s request

for a waiver. In response, California sued the U.S. EPA claiming that the denial was not based on the scientific data. Subsequently, U.S. EPA has granted the request by California for a waiver of Clean Air Act preemption for California's greenhouse gas emission standards for 2009 and later model years of new motor vehicles, which was adopted the CARB on September 24, 2004.

In June 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which established GHG emissions reduction targets for the state, as well as a process to ensure that the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California State Environmental Protection Agency (CalEPA), was formed. The CAT published its report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order.

The greenhouse gas targets are:

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

In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 will require CARB to:

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

SB1368, a companion bill to AB32, requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity, whether generated inside the State, or generated outside, and then imported into California. SB1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO₂ per megawatt-hour (MW-hr). Further, on May 23, 2007, the CEC adopted regulations that establish and implement an EPS of 1,100 pounds of CO₂ per MW-hr (see CEC order No. 07-523-7).

SB97, passed in August 2007, is designed to work in conjunction with CEQA and AB32. SB97 required the California Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including but not limited to, effects associated with transportation and energy consumption. These guidelines were required to be transmitted to the Resources Agency by July 1, 2009, and certified and adopted by January 1, 2010. The guidelines became effective March 18, 2010. The OPR and the Resources Agency shall periodically update these guidelines to incorporate new information or criteria established by CARB pursuant to AB32.

In 2008, Governor Schwarzenegger signed the Sustainable Communities and Climate Protection Act (SB375). SB375 is intended as a companion measure to attain the goals of AB32. SB375 requires CARB to develop regional greenhouse gas emission reduction targets for passenger vehicles. CARB is to establish targets for 2020 and 2035 for each region covered by one of the State's 18 metropolitan planning organizations (MPO). Each of these 18 MPOs then prepare a "sustainable communities strategy (SCS)" that demonstrates how that region will meet its greenhouse gas reduction target through integrated land use, housing and transportation planning. Once adopted by the MPO, the SCS will be incorporated into that region's federally enforceable regional transportation plan.

There has also been activity at the Federal level on the regulation of GHGs. In *Massachusetts v. Environmental Protection Agency* (Docket No. 05-1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the U.S. EPA have authority to regulate greenhouse gases, but that the U.S. EPA's reasons for not regulating greenhouse gases did not fit the statutory requirements. The U.S. Supreme Court ruled that CO₂ and other greenhouse gases are pollutants under the Clean Air Act, which U.S. EPA must regulate if it determines they pose an endangerment to public health or welfare. On October 30, 2009, the U.S. EPA issued 40 CFR Part 98, which requires reporting of greenhouse gas (GHG) emissions from large sources and suppliers in the United States. Under Part 98, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to EPA, with abbreviated report required in 2011 (for 2010 emissions), and full reporting in 2012 (for 2011 emissions). Part 98 became effective December 29, 2009.

The BAAQMD has established GHG CEQA significance thresholds as follows:

- For land use development projects, the threshold is compliance with a qualified GHG reduction strategy; or annual emissions less than 1,100 metric tons per year (MT/yr) of carbon dioxide equivalent emissions (CO₂e); or 4.6 MT CO₂e/SP/yr.
- For stationary-source projects, the threshold is 10,000 MT/yr of CO₂e.
- For regional plans (transportation and air quality plans), no net increase in GHG emissions.

Discussion of Impacts

VII a – b. Regulation 8-53 is part of a comprehensive ongoing regulatory program that includes implementing related 2010 CAP control measures or new rules to attain and maintain with a margin of safety state and national ambient air quality standards ozone and particulate matter in all areas within the jurisdiction of the BAAQMD. The 2010 CAP included SSM-5 which was intended to reduce emissions

from vacuum trucks by imposing organic and methane emission limits to further reduce ozone concentrations. Regulation 8-53 would implement SSM-5 from the 2010 CAP.

