Initial Study/Negative Declaration for the Bay Area Air Quality Management District

Regulation 6, Rule 3: Wood Burning Devices

Prepared for:

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Chapter 1

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FIGURES:

TABLES:

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CHAPTER 1

Introduction

1.1 PURPOSE OF THIS DOCUMENT

This Negative Declaration assesses the environmental impacts of the proposed amendments to Regulation 6, Rule 3: Wood Burning Devices (Rule 6-3), 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 amendments when determining whether to adopt them. The BAAQMD has prepared this Negative Declaration because no significant adverse impacts are expected to result from the proposed amendments to Regulations 6-3.

1.2 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.

1.3 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 rule amendments:

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

1.4 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 6, Rules 3, describes the proposed rule amendments, and describes the area and facilities that would be affected by the amendments.

- Chapter 3, "Environmental Checklist," presents the checklist responses for each resource topic. This chapter includes a brief setting description for each resource area and identifies the impact of the proposed rule amendments on the resources topics listed in the checklist.

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

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CHAPTER 2

Description of the Proposed Rule

2.1 BACKGROUND

Rule 6-3 is different than other Air District rules that regulate sources of air pollution. Unlike other rules which require industry compliance, this rule requires the cooperation and participation of Bay Area residents. While burning wood may be a wintertime tradition and/or source of heat for some, wood smoke generates fine particulates. The Air District continues to develop smoke reduction strategies to further reduce particulate matter less than 2.5 microns equivalent aerodynamic diameter (PM2.5). The proposed amendments to Rule 6-3 would further reduce emissions of PM2.5 and visible emissions from wood burning devices in the Bay Area.

2.1.1 HEALTH HAZARDS OF PM2.5

The nine counties surrounding San Francisco Bay total nearly seven million residents and an estimated 1.4 million fireplaces and woodstoves. The fine particulates in wood smoke emitted from these fireplaces and woodstoves comprise the number one source of PM2.5 emissions in the wintertime and raise health concerns for Bay Area residents.

Combustion processes, including the combustion of wood in wood-burning devices, are a major source of anthropogenic air pollution. Smoke from residential wood-burning devices contains PM2.5, along with other pollutants including carbon monoxide, volatile organic compounds (VOCs), black carbon, and air toxics such as benzene. Wood-burning devices are used around the clock in some areas and can increase PM2.5 pollution to levels that pose serious health concerns. In some areas, residential wood smoke constitutes a significant portion of the PM2.5 emissions in those areas.

Fine particles contain microscopic solids or liquid droplets. Numerous scientific studies have linked PM2.5 exposure to a variety of health problems, including premature death in people with heart or lung disease, non-fatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing or difficulty breathing. However, even healthy people may experience temporary symptoms from exposure to elevated levels of particulates. People with respiratory illnesses, children, and the elderly, are more sensitive to the effects of PM2.5.

2.1.2 WINTERTIME METEOROLOGY AND PM LEVELS

Geographical distribution of wood-burning sources, local meteorology, and air exchange with neighboring air basins, all influence PM2.5 concentrations in the Bay Area. The Bay Area normally experiences the highest PM2.5 levels in the winter months from November through February when less frequent horizontal mixing (i.e., surface winds) and vertical mixing occurs. Horizontal and vertical mixing is critical to dispersing particulates in the atmosphere and keeping ambient concentrations below the PM2.5 standards. Winter meteorological conditions with periods of atmospheric stagnation can cause PM2.5 levels to exceed federal and State standards in areas within the BAAQMD jurisdiction.

BAAQMD analyses show that meteorological wind patterns can transport particulates from one location to another within the air basin, resulting in increased PM2.5 concentrations in some parts of the Bay Area. For example, a ridge of high pressure settling over northern California for multiple days can cause overnight temperature inversions to form, trapping particulates near the surface. Over a period of several days, these pollutants can accumulate, resulting in elevated PM2.5 levels. As high pressure continues to build, easterly winds can also develop, transporting wood smoke from adjacent air basins and eastern areas into other areas within the Air District..

2.1.3 SOURCE DESCRIPTION – WOOD BURNING DEVICES

Emissions from wood-burning devices can vary depending on a variety of factors, including the design and age of the wood-burning device, the type and amount of fuel used, and the ability of the user to operate the device in accordance with manufacturer's specifications and guidelines. Rule 6-3 defines wood-burning devices as any fireplace, wood heater such as a wood or pellet stove, fireplace insert, or any indoor permanently installed device burning any solid fuel for space-heating or aesthetic purposes. There are a variety of wood burning devices that are either existing in homes or available for purchase by the consumer to include wood stoves, pellet stoves, fireplace inserts and fireplaces. Generally, fireplaces of brick or stone, or "low mass" fireplaces, primarily provide ambiance and secondarily supply heating. In the process of burning wood or a solid-fuel product, such as manufactured logs, pressed logs or wood pellets, these devices must vent gases and combustion by-products through a flue or chimney. Devices that are sold in the Bay Area are required to be United States Environmental Protection Agency (U.S. EPA) certified to meet lower emissions ratings and are tested by an accredited laboratory.

2.1.4 U.S. EPA CERTIFIED WOOD HEATER REQUIREMENTS

2.1.4.1 Emission Requirements

Residential wood heaters contribute significantly to particulate air pollution. The U.S. EPA has regulated wood heater particulate emissions since 1988. Most wood-burning stoves sold in the United States at that time had to be certified by the U.S. EPA in

accordance with Title 40 Code of Federal Regulations Part 60, Subpart AAA (Standards of Performance for New Residential Wood Heaters). U.S. EPA continually strengthened the emission standards for wood heaters over the years and the Air District adopted Title 40 Code of Federal Regulations, Part 60, Subpart AAA requirements in the adoption of Rule 6-3 in 2008. Wood heaters that met certification requirements and verified by U.S. EPA to meet an emissions limit of 4.1 grams per hour (g/hr) of particulate matter (PM) for units equipped with a catalytic combustor, and 7.5 g/hr for units without a catalytic combustor units, were designated as "U.S. EPA Phase II Certified." Rule 6-3 currently only allows wood heaters that are U.S. EPA Phase II Certified Devices to be sold in the Bay Area.

On February 3, 2015, U.S. EPA updated emission requirements for residential wood heaters to further strengthen the standard that would incorporate new heater technology to make heaters emit less PM2.5. The updated requirements further lower emission limits for certified wood heaters and sets emission limits for a broader range of wood or pellet burning heaters, stoves, and other residential heaters which were previously unregulated, including outdoor and indoor wood-fired boilers (also known as hydronic heaters), indoor wood-fired forced air furnaces, and single burn-rate woodstoves. For the purposes of amending Rule 6-3, only wood and pellet burning stoves or inserts will be included as other heaters are not widely used in California and the greater Bay Area.

The U.S. EPA's updated requirements in Title 40 Code of Federal Regulations, Part 60, Subpart AAA will phase in new emission limits over a five-year period, beginning 2015. The standards apply only to new wood heaters manufactured and sold and will not affect wood heaters already being used in homes.

2.1.4.2 Labeling Requirements

The U.S. EPA's certification process requires manufacturers to verify that each of their wood heater model lines meet a specific particulate emission limit by undergoing emission testing at a U.S. EPA accredited laboratory.

A U.S. EPA certified wood stove can be identified by a temporary paper label attached to the front of the wood stove and a permanent metal label affixed to the back or side of the wood stove. One purpose of certification is to verify and document, in accordance with standardized testing by an independent body that the wood-burning device is designed such that the PM emissions to the atmosphere are less than the applicable emission limits for the specific device type.

2.2 OBJECTIVES

The objective of the proposed amendments to Regulation 6, Rule 3: Wood-burning Devices is to further reduce emissions of PM2.5 and visible emissions from wood burning devices used as a source of primary heat, supplemental heat, or ambiance in the Bay Area.

The Bay Area and neighboring regions are not in attainment of State and federal particulate matter standards and further reductions in PM emissions are needed. PM emission reductions can be achieved by abatement from point sources, fugitive capture enhancement, and pollution prevention practices.

The U.S. EPA has set primary national ambient air quality standards for air pollutants to define the levels considered safe for human health. The California Air Resources Board (CARB) has also set California ambient air quality standards. The Bay Area is a non-attainment area for particulate matter of 10 microns or less (PM10) or for particulate matter of 2.5 microns or less (PM2.5). Under State law, non-attainment areas must prepare plans showing how they will attain the state standards. The BAAQMD has prepared, approved and is currently implementing, the 2010 Clean Air Plan (CAP) which provides a plan to show how the district will meet applicable air quality standards. The 2010 CAP included FSM-12, which included emission reductions of PM from wood smoke.

2.3 PROPOSED RULE AMENDMENTS

Since the adoption of Rule 6-3 in 2008, the Air District has recognized there are parts of the Rule that can benefit from changes or additional clarification to ensure interpretation and enforcement are consistent with the intent of the rule to further reduce PM2.5 emissions regionally and locally. In March and April 2015, the Air District hosted nine public workshops to discuss proposed amendments to the rule.

This section summarizes the Air District's revised proposal following nine workshops at which the public provided input and ideas on the rule. The proposed amendments incorporate changes from public comments received during workshop as well as comments from interested parties and stakeholders.

2.3.1 SOLE SOURCE OF HEAT EXEMPTION

In Rule 6-3, a wood-burning device may be used during a Winter Spare the Air (WSTA) Alert if that wood-burning device is the only source of permanently installed heat. Following rule adoption in 2008, and through its policy, the Air District clarified that a dwelling with a permanently installed propane heater does not qualify for this exemption.

The Air District proposes to amend the Sole Source of Heat exemption to strengthen and clarify the conditions for qualification. The proposed amendment would require that residences must have a U.S. EPA-certified wood-burning device as the only permanently installed source of heat to qualify for this exemption. Additionally, a claimant would be required to register that U.S. EPA-certified device with the Air District to receive this exemption. The Air District's new proposed registration program requirement is discussed later in this section.

This proposal ensures that devices used as sole sources of heat are cleaner and more efficient than those previously exempt from the rule. Wood stoves tend to last a long time and are

replaced less frequently than other major appliances, so many older, uncertified wood-burning devices are still used regularly for heating.

2.3.2 EXEMPTION FOR NON-FUNCTIONAL, PERMANENTLY INSTALLED HEATERS

Rule 6-3 currently does not provide an exemption for non-functional heaters and does not address concerns where a wood-burning device may be the only source of heat available until the primary heater is repaired. The Air District proposes a temporary 30-day exemption to allow use of a wood-burning device during a WSTA Alert while a repair is being made to resume function of a non-wood heater. This exemption will only apply if a household has no alternate form of heat available, such as gas or electric heating. The proposed amendment would require claimants to submit repair documentation for verification upon request by the Air District within ten days.

2.3.3 EXEMPTION FOR LOSS OF NATURAL GAS AND/OR ELECTRIC POWER

The current Rule 6-3 has two separate exemptions for temporary gas or electric service outages. These exemptions allow use of a wood-burning device during a WSTA Alert if there is a loss of natural gas and/or electric power due to natural disasters, such as, but not limited to, earthquakes, fires, floods, storms, or if an outage is due to utility service disruptions. The Air District is proposing to combine these two exemptions sections into one and require that service outages must be verifiable by the local utility service provider.

2.3.4 CLARIFY, AMEND, OR ADD DEFINITIONS TO RULE

The current rule has two separate exemptions which allows any person who experiences a temporary service outage, where natural gas service and/or electric service is disrupted, may qualify for an exemption if that service outage is verifiable by the local utility service provider. The District proposes to maintain this exemption without change of conditions; however, the District is proposing to amend this into one exemption to provide clarity.

2.3.5 U.S. EPA REQUIREMENT FOR RESIDENTIAL WOOD HEATERS

Since adoption of Rule 6-3 in 2008, the Air District has enforced U.S. EPA requirements for residential wood heaters such that all wood heaters sold in the Air District must be "EPA Phase II Certified" in accordance with Title 40, Code of Federal Regulations, Part 60, Subpart AAA.

On February 3, 2015, the U.S. EPA updated emission standards for new residential wood heaters and the Air District is proposing to require wood-burning devices to meet these new certification requirements. U.S. EPA's new emission standards and five-year compliance schedule for new heaters establishes health-protective measures that ensure

manufacturers continue to move toward cleaner technologies and consumers transition to cleaner heater options.

Newly manufactured wood heaters must comply with the emissions standards and specified test methods in Title 40, Code of Federal Regulations, Part 60, Subpart AAA, as summarized in Table 2-1. Wood heaters currently in use and in homes are not affected by these new emission standards and the standards do not require a replacement or upgrade of existing devices. They also do not apply to outdoor fireplaces, pizza ovens, fire pits, barbecues, or chimineas.

TABLE 2-1

Title 40 CFR Part 60, Subpart AAA;
Requirements for Wood Heater Manufacturers and Retailers

Compliance Date	Emissions Ratings
May 15, 2015	4.5 g/hr
May 15, 2020	2.5 g/hr (crib tested) 2.0 g/hr (cordwood tested)

Note: Effective December 1, 2015, devices that have an emission rating of greater than 4.5 g/hr can no longer be sold, purchased or installed.

2.3.6 REQUIREMENT FOR SALE, RESALE, TRANSFER OR INSTALLATION OF WOOD-BURNING DEVICES

The current rule prevents the sale, resale, supply, transfer, or installation of U.S. EPA non-certified wood-burning devices within the Bay Area. The purpose of this requirement is to ensure that no member of the general public sells or purchases wood-burning devices that are not U.S. EPA certified. This provision is intended to remove loopholes that allow non-compliant stoves to stay on the market and be sold by the general public. This requirement applies to both used and new devices; however, the requirement does not apply to a wood-burning device that is an existing installed fixture included in the sale or transfer or real property.

2.3.7 VISIBLE EMISSIONS LIMITATION

The visible emissions limitation in the current Rule 6-3 uses the Ringelmann Smoke Chart to measure the apparent density of smoke. The Ringelmann No. 1 limit used in Rule 6-3 is a visible emission standard equivalent to 20 percent opacity. Visible emissions that exceed 20 percent opacity from chimneys, stovepipes, or flues based on visual observation for at least six consecutive minutes in any one-hour period are not allowed under proposed Rule 6-3. This requirement does not apply to the startup of a new fire for 20 minutes in any four-hour period.

The Air District proposes to amend and strengthen the standard to be consistent with Regulation 6, Rule 1, General Requirements, for sources of particulate matter. The

proposed amendment would not change the 20 percent opacity limit; however, it would shorten the duration of excessive visible emissions to three minutes in any hour. Following a 20-minute start-up allowance for new fires, visible emissions of greater than 20 percent opacity and aggregate to three minutes in any hour would be prohibited. This requirement does not apply to the startup of a new fire for 20 minutes in any four-hour period. The proposed amendment would make it easier for Air District staff to determine which wood-burning devices are not operating properly and creating excessive smoke.

2.3.8 REAL ESTATE AND RENTAL DISCLOSURE REQUIREMENT

The purpose of Rule 6-3 is to limit emissions of PM and visible emissions from wood-burning devices to protect air quality and public health. The Air District is proposing an informative measure that would require disclosure when selling, leasing, or renting properties with wood-burning equipment. The disclosure must describe the negative health impacts of PM2.5. The requirement for disclosure of the negative heath impacts of PM2.5 exposure is consistent with the Air District's mission to educate the public, discourage wood-burning, and encourage the transition to cleaner heating alternatives. Guidance from the Air District to develop language in the disclosure documents would be provided to real estate and rental associations.

2.3.9 REQUIREMENT FOR RENTAL PROPERTIES

The Air District is proposing a new requirement that all rental properties in areas with natural gas availability install a permanently installed form of heat that does not burn wood or solid fuel. This supports existing requirements in the California Health and Safety Code, Division 13, Part 1.5, Regulation of Buildings Used for Human Habitation, which requires landlords to provide adequate heat to tenants. This proposed requirement further ensures all landlords provide tenants with a cleaner heating option than burning wood in areas that have natural gas by disallowing all rental properties in areas with natural gas service from claiming the Sole Source of Heat exemption.

2.3.10 REQUIREMENT FOR NEW BUILDING CONSTRUCTION

Rule 6-3 currently allows any new construction of a building or structure to install a wood-burning device that meets U.S. EPA certification requirements. The Air District proposes to amend and strengthen this requirement by ensuring new construction in the Bay Area transition to only the cleanest, most efficient heating options, such as, but not limited to, gas-fueled or electric heaters. Under this proposed amendment, new buildings could no longer install a wood-burning fireplace or U.S. EPA-certified wood heater.

2.3.11 REQUIREMENT FOR FIREPLACE OR CHIMNEY REMODELS

Rule 6-3 currently requires the installation of a gas-fueled, electric, or U.S. EPA-certified wood-burning device as part of a remodel of a fireplace or chimney, when that remodel construction requires a local building permit. The current requirement of the rule is

vague and may unreasonably require any fireplace or chimney remodel, regardless of the scale or scope of the remodel job, to install a U.S. EPA-certified device.

The Air District proposes to amend and clarify this requirement so that only remodels with costs greater than $15,000 (excluding cost of local building permit) and that require a building permit would trigger the installation of a U.S. EPA-certified, gas-fueled, or electric device. Enforcement of this provision would be by the local city or county where the building permit is received.

2.3.12 REGISTRATION REQUIREMENT

The Air District proposes to establish a new registration program that would require all claimants of Sole Source of Heat exemption to register their U.S. EPA-certified wood-burning devices. The Air District is proposing a free and voluntary registration program with a requirement to renew the registration every five years. Registrants would be required to maintain all documents that verify Sole Source of Heat exemption status and would be required to be able to demonstrate that registered devices are operated according to manufacture specifications.

This proposed registration requirement would provide an inventory of U.S. EPA-certified wood-burning devices in geographical areas without natural gas service and allow the Air District to strategically allocate resources to households that are not using U.S. EPA-certified devices in areas without natural gas service. This proposed requirement also would allow Air District staff to better address wood smoke concerns in certain communities that do have natural gas service and are using wood-burning devices during WSTA Alerts.

2.3.13 MANDATORY BURN BAN

Rule 6-3 prohibits wood-burning in the Bay Area when forecasts indicate PM2.5 concentrations will reach unhealthy levels, exceeding the 24-hour PM2.5 federal health standard of 35 μg/m3 resulting in a WSTA Alert. This requirement is currently named in the rule as "Solid-fuel Burning Curtailment."

The Air District does not plan to amend the standard of this requirement; however, the Air District is proposing to amend the name by changing it from "Solid-fuel Burning Curtailment" to "Mandatory Burn Ban." A name change would effectively communicate to the general public that when a WSTA Alert is declared, a "Mandatory Burn Ban" is in effect and wood burning is illegal in the Bay Area.

2.4 POTENTIAL EMISSION REDUCTIONS

In 2008, the Air District estimated 983 tons per year of PM2.5 reduction from the implementation of Rule 6-3 based on data from the 2005 emissions inventory. The Air District estimates a PM2.5 emissions reduction of 321 tpy from the 2015 proposed

amendments to Rule 6-3. Table 2-2 summarizes the estimated reductions expected from the proposed amendment.

TABLE 2-2

Summary of Estimated PM2.5 Emission Reductions

2015 Proposed Amendments	Estimated Reduction (PM2.5)
Sole Source of Heat Exemption (Requires U.S. EPA certified device)	260 tpy
Requirement for Rental Properties	17 tpy
New Building Construction	44 tpy
Total	**321 tpy**

2.6 AFFECTED AREA

The proposed rule amendments would apply to wood burning devices 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.

BAAQMD proposes to regulate PM2.5 wood burning currently subject to District regulations. The devices affected by the proposed rule amendments are located within the jurisdiction of the Bay Area Air Quality Management District (see Figure 1).