The 2010 CAP includes measure to reduce GHG emissions and estimates that implementation of the 2010 CAP would result in a reduction of over 15,000 metric tons per day or over 5 million metric tons per year (BAAQMD, 2010). Therefore, implementation of Regulation 8-53 in connection with other 2010 CAP measures is not considered to be cumulatively significant.

Regulation 8-53 would control total organic emissions, including methane. Methane is a significant GHG that has over 20 times the global warming potential of CO₂ and is typically present in certain materials loaded into vacuum trucks. Because methane is within the definition of TOCs and is subject to the 500 ppmv emission limit proposed to be included in Regulation 8-53, compliance with the limit will reduce methane emissions to the extent that methane is present in controlled materials.

The control method most often used for compliance with Regulation 8-53 is expected to be positive displacement pumps to slow down the transfer of material and minimize the generation of organic vapors. Positive displacement pumps would be operated in much the same manner as current loading operations. While loading operations may take a longer period of time, organic emissions, including methane, would be reduced under the proposed regulation. Therefore, the use of positive displacement pumps is not expected to generate GHG emissions. The use of positive displacement pumps may reduce the generation of GHG emissions. The use of a vacuum truck's blower to generate a vacuum to draw the material into the truck's barrel is an energy intensive process. The use of an auxiliary piece of equipment such as a positive displacement pump to push material into the barrel is expected to be less energy intensive, resulting in fewer GHG emissions.

Regulation 8-53 could also result in the use of additional emission control technologies, some of which could generate GHG emissions. Carbon adsorption could be used for loading events of short duration or when hydrocarbon-containing materials were loaded using low flow rates. High concentrations of organic compounds could overwhelm carbon adsorption systems. The use of carbon adsorption is not expected to require a significant amount of energy and it is expected that it would be operated using the truck engines, as is the current practice. Therefore, no significant increase in GHG emissions would be expected.

It is expected that the use of other emission control strategies, e.g., thermal oxidizers, and refrigerated condenser systems would be used less frequently and during high organic concentration loading events. Even though condensation technology emits a small amount of GHG emissions from the energy source used to generate the cold temperatures needed to condense organic vapor streams, this technology has the potential to emit the least amount of GHG emissions of all the organic control technologies. This is because the vapors that are condensed can be recycled. The recycling of organic vapors would offset the potential GHG emissions generated during the condensation process. Similarly, thermal oxidizers would generate small amounts of GHG emissions from the energy source. However, they would control TOC emissions, including methane, reducing the amount of GHG emissions from loading events.

A variety of emission control technologies could be used to comply with Regulation 8-53. Those technologies that are expected to be most commonly used are not expected to generate significant quantities of GHG emissions. Further, Regulation 8-53 is expected to reduce organic emissions, including methane emissions, from truck loading events. Any GHG emissions increases associated with control equipment is

expected to be offset by the reduction in emissions from vacuum truck loading operations. Therefore, implementation of Regulation 8-53 is not expected to result in a significant increase in GHG emissions.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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VIII. HAZARDS AND HAZARDOUS

MATERIALS. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code § 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) For a project 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) For a project 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 residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Setting

The affected petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines 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 rule are typically located in industrial 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 business 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 considers human factors as part of process hazards analyses, incident investigations, training, operating procedures, among others.

Discussion of Impacts

VII a - c. It is expected that the proposed Regulation 8-53 will lead to a reduction in organic and methane emissions from existing vacuum trucks operated at affected petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines, thus reducing ozone emissions. Control and monitoring equipment will be incorporated in vacuum truck operations and the impact of the proposed new rule is expected to be a reduction in organic emissions, including methane, generated during vacuum truck loading operations.

The ignitability or explosivity of a gas or vapor is limited by its concentration in the air. The concentration at which a gas or vapor may ignite or explode is bounded by two explosive limits: the upper and lower explosive limits. Above the upper explosive limit, there is not enough oxygen to ignite the gas or vapor. Below the lower explosive limit, the gas or vapor concentration is too low to burn or explode.