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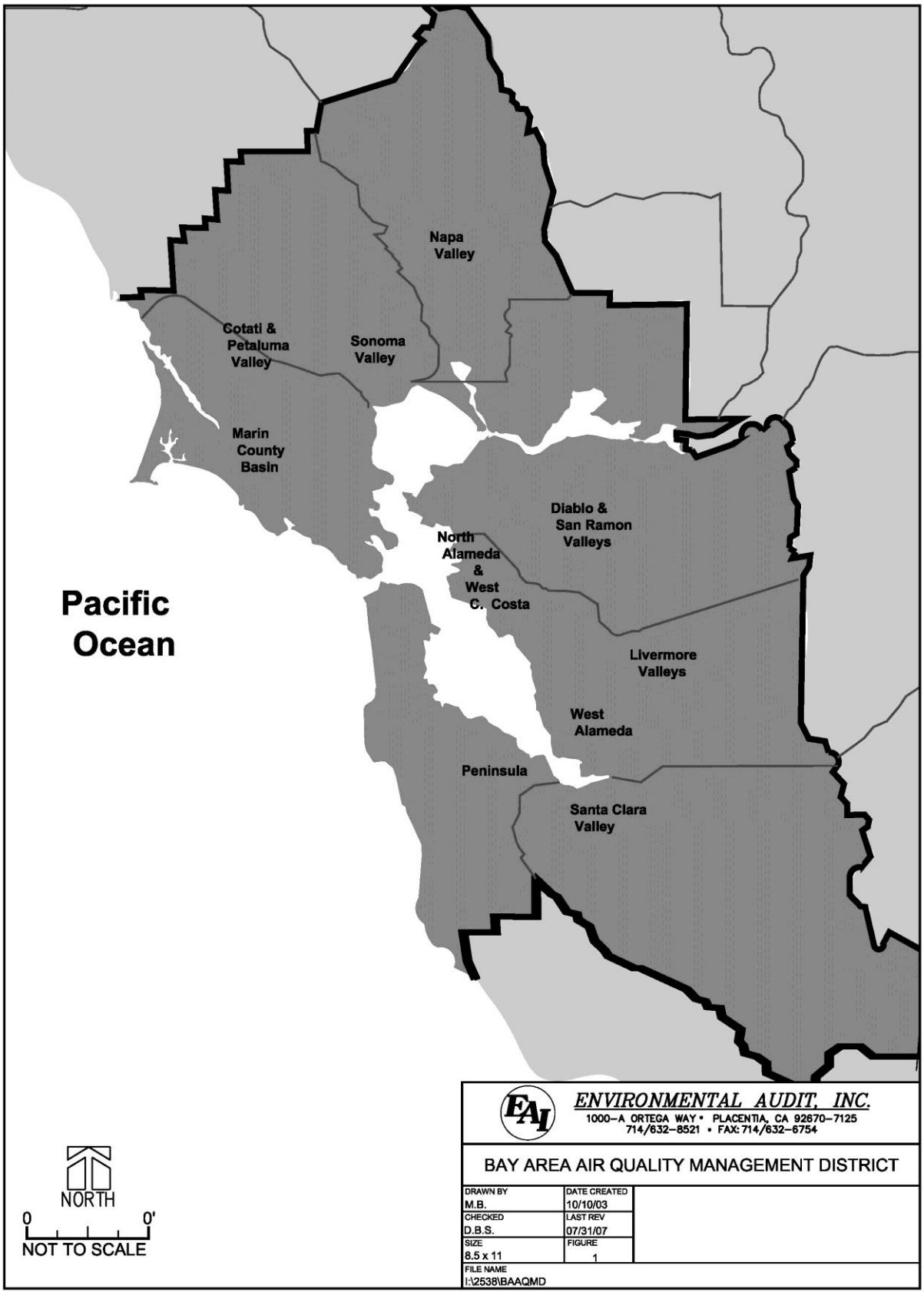
Napa Valley
Cotati & Petaluma Valley
Sonoma Valley
Marin County Basin
Diablo & San Ramon Valleys
North Alameda & West C. Costa
Pacific Ocean
Livermore Valleys
West Alameda
Peninsula
Santa Clara Valley
NORTH
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NOT TO SCALE
ENVIRONMENTAL AUDIT, INC.
1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125
714/632-8521 • FAX: 714/632-6754
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
DRAWN BY M.B.
DATE CREATED 10/10/03
CHECKED D.B.S.
LAST REV 07/31/07
SIZE 8.5 x 11
FIGURE 1
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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:	Regulation 6: Particulate Matter and Visible Emissions, Rule 3: Wood-burning Devices
Lead Agency Name:	Bay Area Air Quality Management District
Lead Agency Address:	939 Ellis Street San Francisco, California 94109
Contact Person:	Guy Gimlen
Contact Phone Number:	415-749-4734
Project Location:	These draft rules apply 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:	Rule 6-3 applies to wood burning devices located throughout the District, which are primarily located in land use areas designated as residential.
Zoning:	Rule 6-3 applies to wood burning devices throughout the District, which are primarily located in residentially zoned areas.
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 an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐ 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	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

☒ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions 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
I.	**AESTHETICS.**				
	Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☑	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d)	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☑	☐

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. Scenic highways or corridors are located throughout the Bay Area.

The proposed rule amendments focus on PM2.5 emissions from wood-burning devices. The amendments to Rule 6-3 will affect wood-burning devices located within the Bay Area. Wood-burning devices are generally located inside of residential units within residential areas, while some are located in commercial facilities such hotels, restaurants, lodges, etc.

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. Regulation 6, Rule 3 (Rule 6-3) is designed to limit emissions of particulate matter and visible emissions from wood-burning devices. The proposed amendments to Rule 6-3 would further reduce particulate matter emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. The proposed amendments help ensure the Bay Area continues to reduce PM2.5 emissions from wood-burning and transition to cleaner, more efficient heating alternatives.

The amendments to Rule 6-3 would establish criteria for the sale and installation of wood-burning devices. These requirements would control the type of permanently installed indoor or outdoor wood-burning devices that can be installed or used to replace existing equipment. The Rule 6-3 compliant devices are similar in size and structure as the non-compliant devices, therefore this requirement is not expected to have an effect on the visual character of the environment. The proposed amendments to Rule 6-3 would reduce emissions of PM, which is expected to have a beneficial impact on visibility, as well as air quality.

The amendments to Rule 6-3 would not require any new development, and compliant devices are similar to non-compliant devices. Any construction activities to replace non-compliant wood-burning devices, or install alternative heating devices, would occur within existing dwellings and structures. Therefore, obstruction of scenic resources or degrading the visual character of a site, including but not limited to: trees, rock outcroppings, or historic buildings, is not expected.

The amendments to Rule 6-3 do not require any light generating equipment for compliance, so no additional light or glare would be created to affect day or nighttime views in the District.

Conclusion

Based upon these considerations, no significant adverse aesthetic impacts are expected from adoption of the proposed amendments to Rule 6-3.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact

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?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☑
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	☐	☐	☐	☑

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 rule amendments focus on PM2.5 emissions from wood-burning devices. The amendments to Rule 6-3 will affect wood-burning devices located within the Bay Area. Wood-burning devices are generally located inside of residential units within residential areas, while some are located in commercial facilities such hotels, restaurants, lodges, etc. Agricultural or forest resources are typically not located within these residential areas within the Bay Area.

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 amendments to Rule 6-3 are designed to limit emissions of PM and visible emissions from wood-burning devices. The proposed rule amendments would not require conversion of existing agricultural land to other uses. The proposed rule amendments are not expected to conflict with existing agriculture related zoning designations or Williamson Act contracts. Williamson Act lands within the boundaries of the BAAQMD would not be affected. No effects on agricultural resources are expected because the proposed rule amendments would not require any new development, but would require the replacement of non-compliant wood-burning devices with U.S. EPA-compliant wood-burning devices, and may result in the conversion from wood-burning to alternative heating devices. All of these activities would be expected to occur within existing residential units or commercial facilities. Therefore, there is no potential for conversion of farmland to non-agricultural use or conflicts related to agricultural uses or land under a Williamson Act contract.

Conclusion

Based upon these considerations, no significant adverse impacts to agricultural and forest resources are expected from the adoption of the proposed amendments to Rule 6-3.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐

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 (NO_2), PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2) 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 25 monitoring stations in 2014.

The 2014 air quality data from the BAAQMD monitoring stations are presented in Table 3-2. The data indicate that the air quality at all monitoring stations were below the state standard and federal ambient air quality standards for CO, NO_2, and SO_2. The federal 8-hour ozone standard was exceeded on 8 days in the District in 2014, while the state 8-hour standard was exceeded on 10 days. The State 1-hour ozone standard was exceeded on 3 days in 2014 in the District. The ozone standards are most frequently exceeded in the Eastern District (Livermore (7 days for the state 8 hour standard and 4 days for the federal 8 hour standard), following by San Ramon (4 days for the state 8 hour standard and 3 days for the federal 8 hour standard) and San Martin (3 days for the state 8 hour standard and 5 days for the federal 8 hour standard) (see 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, NOx, and SO_2. The District is not considered to be in attainment with the ozone standards and State PM_{10} and $PM_{2.5}$ standards.

TABLE 3-1

Federal and State Ambient Air Quality Standards

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.075 ppm, 8-hr avg. >	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.03 ppm, annual avg.> 0.18 ppm, 1-hr avg. >	0.053 ppm, ann. avg.> 0.10 ppm, 1-hr 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. >	0.5 ppm, 3-hr. avg.> 0.075 ppm, 1-hr avg.>	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM_{10})	20 µg/m3, annual arithmetic mean > 50 µg/m3, 24-hr average>	150 µg/m3, 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m3, annual arithmetic mean>	15 µg/m3, annual arithmetic mean> 35 µg/m3, 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/m3, 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/m3, 30-day avg. >=	1.5 µg/m3, calendar quarter> 0.15 µg/m3, 3-mo. 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 - 2014

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 8-hr Days	3-Yr Avg	Max 1-hr	Max 8-hr	Nat/ Cal Days	Max 1-Hr	Ann Avg	Nat/ Cal 1-hr	Max 1-hr	Max 24-hr	Nat/ Cal 1-hr	Ann Avg	Max 24-hr	Nat Days	Cal Days	Max 24-hr	Nat 24-hr Days	3-Yr Avg	Ann Avg	3-Yr Avg
North Counties	(ppb)						(ppm)			(ppb)			(ppb)			(μm^3)				(μm^3)				
Napa*	74	0	66	0	0	58	2.2	1.4	0	46	8	0	-	-	-	15.8	39	0	0	29.9	0	*	12.0	*
San Rafael	88	0	68	0	0	56	1.9	1.1	0	62	11	0	-	-	-	14.1	41	0	0	38.1	1	22	10.8	9.8
Sebastopol*	67	0	61	0	0	*	1.4	0.9	0	44	4	0	-	-	-	-	-	-	-	26.2	0	*	7.7	*
Vallejo	77	0	68	0	0	58	2.5	2.1	0	50	8	0	23.9	2.4	0	-	-	-	-	39.6	1	26	9.9	9.6
Coast/Central Bay																								
Laney College Fwy*	-	-	-	-	-	-	2.0	1.1	0	65	17	0	-	-	-	-	-	-	-	26.0	0	*	8.4	*
Oakland	83	0	68	0	0	47	2.8	1.7	0	82	12	0	-	-	-	-	-	-	-	37.6	1	24	8.5	9.4
Oakland-West*	72	0	59	0	0	47	3.0	2.6	0	56	14	0	16.5	3.3	0	-	-	-	-	38.8	1	*	9.5	*
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	19.2	5.0	0	-	-	-	-	-	-	-	-	-
San Francisco	79	0	69	0	0	47	1.6	1.2	0	84	12	0	-	-	-	17.0	36	0	0	33.2	0	23	7.7	8.6
San Pablo*	75	0	60	0	0	52	1.8	1.0	0	52	9	0	15.3	5.8	0	16.4	46	0	0	38.2	1	*	10.5	*
Eastern District																								
Bethel Island	92	0	71	0	1	67	0.9	0.7	0	33	5	0	10.5	3.4	0	16.7	61	0	1	-	-	-	-	-
Concord	95	1	80	2	2	64	1.4	1.1	0	48	8	0	29.1	4.5	0	14.2	43	0	0	30.6	0	22	6.6	7.0
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	25.7	5.4	0	-	-	-	-	-	-	-	-	-
Fairfield	81	0	70	0	0	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Livermore	93	0	80	4	7	72	-	-	-	49	10	0	-	-	-	-	-	-	-	42.9	1	27	7.6	7.5
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	21.2	4.6	0	-	-	-	-	-	-	-	-	-
Patterson Pass	-	-	-	-	-	-	-	-	-	21	3	0	-	-	-	-	-	-	-	-	-	-	-	-
San Ramon	86	0	77	3	4	67	-	-	-	37	6	0	-	-	-	-	-	-	-	-	-	-	-	-
South Central Bay																								
Hayward	96	1	75	0	4	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redwood City	86	0	65	0	0	56	3.2	1.6	0	55	11	0	-	-	-	-	-	-	-	35.0	0	23	7.1	8.8
Santa Clara Valley																								
Gilroy	84	0	74	0	4	66	-	-	-	-	-	-	-	-	-	-	-	-	-	25.7	0	18	6.8	7.6
Los Gatos	90	0	77	1	3	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
San Jose	89	0	66	0	0	60	2.4	1.9	0	58	13	0	3.0	0.9	0	19.9	55	0	1	60.4	2	30	8.4	10.0
San Jose Freeway*	-	-	-	-	-	-	2.2	1.9	0	65	*	0	-	-	-	-	-	-	-	24.3	0	*	*	*
San Martin	97	1	78	3	5	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Days over Standard		**3**		**5**	**10**				**0**			**0**			**0**			**0**	**2**		**3**			

* PM2.5 monitoring using the federally accepted method began at Napa, Oakland West, and San Pablo in December 2012. Therefore, 3-year average PM2.5 statistics are not available. Air monitoring at Sebastopol began in January 2014. Therefore, 3-year average statistics for ozone and PM2.5 are not available. In addition, the Sebastopol site replaced the Santa Rosa site which closed on December 13, 2013. Therefore, statistics for Santa Rosa are not provided in the 2014 summary. Near-road air monitoring at Laney College Freeway began in February 2014. Therefore, 3-year average PM2.5 statistics are not available. Near-road air monitoring at San Jose Freeway began in September 2014. Therefore, annual average NO_2 and 3-year average PM 2.5 statistics are not available.

(ppb) = parts per billion (ppm) = parts per million, ($\mu g/m^3$) = micrograms per cubic meter. (ppb) = parts per billion (ppm) = parts per million, ($\mu g/m^3$) = micrograms per cubic meter.

TABLE 3-3

Bay Area Air Quality Summary
Days over Standards

YEAR	OZONE			CARBON MONOXIDE				NOx		SULFUR DIOXIDE		PM_{10}		$PM_{2.5}$
	8-Hr	1-Hr	8-Hr	1-Hr		8-Hr		1-Hr		1-Hr	24-Hr	24-Hr*		24-Hr
	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat
2005	5	9	9	0	0	0	0	0	0	0	0	0	6	21
2006	17	18	22	0	0	0	0	1	0	0	0	0	15	10
2007	2	4	9	0	0	0	0	0	0	0	0	0	4	14
2008	12	9	20	0	0	0	0	0	0	2	0	0	5	12
2009	8	11	13	0	0	0	0	0	0	0	0	0	1	11
2010	9	8	00	0	0	0	0	0	0	0	0	0	2	6
2011	4	5	10	0	0	0	0	0	0	0	0	0	3	8
2012	4	3	8	0	0	0	0	1	0	0	0	0	2	3
2013	3	3	3	0	0	0	0	0	0	0	0	0	6	13
2014	5	3	10	0	0	0	0	0	0	0	0	0	2	3

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, 2010 Annual Report (BAAQMD, 2010) and summarized in Table 3-4. The 2010 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 BAAQMD Ambient Air Toxics Monitoring Data[1]

Pollutant	Units	Average MDL [1]	% less than MDL	Max Sample Value	Min Sample Value	Average Sample Value [2] [3]
1,3-Butadiene	ppb	5.73E-02	87%	3.30E-01	0.00E+00	3.84E-02
Acetaldehyde	ppb	5.86E-02	0%	3.10E+00	1.97E-01	6.84E-01
Acetone	ppb	1.27E-01	1%	3.50E+01	0.00E+00	2.25E+00
Acetonitrile	ppb	2.55E-01	26%	2.34E+00	0.00E+00	5.09E-01
Antimony	$\mu g/m^3$	1.50E-03	78%	5.02E-02	00.0E+00	2.36E-03
Arsenic	$\mu g/m^3$	7.81E-04	92%	2.92E-03	0.00E+00	4.32E-04
Benzene	ppb	2.41E-02	1%	1.26E+00	0.00E+00	2.17E-01
Bromomethane	ppb	3.00E-02	95%	7.30E-02	1.50E-02	1.65E-02
Cadmium	$\mu g/m^3$	7.81E-04	85%	1.92E-02	0.00E+00	8.67E-04
Carbon Tetrachloride	ppb	1.14E-02	0%	1.70E-01	7.00E-02	1.03E-01
Chlorine	$\mu g/m^3$	0.00E+00	5%	3.64E+00	0.00E+00	3.43E-01
Chloroform	ppb	1.14E-02	46%	8.00E-02	0.00E+00	1.95E-02
Chromium	$\mu g/m^3$	1.02E-03	25%	1.00E-01	0.00E+00	2.48E-03
Cis-1,3-Dichloropropylene	ppb	1.00E-01	100%	5.00E-02	5.00E-02	5.00E-02
Cobalt	$\mu g/m^3$	7.81E-04	76%	3.26E-03	0.00E+00	5.25E-04
Copper	$\mu g/m^3$	4.00E-04	31%	4.90E-02	0.00E+00	5.74E-03
Dichloromethane	ppb	1.00E-01	37%	4.40E+00	0.00E+00	1.80E-01
Ethyl Alcohol	ppb	3.00E-01	0%	2.27E+01	4.00E+00	1.16E+01
Ethylbenzene	ppb	6.18E-02	53%	1.20E+00	0.00E+00	8.25E-02
Ethylene Dibromide	ppb	1.00E-02	100%	0.00E+00	0.00E+00	5.00E-03
Ethylene Dichloride	ppb	1.00E-01	100%	0.00E+00	0.00E+00	5.00E-02
Formaldehyde	ppb	6.76E-02	0%	6.30E+00	2.00E-01	1.46E+00
Lead	$\mu g/m^3$	7.81E-04	40%	2.40E-01	0.00E+00	4.85E-03
M/P Xylene	ppb	6.18E-02	9%	5.27E+00	0.00E+00	3.18E-01
Magnesium	$\mu g/m^3$	0.00E+00	36%	4.88E-01	0.00E+00	5.54E-02
Manganese	$\mu g/m^3$	7.81E-04	25%	2.00E-01	0.00E+00	7.06E-03
Mercury	$\mu g/m^3$	0.00E+00	98%	1.70E-03	0.00E+00	2.24E-05
Methyl Chloroform	ppb	2.73E-02	88%	4.30E+00	0.00E+00	3.22E-02
Methyl Ethyl Ketone	ppb	1.00E-01	28%	1.78E+00	0.00E+00	1.89E-01
Nickel	$\mu g/m^3$	4.50E-03	57%	6.00E-02	0.00E+00	3.39E-03
O-Xylene	ppb	4.82E-02	30%	5.12E+00	0.00E+00	1.21E-01

TABLE 3-4 (Concluded)

Pollutant[4]	Units	Average MDL [2]	% less than MDL	Max Sample Value	Min Sample Value	Average Sample Value [1] [3]
PAHs[4]	ng/m^3					1.90E-01
Selenium	µg/m^3	7.81E-04	76%	8.60E-03	0.00E+00	8.04E-04
Styrene	ppb	1.00E-01	96%	1.20E-01	5.00E-02	5.22E-02
Sulfur	µg/m^3	0.00E+00	0%	1.73E+00	3.74E-02	3.56E-01
Tetrachloroethylene	ppb	5.68E-03	21%	2.80E-01	0.00E+00	1.88E-02
Toluene	ppb	6.18E-02	2%	4.33E+00	0.00E+00	6.22E-01
Trans-1,3-Dichloropropylene	ppb	1.00E-01	100%	5.00E-02	5.00E-02	5.00E-02
Trichloroethylene	ppb	1.14E-02	84%	5.20E-01	0.00E+00	1.42E-02
Trichlorofluoromethane	ppb	1.00E-02	0%	6.90E-01	1.00E-02	1.96E-01
Vanadium	µg/m^3	4.00E-04	72%	5.10E-03	0.00E+00	5.34E-04
Vinyl Chloride	ppb	1.00E-01	100%	0.00E+00	0.00E+00	5.00E-02
Zinc	ng/m^3	1.80E-03	0%	1.90E-01	0.00E+00	1.38E-02

Source: BAAQMD 2010 Toxic Air Contaminant Monitoring Data. Data are a summary of data from all monitoring stations within the District.

1. If an individual sample value was less than the MDL (Minimum Detection Limit), then 1/2 MDL was used to determine the Average Sample Value.
2. Some samples (especially metals) have individual MDLs for each sample. An average of these MDLs was used to determine 1/2 MDL for the Average Sample Value.
3. Data for these two substances was collected but not presented because the sampling procedure is not sanctioned for use by EPA or ARB.
4. For compounds with 100% of sample values less than MDL, please use caution using the assumed Average Sample Values.

Regulatory Background

Criteria Pollutants

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

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 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 CARB adopted a regulation designating all 189 federal HAPs as TACs.

Control of TACs Under the Air Toxics "Hot Spots" Act: The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code §39656) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with those emissions. Inventory reports must be updated every four years under current state law. The BAAQMD uses a maximum individual cancer risk of 10 in one million, or an ambient concentration above a non-cancer reference exposure level, as the threshold for notification.

Senate Bill (SB) 1731, enacted in 1992 (California Health and Safety Code §44390 et seq.), amended AB 2588 to include a requirement for facilities with significant risks to prepare

and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. At a minimum, such facilities must, as quickly as feasible, reduce cancer risk levels that exceed 100 per one million. The BAAQMD adopted risk reduction requirements for perchloroethylene dry cleaners to fulfill the requirements of SB 1731.