Currently, the vapors/gasses from vacuum truck loading events are vented to the atmosphere, and higher vapor/gas concentrations are allowed to escape than would be allowed under Regulation 8-53. Regulation 8-53 may lengthen the time required to load vacuum trucks using positive displacement pumps. The increase loading time would reduce the amount of organic emissions generated, thus reducing the possible explosive of flammability hazards associated with vacuum truck loading operations. Therefore, Regulation 8-53 could reduce hazards for vacuum truck loading events.

Carbon adsorption systems are expected to be a common method for compliance with Regulation 8-53. When carbon adsorption systems are used to control emissions from loading events with materials that have high organic concentration, there is a risk of spontaneous combustion due to temperature increases. All adsorption is exothermic, meaning that the adsorption process releases heat, causing the temperature in the carbon bed to rise. When high concentrations of organic vapors are adsorbed on activated carbon at a high flow rate, the temperature of the carbon bed can increase to a level at which the carbon or the organic vapors spontaneously ignite, starting a fire in the carbon vessel. Carbon adsorption is expected to be used for loading events of short duration or when hydrocarbon-containing materials were loaded using low flow rates, as the technology, is generally not appropriate when high organic concentrations are present.

Regulation 8-53 could involve the combustion of organic emissions, including air toxics, using propane-fired thermal oxidizers or Internal Combustion Engines (ICEs). The accidental release of propane could result in adverse hazard impacts. Since the probability of accidents is related to the miles traveled, there would be an increase in probability of hazards from an accidental release of propane. However, the national truck accident rate is small (on the order of one accident per ten million miles traveled) and the accident rate with chemical releases is even less, so this would not be a significant risk factor.

In case of a rupture, there is the potential for the gas to pool and boil off. This presents the possibility of a boiling liquid, vapor cloud explosion, and fire with potential consequences to nearby structures, storage tanks, pipelines, etc., and off-site receptors. Propane vapors are heavier than air, so that leaks

from the fuel system tend to pool at ground level rather than disperse. Propane is a non-toxic gas. High propane concentrations reduce oxygen levels that may cause asphyxiation, with early symptoms of dizziness. No harmful long-term effects have been reported from exposure to propane vapors. An odorant added to propane generally enables its detection at concentrations that are below the lower flammability limit and substantially below the concentrations needed for asphyxiation.

Propane has a narrow range of flammability compared to other transportation fuels. The fuel will only burn within a fuel-to-air ratio between 2.2 percent and 9.6 percent. Propane will rapidly dissipate beyond its flammability range in the open atmosphere. Propane fuel leaks can pose a significant explosion hazard relative to gasoline in enclosed areas. Since propane would be used for combusting organic compounds from vacuum truck loading events, it is expected that this operation would occur in an open area.

Since the accident release risk of propane is low and propane is likely to dissipate into the atmosphere, the adverse hazard risk from Regulation 8-53 is expected to be less than significant. By better control of TOCs under the proposed Regulation 8-53, the possibility of an explosion or fire caused by the uncontrolled release of vapors would be reduced. Therefore, no significant new hazard impacts are expected.

VII d. No impacts on hazardous material sites are anticipated from the proposed new rule that would typically apply to existing petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipeline operations. Some of the affected areas may be located on the hazardous materials sites list pursuant to Government Code Section 65962.5. Regulation 8-53 is expected to reduce organic emissions from vacuum truck loading operations. As a result, Regulation 8-53 is not expected to adversely affect any facilities included on a list of hazardous materials sites and therefore, would not create a significant hazard to the public or environment. Vacuum trucks already exist and are operated within the confines of existing industrial facilities. The proposed new rule neither requires, nor is 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. Regulation 8-53 is not expected to result in a safety hazard for people residing or working within two miles or a public airport or air strip. No impacts on airports or airport land use plans are anticipated from the proposed new rule which would apply to vacuum trucks operating in the Bay Area. Any changes required by the proposed rule are expected to be made with the existing fleet of vacuum trucks which operate within the confines of the existing industrial facilities. No development is expected to be required as a result of implementing Regulation 8-53. 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 new rule that would apply to existing petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines facilities. The vacuum trucks affected by the proposed new rule already exist and operate within the confines of existing industrial facilities. The proposed new rule neither requires, nor is likely to result in, activities that would impact the emergency response plan. Some of the existing industrial facilities affected by the proposed new rule already store and transport hazardous materials, so emergency response plans already include hazards associated with hazardous events that would apply under

different circumstances. Therefore, no significant adverse impacts on emergency response plans are expected.