Targeted Control of TACs Under the Community Air Risk Evaluation Program: In 2004, BAAQMD established the Community Air Risk Evaluation (CARE) program to identify locations with high emissions of 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. The proposed amendments to Rule 6-3 are not expected to conflict with or obstruct implementation of the applicable air quality plan. The proposed amendments to Rule 6-3 would further reduce PM emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. The 2010 Clean Air Plan is the most recently adopted air quality plan for the Bay Area. The proposed amendments to Rule 6-3 would contribute directly to meeting the objectives of the 2010 Clean Air Plan by reducing particulate emissions and contributing towards attaining the state and federal ambient air quality standards for PM2.5. Because the proposed rule amendments would reduce PM emissions and meet the objectives of the 2010 Clean Air Plan, the proposed amendments are in compliance with the local air quality plan and are expected to provide beneficial impacts associated with reduced PM2.5 and toxic emissions from wood-burning activities in the Bay Area.

III b and d. The proposed amendments to Rule 6-3 would further reduce particulate matter emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. As discussed below, implementation of these amendments are expected to reduce emissions of PM.

Construction Activities Associated with New Development: The amendments to Rule 6-3 would eliminate the installation wood-burning devices in new development. The installation of natural gas of electric heating devices in new construction would be similar to the installation of wood-burning devices. U.S. EPA-compliant wood-burning devices exhaust/venting systems typically consist of interconnected ducting. Some systems may require additional ducting for

external air. Since the installation of the compliant devices is expected to be similar to installing natural gas or electric heating devices, the amendments to Rule 6-3 are not expected to produce new development emissions or alter construction emissions. Effective November 1, 2016, no person or builder shall install a wood-burning device in a new building construction upon adoption of the proposed rule amendments.

Construction Activities Associated with Existing Facilities: Amendments to Rule 6-3 would reduce the exemptions from the rule for sole-source heat, would require the replacement of non-compliant wood burning devices with U.S. EPA-compliant wood-burning devices, and require installation of new heating systems in some rental properties. The replacement of non-compliant wood burning devices with compliant devices would also be triggered with remodeling activities (costing more than $15,000).

Replacement of existing non-compliant wood-burning devices with compliant wood-burning devices would require the removal of the old equipment and installation of the new equipment. Depending on the type of compliant wood-burning device the exhaust/venting system may be reused, lined, retrofitted or replaced. The new exhaust/venting system may be placed within the existing duct system. It was assumed that wood-burning devices can be installed or replaced using manual labor and that replacement and installation would occur in one day.

Therefore, since the construction component of installing non-compliant or compliant wood-burning devices is similar, no increase in emissions is expected from the installation of compliant wood-burning devices, instead of non-compliant appliances. New heating systems that would be installed in rental properties would include the purchase of and installation new heaters and ducting. The installation of new heating systems would not require extensive construction but would require that new heaters be placed within the homes and the vents and ducting systems be installed. These construction activities are expected to be minor and require one to two days to install. Therefore, the proposed amendments to Rule 6-3 are not expected to generate any new construction emissions.

Operational Air Quality Impacts

The overall objective of the proposed rule amendments is to reduce PM10 and PM2.5 emissions from wood-burning devices. The proposed amendments will reduce emissions by requiring that U.S. EPA-compliant wood-burning devices be used, include Mandatory Burn Bans, and could require the conversion of some facilities from wood-burning devices for heating to alternative heating devices, e.g., natural gas, propane, or electric.

Since Rule 6-3 was adopted, PM2.5 emissions have been reduced by up to 59 percent in the Bay Area. While the Rule has been successful at reducing regional fine particulate levels, wood smoke continues to cause unhealthy air and impact neighborhoods and communities on a local level. Studies conducted by the Air District in Santa Rosa and the San Geronimo Valley concluded that wood smoke significantly impacts local areas causing localized exceedances of the PM2.5 federal health standard and in some cases, generate up to 70 percent of the PM in that area (BAAQMD, 2015).

Wood-burning devices contribute substantial amounts of fine airborne PM into the atmosphere. It is during the winter months and under certain meteorological conditions that these devices significantly contribute to total fine airborne PM in air. Through the use of ambient PM monitoring, chemical mass balance, Carbon-14 dating combined with Bay Area winter 2014 emission data, the BAAQMD has estimated wood smoke as the single greatest contributor (~30-40 percent) to PM2.5 on peak days in the Bay Area(BAAQMD, 2015).

Prior to the adoption of Rule 6-3 in 2005, the Air District's emission inventory showed wood-burning devices contributed approximately 17.61 tons per day (tpd) or 6,427 tons per year (tpy) of PM2.5. emissions (see Table 3-5). Based on 2014 emissions data, it is notable that there was a sizable reduction in PM2.5 emissions in the Bay Area regionally. The Air District achieved a 59 percent reduction in PM2.5 emission from wood-burning devices for a total reduction of 2,660 tpy of PM2.5. Table 3-5 compares the PM2.5 emissions in 2005 and 2014 for each of the county's within the BAAQMD.

TABLE 3-5

2005 and 2014 Summary of PM2.5 Emissions from Wood Burning Devices in the BAAQMD (tons per day)

COUNTY	2005	2014
Alameda	2.22	1.37
Contra Costa	4.88	2.96
Marin	1.35	0.69
Napa	0.71	0.4
San Francisco	0.3	0.18
San Mateo	1.03	0.58
Santa Clara	3.61	2.18
Solano*	0.9	0.5
Sonoma*	2.59	1.46
Total Bay Area Emissions	17.61 (6,427 tons per year)	10.32 (3,767 tons per year)

* Portion of the county within the Air District.

The BAAQMD estimates a reduction in PM2.5 emissions of 310 tons per year from the currently proposed amendments to Rule 6-3. Table 3-6 summarizes the estimated reductions expected for each proposed rule amendment.

TABLE 3-6

Summary of PM2.5 Emissions Reductions in the BAAQMD from Proposed Amendments to Rule 6-3 (tons per day)

2015 Proposed Amendments	Estimated PM2.5 Emission Reduction (tons per year)
Sole Source Heat Exemption (Requires U.S. EPA Certified Device)	260
Requirement for Rental Properties	17
New Building Construction	44
TOTAL EMISSION REDUCTIONS:	**321**

Sole Source Heat Exemption: The proposed exemption requires a person to replace an uncertified wood-burning device with a U.S. EPA-certified wood-burning device in order to claim the "sole source of heat" exemption. The proposed amendments are expected to reduce emissions specifically in areas where there is no natural gas service. Based on census data from 2009-2013, the Air District estimates that approximately 19,000 households used wood as a primary source of heat. Of those households, it is estimated that 50 percent of homes in areas without natural gas have a U.S. EPA-certified wood-burning device for heat and the other 50 percent of the homes have a non-compliant wood-burning devices. The District estimates 260 tons per year of PM2.5 will be reduced per year from this proposed exemption (see Table 3-7)

TABLE 3-7

Summary of PM2.5 Emissions Reductions in the BAAQMD from Modification to the Sole Source Heat Exemption in Rule 6-3 (tons per day)

Number of Households	Emission Factor for Device (lbs/year)	Total Annual PM2.5 Emissions (lbs/year)
50% of households (11,500) with U.S. EPA certified wood heaters	U.S. EPA certified heater: 7 lbs/year	30 tpy
50% of households (11,500) with non-compliant wood burning devices	Uncertified device: 60 lbs/year	290 tpy
Estimated Total Emissions Reduced:		**260 tpy**

Provide Renters with a Clean Heating Option: The Air District is proposing an amendment to ensure that all rental properties located in natural gas service areas have a permanently installed source of heat that does not burn wood. Based on the 2009-2013 census data, the Air District estimates approximately 5,000 rental units in the Bay Area use a wood-burning device as their primary source of heat. The Air District estimates that 4,700 of these 5,000 rental properties are in areas without natural gas service and are subject to the Sole Source Heat exemption. If 300 rental properties that previously only had a wood-burning device as a primary source of heat and installs a permanent gas-fueled heater, it is estimate that PM2.5 emissions would be reduce by 17 tons per year (assuming the tenant uses the gas heater the entire winter season) (see Table 3-8).

TABLE 3-8

Summary of PM2.5 Emissions Reductions in the BAAQMD from Modification to Rule 6-3 to Require Renters with a Clean Heating Option in Areas Serviced by Natural Gas (tons per day)

Devices	PM2.5 Emissions (lbs/year)	Total Annual PM2.5 Emissions (tons/year)
Fireplaces (100)	300	12 tpy
Uncertified Wood Stoves (200)	60	5 tpy
Estimated Total Emissions Reduced:		**17 tpy**

Requirements for New Building Construction: In 2008, the Air District projected 58 tons per year of emissions reduction from a requirement that new construction may only install wood-burning devices that are U.S. EPA-certified. The Air District is currently proposing to strengthen the requirement by prohibiting the installation of wood-burning devices such as fireplaces and U.S. EPA-certified wood-burning heaters in new building construction. This requirement would continue the downward trend of homes using wood-burning devices that

contribute to PM2.5 emissions. The District estimates the proposed requirement to further reduce emissions by 44 tons per year. These estimates are based on survey results that indicate the types of fuel Bay Area households are burning and the frequency at which the households are burning these fuels. These trends were applied to Association of Bay Area Governments (ABAG) future household projections to estimate the emissions reduction.

Additional PM2.5 emission reductions are expected to occur from other amendments to Rule 6-3 including, strengthening the visible emission limitation, requirement for disclosure documents during property sales, requirements for fireplace or chimney remodels, and public education efforts. However, the emission reductions for these amendments are not quantifiable due to lack of sufficient data.

Based on the above, the proposed amendment to Rule 6-3 are expected to result in an emission reduction of 321 tons per year of PM2.5, providing a large, beneficial air quality impact. Therefore, no significant adverse impacts on air quality are expected as a result of the proposed amendments to Rule 6-3.

III c. CEQA Guidelines indicate that cumulative impacts of a project shall be discussed when the project's incremental effect is cumulatively considerable, as defined in CEQA Guidelines §15065(c). The overall impact of the proposed amendments to Rule 6-3 is a decrease in PM2.5 emissions. Therefore, the cumulative air quality impacts of the proposed amendments to Rule 6-3 are expected to be beneficial, resulting in a decrease in PM2.5 emissions.

III d. As discussed above, the proposed amendments to Rule 6-3 are designed to reduce emissions of PM2.5. PM emissions from wood burning are sources of Toxic Air Contaminants. PM is a mixture of suspended particles and liquid droplets and includes elements such as carbon and metals, compounds such as nitrates, organics and sulfates and complex mixtures such as diesel exhaust and wood smoke. PM is a leading health concern. A large body of evidence suggests that exposure to PM, particularly fine PM, can cause a wide range of health effects, including aggravation of asthma and bronchitis, an increase in visits to the hospital with respiratory and cardio-vascular symptoms, and a contribution to heart attacks and deaths. The Bay Area is not in attainment of the California standards for PM2.5.

The proposed amendments to Rule 6-3 would result in modifications, upgrades and procedural changes to wood-burning devices which are expected to decrease PM emissions, which would include a reduction in TAC emissions. Reducing PM2.5 emissions, which also contains toxic metals, in these communities, will help improved health and air quality in these communities. Therefore, the proposed rule amendments are expected to result in a decrease in TAC emissions to sensitive receptors and no significant TAC impacts are expected as a result of the amendments to Rule 6-3.

III e. Affected facilities are not expected to create objectionable odors affecting a substantial number of people for the following reasons: (1) new installation of compliant wood-burning or alternative heating devices would be the same as installation of non-compliant appliances; (2) the rule amendments would require U.S. EPA-compliant wood-

burning devices with more efficient combustion that would reduce PM2.5 emissions and therefore potentially reduce odors; and (3) the amendments to the rule would require affected rental properties to provide an alternate source of heat reducing wood-burning activities, and potentially reducing odors. Therefore, the proposed rule amendments are expected to have a beneficial impact on air quality, including emissions that may generate odors. The BAAQMD will continue to enforce odor nuisance complaints through Regulation 1, Section 301.

Conclusion

Based upon these considerations, no significant adverse air quality impacts are expected from the adoption of the amendments to Rule 6-3. In fact, the proposed amendments are expected to provide beneficial air quality impacts by reducing PM2.5 emissions and related health benefits associated with reduce exposure to these compounds.

		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?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by 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?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑	☐

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 amendments to Rule 6-3 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 amendments to Rule 6-3 are primarily located within residential areas within the Bay Area. The affected areas have largely been graded for residential, and in a few cases, commercial development. Native vegetation, other than landscape vegetation, has generally been removed from residential and commercial areas to accommodate development. Any new development would fall under compliance with the City or County General Plans.

Regulatory Background

Biological resources are generally protected by the City and/or County General Plans through land use and zoning requirements which minimize or prohibit development in biologically sensitive areas. Biological resources are also protected by the California Department of Fish and Wildlife, 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 Wildlife 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. The proposed amendments to Rule 6-3 would further reduce particulate matter emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. The rule amendments are expected to limit emissions of PM and visible emissions from wood-burning devices. Installation of new compliant devices is expected to be similar to installation of non-compliant devices and would occur within the confines of existing development. For example, the requirement to provide renters with a clean heating option would require installation of new heating device within existing residential units and would not require construction of new development that would impact biological resources. Therefore, installing compliant devices or adding alternative heating systems in existing structures is not expected to create biological impacts. As a result, the proposed rule amendments would

not directly or indirectly affect riparian habitat, federally protected wetlands, or migratory corridors.

The proposed rule amendments would not conflict with local policies or ordinances protecting biological resources, nor would they conflict with local, regional, or state conservation plans because as the amendments will require compliant wood-burning devices in new development or reduce the operation of non-compliant wood-burning devices in existing development. After November 1, 2016, wood-burning devices will no longer be permissible in new construction. The replacement or removal of any wood-burning device would occur within existing residential or commercial development. The proposed rule amendments will also not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan.

Conclusion

The proposed amendments to Rule 6-3 neither requires nor is likely to result in activities that would affect sensitive biological resources. Therefore, no significant adverse impacts on biological resources are expected.

Based upon these considerations, no significant adverse impacts to biological resources are expected from the adoption of the amendments to Rule 6-3.

		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?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☑
c)	Directly of indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☑

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 wood-burning devices affected by the proposed amendments to Rule 6-3 are primarily located within residential areas in the Bay Area. These areas have generally already been graded to accommodate development. Cultural resources would not be expected to be impacted by modifications to existing structures.

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 §§50020.1(k) and 5024.1(g).

Discussion of Impacts

V a – d. The proposed rule amendments are not expected to have an effect on cultural resources because the proposed rule amendments would not cause any new development. In the event historic buildings have wood-burning features, the Secretary of the Interior Standards for the Treatment of Historic Properties provide guidance for reviewing any proposed project that may affect historic resources.

The intent of the Standards is to assist the ling-term preservation of a historic property's significance through the preservation, rehabilitation, and maintenance of historic materials and features. The standards pertain to historic buildings of all materials, construction types, sized, and occupancy and encompass the exterior and interior of buildings. The Standards also encompass related landscape features and a building's site and environment, as well as attached, adjacent, or related new construction.

The Standards have guided agencies in carrying out historic preservation responsibilities at the state and local lever when reviewing projects that may impact historic resources and have been adopted by State and local jurisdictions across the country. Specifically, §15064.5(b)(3) of the CEQA Guidelines states:

> *"Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings" (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historical resource."*

Compliance with the Secretary of the Interior's Standards will assure no significant impact to a historical resource. The amendments to Rule 6-3 allows for existing fireplaces or other wood-burning devices. Therefore, Rule 6-3 is not expected to have significant impacts to historic buildings or require that wood-burning devices in historic buildings be removed or replaced.

The proposed amendments would require that any new wood-burning devices installed be compliant with Rule 6-3. The removal and installation of non-compliant and compliant devices is not expected to require the use of heavy construction equipment, therefore, no impacts to historical resources are expected as a result of amending Rule 6-3. Physical changes are expected to be limited to existing development with non-compliant wood-burning devices or for which alternative heating options must be provided. Non-wood burning and clean burning devices are expected to be pre-fabricated and dropped into place at new or existing facilities without the use of heavy construction equipment. Therefore, no impacts to cultural resources are anticipated to occur as a result of the proposed amendments as no major construction activities are required. Any new residential or commercial operation that could have significant adverse effects on cultural resources would go through the same approval and construction process regardless of whether or not the proposed amendments to Rule 6-3 were in effect.

Conclusion

Based upon these considerations, no significant adverse impacts to cultural resources are expected from the adoption of the amendments to Rule 6-3.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 wood-burning devices affected by the proposed amendments to Rule 6-3 are primarily located within residential areas in the Bay Area.

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

Regional basement rocks consist of the highly deformed Great Valley Sequence, which include massive beds of sandstone inter-fingered with siltstone and shale. Unconsolidated alluvial deposits, artificial fill, and estuarine deposits, (including Bay Mud) underlie the low-lying region along the margins of the Carquinez Straight and Suisun Bay. The estuarine sediments found along the shorelines of Solano County are soft, water-saturated mud, peat and loose sands. The organic, soft, clay-rich sediments along the San Francisco and San Pablo Bays are referred to locally as Bay Mud and can present a variety of engineering challenges due to 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 California 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. No impacts on geology and soils are anticipated from the proposed amendments to Rule 6-3 which would apply to existing residential and commercial operations. The wood-burning devices to be regulated in accordance with the amendments will not create new development in the area. The proposed amendments do not directly require structural alterations to existing structures.

Any new or remodeled structures in the area must be designed to comply with the California Building Code requirements since the Bay Area is located in a seismically active area. The local cities or counties are responsible for assuring that any new or remodeled structures comply with the California Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The California Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage.

The California Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The California 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 California Building Code

seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

Any new or remodeled residential or commercial operations will be required to obtain building permits, as applicable, for all new or remodeled structures. New development or commercial operations must receive approval of all building plans and building permits to assure compliance with the latest California Building Code prior to commencing construction activities. The issuance of building permits from the local agency will assure compliance with the California Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since the project will be required to comply with the California Building Codes. The amendments to Rule 6-3 would not require or promote construction of residential or commercial land use projects. No major construction activities are expected as a result of the proposed amendments to Rule 6-3. The removal and installation of wood-burning devices during remodeling would require a building permit. Therefore, it is expected that wood-burning devices or alternative heating appliances would be installed according to all applicable state and local codes. As a result, substantial exposure of people or structures to the risk of loss, injury, or death involving seismic-related activities is not anticipated as a result of compliance with the amendments to Rule 6-3. Therefore, no significant adverse impacts on geology and soils are expected.

VI b. – d. Since the amendments to Rule 6-3 would affect existing and new residential and commercial operations in the area, it is expected that the soil types present in the affected facilities and residences would not be further susceptible to expansive soils or liquefaction due to adoption of the proposed rule amendments. Additionally, subsidence is not expected to occur because grading, or filling activities at affected facilities and residences despite adoption of the proposed amendments would only restrict the installation of wood-burning devices.

VI e. The proposed project has no effect on the installation of septic tanks or alternative wastewater disposal systems. Consequently, no impacts from failures of septic systems related to soils incapable of supporting such systems are anticipated.

Conclusion

Based upon these considerations, no significant adverse impacts to geology and soils are expected from the adoption of the amendments to Rule 6-3.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☑
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

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 (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), 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. Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions. The emission inventory in Table 3-9 focuses on GHG emissions due to human activities only, and compiles estimated emissions from industrial, commercial, transportation, domestic, forestry, and agriculture activities in the San Francisco Bay Area region of California. The GHG emission inventory in Table 3-9 reports direct emissions generated from sources within the Bay Area and estimates future GHG emissions.