VII h. No increase in hazards associated with wildfires is anticipated from the proposed new rule. The vacuum trucks affected by the proposed rule already exist and are operated within the confines of existing industrial facilities. Native vegetation has been removed from the operating portions of the affected facilities to minimize fire hazards. Regulation 8-53 is not expected to increase the risk of fire hazard in general and specifically in areas with flammable materials. Therefore, Regulation 8-53 would not expose people or structures to significant risk of loss, injury or death involving wildland fires.

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the implementation of the proposed Regulation 8-53.

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

Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

flooding as a result of the failure of a levee or dam?

- j) Inundation by seiche, tsunami, or mudflow?

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 petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule 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 constituent 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 and water quality resources are anticipated from the proposed new rule, which would apply to vacuum trucks operating within existing industrial facilities. The proposed new rule is 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 Regulation 8-53.

VIII b. The vacuum trucks affected by the proposed Regulation 8-53 already exist and are operated within the confines of existing petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipeline facilities. The 2010 CAP EIR addressed the impacts of control measures on water demand. The proposed Regulation 8-53 is not expected to require additional water use. The control technologies for vacuum trucks do not require additional use of water. Therefore, the proposed new rule is not expected to deplete groundwater supplies or interfere with groundwater recharge. Therefore, no significant impacts on groundwater supplies are expected due to the proposed Regulation 8-53.

VIII c - f. Vacuum truck operators are expected to comply with the proposed Regulation 8-53 in the form of installing control equipment. The affected equipment is typically operated in industrial areas, where storm water drainage has been controlled and no new construction activities outside of the existing industrial facilities is expected to be required. Therefore the proposed new rule is 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. Materials collected and processed by vacuum trucks are disposed of at designated facilities based on the nature of the product being handled. Additionally, the proposed rule is not 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 Regulation 8-53 is not expected to substantially degrade water quality. Therefore, no significant adverse impacts to storm water runoff are expected.

VIII g – i. The vacuum trucks affected by the proposed new rule are operated within industrial areas. No major construction activities outside the boundaries of existing facilities are expected due to the adoption of the proposed Regulation 8-53. Petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines are generally located to avoid flood zone areas and other areas subject to flooding. Further, storm water is controlled and collected onsite for analysis and subsequent discharge at such facilities. The proposed new rule is not expected to require any substantial 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 petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rules are located within industrial areas. No major construction activities are expected outside of the boundaries of the existing facilities due to the adoption of the proposed Regulation 8-53. The proposed new rule is 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 as a result of the proposed new rule.

Based upon these considerations, no significant adverse hydrology and water quality impacts are expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to 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 new rule are primarily located in industrial 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 vacuum trucks affected by the proposed new rule already exist and are operated within the confines of existing industrial facilities. The operators of vacuum trucks in the Bay Area are expected to comply with Regulation 8-53 by upgrading or installing control equipment. These changes are expected to be made to existing and new vacuum trucks. No new permanent structures are expected to be required as a result of Regulation 8-53. No new construction outside of the confines of the existing industrial facilities is expected to be required due to the adoption of the proposed new rule.

Based upon these considerations, no significant adverse land use impacts are expected from the implementation of the proposed Regulation 8-53.

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

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 Regulation 8-53 are primarily located in industrial areas within 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 vacuum trucks affected by the proposed new rule operate within the confines of existing facilities. Any new vacuum trucks and control equipment are expected to operate at similar facilities. The proposed new rule is 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.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE. Would the project:				
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 ground-borne vibration or ground-borne 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) 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) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport 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) For a project 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 new rule are located in industrial areas of the Bay Area, which 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 Plans 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 petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule already exist and are primarily located in industrial areas. The proposed new rule imposes limits on organic emissions from vacuum trucks operating in such facilities. Compliance will be achieved in the form of control and monitoring equipment operating in conjunction with vacuum trucks. The primary method of control is expected to be the use of positive displacement pumps, followed by carbon adsorption equipment. These control methods are not expected to create greater noise levels than currently exist in vacuum truck loading operations.

The existing noise environment at affected facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting facility premises. Noise from control equipment associated with the proposed new rule is not expected to produce noise in excess of current operations at existing facilities. Vacuum truck loading events are intermittent and temporary in nature. It is not expected that any air pollution control equipment operating in conjunction with vacuum trucks would substantially increase ambient operational noise levels in areas typically associated with vacuum truck loading events, or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels.

Depending on the air pollution control technology utilized, vacuum truck loading events may temporarily add additional sources of noise to the affected facilities. As an example, noise increases associated with additional emissions control technology are expected to be limited to a small pumps or blowers. This type of equipment is similar to the existing vacuum truck pumps. It is expected that each vacuum truck affected will comply with all existing noise control laws or ordinances. Further, OSHA and California-OSHA (Cal/OSHA) have established noise standards to protect worker health. These potential noise increases are expected to be small, if at all, used in an industrial setting, and thus less than significant. Therefore, no adverse significant impacts to noise are expected due to the proposed Regulation 8-53.

It is also not anticipated that control or monitoring equipment will cause an increase in ground-borne vibration levels because such equipment is not typically vibration intensive. Consequently, the proposed new rule will not directly or indirectly cause substantial noise or excessive ground-borne vibration impacts.

XI. e-f. If applicable, the petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule would still be expected to comply, and not interfere, with any applicable airport land use plans. All noise producing equipment must comply with local noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. In addition to noise generated by current operations, noise sources in each area may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses.

Based upon these considerations, significant noise impacts are not expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. 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 Regulation 8-53 are located in industrial areas within the jurisdiction of the BAAQMD.

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. No new construction activities associated with the proposed project are expected. Since no new construction is required, no relocation of individuals, no new housing or commercial facilities, or no change in the distribution of the population is anticipated. The reason for this conclusion is that operators of affected vacuum trucks who need to add control or monitoring equipment to comply with the proposed new rule will be drawn from the existing labor pool in the local Bay Area. Further, it is not expected that replacing existing equipment with new equipment or installing air pollution control equipment will require new employees to operate the new/modified equipment. Human population within the jurisdiction of the BAAQMD is anticipated to grow regardless of implementing the proposed

project. As a result, the proposed new rule is not expected 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 project includes modifications and/or changes at existing equipment operated in industrial 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 Regulation 8-53.

	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"/>

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 new rule are primarily located in industrial 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 new rule by installing control equipment to vacuum trucks is not expected to affect current operations at existing facilities. In the event of an accidental release from an industrial facility being serviced by vacuum trucks affected by the proposed new rule, fire

departments are typically first responders for control and clean-up and police may be needed to be available to maintain perimeter boundaries. The proposed project is not expected to significantly affect fire or police departments because while vacuum trucks will be incorporating new control and monitoring equipment, the number of loading events utilizing vacuum trucks is not anticipated to change. Therefore, the proposed project is not expected to increase the need or demand for additional public services (e.g., fire departments, police departments, government, et cetera) above current levels.

As noted in the “Population and Housing” discussion above, the proposed project is 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 activities that may be necessary at affected facilities. Additionally, operation of new control or monitoring equipment on vacuum trucks 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.

Based upon these considerations, significant public services impacts are not expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XV. RECREATION. Would the project:

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|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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"/> |
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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 there are numerous areas for recreational activities. The facilities affected by the proposed Regulation 8-53 are located in industrial areas throughout the Bay Area. Public recreational land can be located adjacent to, or in reasonable proximity 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 Regulation 8-53. Any required changes would take place on existing and new mobile sources that operate within the confines of the existing facilities so no changes in land use would be required. Further, the proposed new rule 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 new rule.