TABLE 3-9

Bay Area Greenhouse Gas Emission Inventory Projections
(million metric tons CO_2-Equivalent)

SOURCE CATEGORY Year	2005	2009	2012	2015	2020
INDUSTRIAL/COMMERCIAL					
Oil Refineries					
Refining Processes	3.4	3.5	3.6	3.7	3.9
Refinery Make Gas Combustion	4.7	4.9	5.0	5.2	5.4
Natural Gas and Other Gases Combustion	4.8	5.0	5.1	5.3	5.5
Liquid Fuel Combustion	0.1	0.1	0.1	0.1	0.1
Solid Fuel Combustion	1.0	1.0	1.1	1.1	1.1
Waste Management					
Landfill Combustion Sources	0.0	0.0	0.0	0.0	0.0
Landfill Fugitive Sources	1.2	1.2	1.2	1.2	1.2
Composting/POTWs	0.4	0.4	0.4	0.4	0.4
Other Industrial/ Commercial					
Cement Plants	0.9	0.9	0.9	0.9	1.0
Commercial Cooking	0.1	0.1	0.1	0.1	0.2
ODS Substitutes/Nat. Gas Distrib./Other	3.6	5.2	6.3	7.5	9.4
Reciprocating Engines	0.6	0.6	0.6	0.7	0.7
Turbines	0.4	0.4	0.4	0.4	0.4
Natural Gas- Major Combustion Sources	1.6	2.5	2.6	2.7	2.8
Natural Gas- Minor Combustion Sources	8.8	9.2	9.5	9.9	10.4
Coke Coal	1.0	1.0	1.1	1.1	1.2
Other Fuels Combustion	0.3	0.4	0.4	0.4	0.4
Subtotal	32.8	36.3	38.4	40.6	44.2
RESIDENTIAL FUEL USAGE					
Natural Gas	6.4	6.6	6.8	6.9	7.2
LPgas/Liquid Fuel	0.2	0.2	0.2	0.2	0.2
Solid Fuel	0.1	0.2	0.2	0.2	0.2
Subtotal	6.7	6.9	7.1	7.2	7.5
ELECTRICITY/ CO-GENERATION					
Co-Generation	5.5	5.5	5.7	6.0	6.4
Electricity Generation	2.8	3.1	3.2	3.3	3.5
Electricity Imports	6.8	7.3	7.6	7.9	8.3
Subtotal	15.1	15.8	16.5	17.2	18.3
OFF-ROAD EQUIPMENT					
Lawn and Garden Equipment	0.1	0.1	0.1	0.1	0.1
Construction Equipment	1.7	1.9	1.9	2.0	2.2
Industrial Equipment	0.7	0.8	0.8	0.9	1.0
Light Commercial Equipment	0.2	0.2	0.3	0.3	0.3
Subtotal	2.8	3.0	3.2	3.3	3.6
TRANSPORTATION					
Off-Road					
Locomotives	0.1	0.1	0.1	0.1	0.1
Ships	0.7	0.8	0.8	0.9	1.0
Boats	0.6	0.6	0.5	0.5	0.6

TABLE 3-9 (concluded)

SOURCE CATEGORY	Year	2005	2009	2012	2015	2020
Commercial Aircraft		1.8	2.0	2.1	2.3	2.6
General Aviation		0.2	0.2	0.2	0.3	0.3
Military Aircraft		0.5	0.5	0.5	0.5	0.5
On-Road						
Passenger Cars/Trucks up to 10,000 lbs		26.6	27.1	27.9	29.0	30.9
Medium/Heavy Duty Trucks > 10,000 lbs		3.3	3.3	3.4	3.5	3.7
Urban, School and Other Buses		0.8	0.8	0.8	0.8	0.9
Motor-Homes and Motorcycles		0.2	0.2	0.2	0.2	0.2
Subtotal		34.8	35.6	36.7	38.1	40.7
AGRICULTURE/FARMING						
Agricultural Equipment		0.2	0.2	0.2	0.2	0.2
Animal Waste		0.6	0.6	0.6	0.6	0.6
Soil Management		0.3	0.3	0.3	0.3	0.3
Biomass Burning		0.0	0.0	0.0	0.0	0.0
Subtotal		1.1	1.1	1.1	1.1	1.1
GRAND TOTAL EMISSIONS		**93.4**	**98.7**	**103.0**	**107.5**	**115.4**

Source: BAAQMD, 2009

Regulatory Background

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws over the last decade 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 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 required 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-effect reductions of GHGs by January 1, 2011

In October 2011, CARB approved the cap-and-trade regulation, marking a significant milestone toward reducing California's greenhouse gas emissions under its AB 32 law. The regulation sets a statewide limit on the emissions from sources responsible for 80 percent of

California's greenhouse gas emissions. The regulation covers 360 businesses representing 600 facilities and is divided into two broad phases: an initial phase beginning in 2012 that will include all major industrial sources along with utilities; and, a second phase that began in 2015 and brings in distributors of transportation fuels, natural gas and other fuels.

Companies are not given a specific limit on their greenhouse gas emissions but must supply a sufficient number of allowances (each covering the equivalent of one ton of carbon dioxide) to cover their annual emissions. Each year, the total number of allowances issued in the state drops, requiring companies to find the most cost-effective and efficient approaches to reducing their emissions. By the end of the program in 2020 there will be a 15 percent reduction in greenhouse gas emissions compared to today, reaching the same level of emissions as the state experienced in 1990, as required under AB 32.

There has also been activity at the federal level on the regulation of GHGs. On October 30, 2009, the U.S. EPA issued the Final Mandatory Report of Greenhouse Gases Rule. The rule requires reporting of GHG emissions from large sources and suppliers (facilities that emit 25,000 metric tons of GHGs per year or more) in the United States, and is intended to collect accurate and timely emissions data to inform policy decision.

Discussion of Impacts

VII a and b. Combustion of conventional hydrocarbon fuel results in the release of energy as bonds between carbon and hydrogen are broken and reformed with oxygen to create water vapor and carbon dioxide (CO_2). CO_2 is not a pollutant that occurs in relatively low concentrations as a by-product of the combustion process; CO_2 is a necessary combustion product of any fuel containing carbon. Therefore, attempts to reduce emissions of greenhouse gases from combustion focus on increasing energy efficiency – consuming less fuel to provide the same useful energy output.

The analysis of GHG emissions is a different analysis than for criteria pollutants for the following reasons. For criteria pollutant, significance thresholds are based on daily emissions because attainment or non-attainment is typically based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects to human health, e.g., one-hour and eight-hour. Using the half-life of CO_2, 100 years, for example, the effects of GHGs are longer-term, affecting the global climate over a relatively long time frame. GHGs do not have human health effects like criteria pollutants. Rather, it is the increased accumulation of GHGs in the atmosphere that may result in global climate change. Due to the complexity of conditions and interactions affecting global climate change, it is not possible to predict the specific impact, if any, attributable to GHG emissions associated with a single project. Furthermore, the GHG emissions associated with the proposed rule amendments would be small relative to total global or even state-wide GHG emissions. Thus, the significance of potential impacts from GHG emissions related to the proposed amendments to Rule 6-3 has been analyzed for long-term operations on a cumulative basis, as discussed below.

Cumulative GHG impacts in the Bay Area are generally evaluated in terms of the air quality management plan that controls overall air emissions within the District. Therefore, the cumulative GHG impacts include the proposed amendment to Rule 6-3 along with implementing the control measures in the 2010 Clean Air Plan, the most recent air quality plan approved in the District.

The proposed amendment to Rule 6-3 would generally reduce the combustion of wood and increase the combustion of natural gas, and potentially increase the combustion of propane. In general, strategies that conserve energy and promote clean technologies usually also reduce greenhouse gas emissions. As shown in Table 3-9, the fuel combustion and the generation of electricity are responsible for a large portion of greenhouse gases produced in the Bay Area.

The amendments to Rule 6-3 are not expected to result in an increase in GHG emissions. As shown in Table 3-10, the GHG emissions associated with the combustion of natural gas or propane are less than the GHG emissions associated with the combustion of wood for the same heating value. Therefore, conversion from wood burning devices to natural gas or propane for heating would reduce GHG emissions.

TABLE 3-10

GHG Emissions for Fuel Combustion

Fuel	Default CO2 Emission Factor (kg CO2/mmBtu)[(1)]	Kilograms of GHG Emissions per 10,000,000 Btu (metric tons)
Natural Gas	53.02	530.2 (0.53)
Propane	61.46	614.6 (0.61)
Wood	93.80	938.0 (0.94)

(1) Source: Federal Register, Vol. 74, No. 209, pages 56409-56410, Table C-1 to Subpart C of Part 98, Default CO2 Emission Factors and High Heat Values for Various Fuel Types.

The proposed amendments, along with the 2010 CAP as a whole, are expected to promote a net decrease in GHG emissions. The 2010 CAP control measure strategy promotes fuel efficiency and pollution prevention, which also reduces GHG emissions. Measures that reduce fuel use and/or increase use of alternative fuels will also be beneficial. In general, strategies that conserve energy and promote clean technologies usually also reduce GHG emissions. As shown in Table 3-9, the fuel combustion and the generation of electricity are responsible for a large portion of greenhouse gases produced in the Bay Area.

Conclusion

Based on the above discussion, implementation of the proposed amendments to Rule 6-3 are expected to result in a decrease in GHG emissions. Therefore, no significant adverse GHG impacts are expected due to implementation the proposed amendments to Rule 6-3.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c)	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑	☐
d)	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
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?	☐	☐	☐	☑
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?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑	☐

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. The amendments to Rule 6-3 would apply to all areas within the BAAQMD's jurisdiction.

Facilities and operations within the District handle and process substantial quantities of flammable materials and acutely toxic substances. Accidents involving these substances can result in worker or public exposure to fire, heat, blast from an explosion, or airborne exposure to hazardous substances.

Fires can expose the public or workers to heat. The heat decreases rapidly with distance from the flame and therefore poses a greater risk to workers at specific facilities where flammable materials and toxic substances are handled than to the public. Explosions can generate a shock wave, but the risks from explosion also decrease with distance. Airborne releases of hazardous materials may affect workers or the public, and the risks depend upon the location of the release, the hazards associated with the material, the winds at the time of the release, and the proximity of receptors.

For all facilities and operations handling flammable materials and toxic substances, risks to the public are reduced if there is a buffer zone between process units and residences or if prevailing winds blow away from residences. Thus, the risks posed by operations at a given facility or operation are unique and determined by a variety of factors.

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 - b. Since wood, pellet-fuel, and wood ash are not considered hazardous materials, use of compliant wood-burning devices would not require the routine transport, use, or disposal of hazardous materials. The restriction of U.S. EPA-compliant wood-burning devices in existing residential applications and commercial operations, or prohibition of non-compliant wood-burning devices during Mandatory Burn Bans, would not create a significant hazard to the public or environment through a reasonable foreseeable upset and accident conditions involving hazardous materials. The use of electrical heaters as an alternative to wood-burning devices would not result in potentially significant adverse impacts because the use of hazardous materials would not be required.

While natural gas devices substituted for wood-burning devices would introduce greater explosive risk, the majority of residences and facilities in the District already have natural gas service. Natural gas is flammable, can be explosive under certain conditions, and a release of natural gas may result in potentially significant hazards and risk of upset to people. The majority

of facilities that would be affected by the proposed rule amendments already have natural gas pipeline infrastructure for natural gas delivery. Natural gas burning devices must meet American National Standards Institute (ANSI) standards. Compliance with applicable federal, state and local regulatory requirements for the design and installation of natural gas devices would make the risk of accidental release less than significant. Further, the amendments to Rule 6-3 include an exemption from Rule 6-3 for U.S. EPA-certified wood-burning devices in areas where natural gas service is not available; therefore, Rule 6-3 will not require the installation of new natural gas utility lines or increase the hazards related to the use of natural gas.