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

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established b the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards 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) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 2007. The portion of commuters that carpool was about 10 percent in 2007. About 4 percent of commuters walked to work in 2007. In addition, other modes of travel (bicycle, motorcycle, etc.), account for 3 percent of commuters in 2007 (MTC, 2008). Cars, buses, and commercial vehicles travel about 145 million miles a day (2000) on the Bay Area Freeways and local roads. Transit serves about 1.6 million riders on the average weekday (MTC, 2008).

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. 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 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. No construction activities are expected as a result of implementing the proposed Regulation 8-53. The proposed project is not expected to cause a significant increase in traffic at any industrial facility or require any additional employees. No increase in the number of vacuum trucks in the existing

fleet are expected as a result of adopting the new rule. Also, the proposed project is 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 significantly increase as a result of the proposed project and no increase in operation-related traffic is expected. Thus, the traffic impacts associated with the proposed new rule is 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 project, such as installing new air pollution control equipment on vacuum trucks servicing the facilities, is not expected to significantly influence or affect air traffic patterns. Further, the size and type of air pollution control devices that would be installed 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 proposed project will not alter traffic patterns or existing roadways. The proposed Regulation 8-53 is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to facilities serviced by vacuum trucks. No construction activities at existing industrial facilities is expected as a result of the proposed new rule, and, the proposed project is not expected to alter any existing long-term circulation patterns. The proposed project is not expected to require a modification to circulation, thus, no long-term impacts on the traffic circulation system are expected to occur. The proposed project does 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 project. Further, each affected facility is expected to continue to maintain their existing emergency access gates and will not be impacted by the proposed new rule.

XV f. Operational activities resulting from the proposed new rule is 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 activities related to the proposed project will occur solely in existing industrial, commercial, and institutional areas.

Based upon these considerations, significant transportation/traffic impacts are not expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. UTILITIES/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 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 maintained within the local jurisdiction.

Discussion of Impacts

XVI a, b, d and e. The vacuum trucks affected by the proposed new rule already exist and are generally operated within the confines of existing industrial facilities. Modifications to existing facilities are not expected as a result of proposed Regulation 8-53. The proposed new rule would not result in the use of any additional water or an increase in any wastewater generated at the affected facilities. No increase in water consumption would be associated with vacuum truck control equipment. Therefore, no impacts on wastewater treatment requirements or wastewater treatment facilities are expected.

XVI c. Vacuum truck operators are expected to comply with the proposed new rule by the use of control and monitoring equipment and improved operating procedures. Therefore, the proposed Regulation 8-53 is not expected to alter the existing drainage or require the construction of new storm water drainage facilities. Nor is the proposed rule 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 new rule would not affect the ability of vacuum truck operators 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 new rule, since the proposed Regulation 8-53 would add control equipment to existing vehicles. Adding control equipment to existing vacuum trucks is not expected to create waste while being installed on vacuum trucks. Waste streams handled by vacuum

trucks are not expected to change. Waste streams will be processed similarly as currently, so no significant impact to land disposal facilities would be expected.

The proposed project is not expected to create additional hazardous waste streams. Therefore, no significant impacts to hazardous waste disposal facilities are expected due to the proposed new rule. 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 Regulation 5-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input 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"/> |

18. MANDATORY FINDINGS OF SIGNIFICANCE

Discussion of Impacts

XVII a. Proposed Regulation 8-53 does 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 is expected to result in emission reductions from vacuum truck loading operations, thus providing a beneficial air quality impact and improvement in air quality. The construction of additional structures is not expected to be required under the proposed rule. 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 rule is expected to result in emission reductions of organic compounds, including toxic air contaminants and methane, from vacuum truck loading operations, thus providing a beneficial air quality impact through the reduction in ambient ozone concentrations and toxic air contaminants. The proposed rule 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 does not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. Proposed Regulation 8-53 is 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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