VII c. The proposed rule amendments would not generate hazardous emissions, handling of hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school. The use of compliant wood-burning devices in existing residential applications and during Mandatory Burn Bans would generate less TACs emissions than non-compliant wood-burning devices. Replacement of wood-burning devices with natural gas or electric heating devices would reduce TAC emissions associated with heating activities.

Replacement of wood-burning devices with natural gas devices would increase risk of explosion. However, since natural gas devices would require building permits, compliance with federal, state, and local regulatory requirements for the design and installation of natural gas devices would limit the risk of accidental release to the degree that the risk would be expected to be less than significant at school sites.

VII d. The proposed rule amendments would eliminate the installation of wood-burning devices at new residences and commercial operations. Government Code §65962.5 is related to hazardous material sites at industrial facilities. The proposed rule amendments would affect residences and commercial facilities such as hotels, restaurants, lodges, etc., which are typically not associated with hazardous waste sites. Therefore, commercial facilities and residences would not normally be included on the list of hazardous material sites compiled pursuant to Government Code §65962.5. As a result, the amendments to Rule 6-3 are not expected to affect any facilities included on a list of hazardous material sites and, therefore, would not create a significant hazard to the public or environment.

VII e – f. The proposed rule amendments would not result in a safety hazard for residents or workers within two miles of a public airport, a public use airport, or a private air strip. The use of compliant wood-burning or alternative heating devices is not expected to require construction activities outside of existing developed areas. Therefore, the proposed rule amendments would not impact any airport land use plan or result in a safety hazard in the vicinity of public or private air strips. Replacement of wood-burning devices with electric or natural gas devices would reduce TAC emissions from wood burning. Replacement of wood-burning devices with natural gas devices would increase risk of explosion. However, since natural gas devices would require building permits, compliance with federal, state, and local regulatory requirements for the design and installation of natural gas devices would limit the risk of accidental release to the degree that the risk would be expected to be less than significant regarding public airports or private air strip.

VII g. No impacts on emergency response plans are anticipated from the proposed amendments to Rule 6-3. Wood-burning devices or their alternatives are not typically major components of

any evacuation or emergency response plan. The proposed rule amendments neither require nor are likely to result in activities that would impact the emergency response plan. No major construction activities are expected as a result of the proposed rule amendments. Therefore, no significant adverse impact on emergency response plans is expected.

VII h. No increase in hazards related to wildfires is anticipated from the proposed amendments to Rule 6-3 which would apply to existing structures utilizing compliant wood-burning devices. The proposed rule amendments will not create new residential or commercial land use projects. Any new development that might occur would occur for reasons other than the proposed rule amendments. New land use projects would require a CEQA analysis that would evaluate wildfire risks. Mitigation measures would be required to reduce impacts to the maximum extent possible if the analysis determined such risks to be significant. The proposed amendments to Rule 6-3 are not expected to reduce the amount of brush cleared in wildfire hazard areas as the brush clearing is generally required for compliance with fire codes. The burning of brush in wood-burning devices is not expected to be a common practice so no significant impacts are expected.

Conclusion

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the implementation of the proposed amendments to Rule 6-3.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY.					
Would the project:					
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☐	☑
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?	☐	☐	☐	☑
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?	☐	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☑
g)	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including	☐	☐	☐	☑

	flooding as a result of the failure of a levee or dam?				
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

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 wood-burning devices affected by the proposed rule amendments are located in residences and commercial facilities throughout the Bay Area. Reservoirs and drainage streams are located throughout the area within the BAAQMD's jurisdiction, 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 Regional Water Quality Control Board 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-j. The proposed amendments to Rule 6-3 would limit the installation of new, and replacement of existing wood-burning devices in the District to U.S. EPA compliant wood-burning devices. Compliant wood-burning devices do not use water for any reason, nor do they generate wastewater. Any construction activities regarding replacement of non-compliant wood-burning devices would be minor and would not require heavy equipment, so there would be no soil disturbance attributed to the proposed rule amendments.

No impacts on hydrology/water quality resources are anticipated from the proposed amendments to Rule 6-3. Because U.S. EPA-compliant wood-burning devices do not use water for any reason, the proposed rule amendments would not require construction of additional water resource facilities, create the need for new or expanded water entitlements, or necessitate alteration of drainage patterns. The residences and commercial facilities affected by the proposed rule amendments are required to comply with wastewater discharge regulations. The requirement to utilize compliant wood-burning devices will have no impact on wastewater discharges, alter drainage patterns, create additional water runoff, place any additional structures within 100-year flood zones or other areas subject to flooding, or contribute to inundation by seiche, tsunami or mudflow. No major construction activities are expected from the proposed amendments to Rule 6-3 and no new structures are required. Therefore, no significant adverse impacts on hydrology/water quality are expected.

Conclusion

Based upon these considerations, no significant adverse hydrology and water quality impacts are expected from the implementation of the proposed amendments to Rule 6-3.

		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?	☐	☐	☐	☑
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?	☐	☐	☐	☑
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

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 residences and commercial facilities affected by the proposed rule amendments are located 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 proposed amendments to Rule 6-3 would not create any new development, but would restrict installation of wood-burning devices to compliant devices in new development and prohibit burning of non-compliant devices during a Mandatory Burn Ban. Thus, the proposed amendments to Rule 6-3 do not include any components that would mandate physically dividing an established community or generate additional development.

The proposed amendments to Rule 6-3 have no components which would affect land use plans, policies, or regulations. Regulating PM emissions from wood-burning devices will not require local governments to alter land use and other planning considerations due to the proposed amendments. Habitat conservation or natural community conservation plans, agricultural

resources or operations, would not be affected by the amendments to Rule 6-3, and divisions of existing communities would not occur. Therefore, current or planned land uses with the District will not be significantly affected as a result of the proposed amendments to Rule 6-3.

Conclusion

Based upon these considerations, no significant adverse impacts to land use and planning are expected from the adoption of the amendments to Rule 6-3.

	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?	☐	☐	☐	☑
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?	☐	☐	☐	☑

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 residences and commercial facilities affected by the proposed rule amendments are located throughout the Bay Area.

Regulatory Background

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

Discussion of Impacts

X a-b. The proposed rule amendments are not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The proposed amendments to Rule 6-3 would further reduce PM emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. The proposed amendments to Rule 6-3 are not expected to create new development. Therefore, no significant impact to mineral resources is anticipated as a result of the amendments to Rule 6-3.

Conclusion

Based upon these considerations, no significant adverse impacts to mineral resources are expected from the adoption of the amendments to Rule 6-3.

		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?	☐	☐	☑	☐
b)	Expose persons to or generate of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
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?	☐	☐	☐	☑

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 residences and commercial facilities affected by the proposed rule amendments are located throughout the Bay Area.

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. The proposed amendments to Rule 6-3 would restrict installation of wood-burning devices in new development and prohibit use of non-compliant wood burning devices during Mandatory Burn Bans. Since no heavy-duty equipment is required to install compliant devices, noise impacts associated with the proposed rule amendments are expected to be minimal. Operation of compliant wood-burning devices may require the addition of blowers or exhaust fans. Blowers and exhaust fans would be regulated by local building permits and are similar in some respects to those used in household water heaters. Noise from these systems, both indoors and outdoors, is expected to be limited to acceptable levels by the building permit process. Therefore, residences and commercial operations affected by the proposed amendments to Rule 6-3 are not expected to have a significant adverse effect on local noise control laws or ordinances.

XI b. The proposed amendments to Rule 6-3 are not expected to generate or expose people to excessive groundborne vibration or groundborne noise. Equipment used to install wood-burning devices in new or existing residences or commercial operations are not in any way expected to generate vibrations.

XI c. The proposed amendments to Rule 6-3 are not expected to result in a substantial permanent increase in ambient noise levels in the District. The proposed amendments would not create new development. Compliant equipment and non-compliant equipment operate at similar noise levels, and are designed to be operated in residences and commercial facilities (e.g., hotels, restaurants, etc.), where operators are protected by noise regulations, and residences will not tolerate excessive noise levels. Permanent increases in noise levels are not anticipated as a result of the proposed amendments to Rule 6-3.

XI d. The proposed amendments to Rule 6-3 are not expected to increase periodic or temporary ambient noise levels to levels existing prior to the proposed amendments. The installation or replacement of wood-burning devices in new facilities would require minor construction activities and would not require the use of heavy equipment. Operational noise levels are expected to be equivalent to existing noise levels as discussed earlier.

XI. e-f. Adoption of the proposed amendments to Rule 6-3 would not require construction in existing facilities, and does not require the use of heavy equipment for installation in new or existing residences or commercial operations. No new noise impacts are expected from any existing facilities during construction or operation regardless of their proximity to a public/private airport. Thus, people residing or working in the vicinities of public/private airports are not expected to be exposed to excessive noise levels due to the proposed amendments.

Conclusion

Based upon these considerations, no significant adverse impacts to noise are expected from the adoption of the amendments to Rule 6-3.

	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)?	☐	☐	☐	☑
b) Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

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 residences and commercial facilities affected by the proposed rule amendments are located throughout the Bay Area.

Regulatory Background

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

Discussion of Impacts

XII. a-c. The proposed amendments to Rule 6-3 are not expected to result in the construction of new facilities or the displacement of housing or people. Implementation of the proposed amendments will require that new development install compliant wood-burning devices and restricts wood-burning devices during Mandatory Burn Bans. These amendments and restrictions would not induce growth or displace housing or people in any way. The proposed amendments are not expected to result in significant adverse effects on population or housing.

Conclusion

Based upon these considerations, no significant adverse impacts to population and housing are expected from the adoption of the amendments to Rule 6-3.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

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 residences and commercial facilities affected by the proposed rule amendments are located 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. The wood-burning devices affected by the proposed amendments to Rule 6-3 are not expected to require any new or additional public services. As shown in Section VII – Hazards and Hazardous Material, the use of compliant wood-burning devices is not expected to generate significant explosion or fire hazard impacts so no increase in fire protection services is expected.

The amendments to Rule 6-3 are not expected to have any adverse effects on local police departments and require additional police services as it would only require the installation of compliant wood-burning devices in remodels or new development. The proposed amendments would not result in new development and new development projects would be built regardless of whether or not Rule 6-3 is amended. Therefore, no significant adverse fire and police protection impacts from the proposed amendments are expected.

As discussed in Section XII, Population and Housing, adoption of the amendments to Rule 6-3 would not induce population growth. The proposed amendments to Rule 6-3 would further reduce PM emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. Therefore, with no increase in local population anticipated, additional demand for new or expanded schools or parks is not anticipated. As a result, no significant adverse impacts are expected to local schools or parks.

Besides building permits, there is no other need for government services. The proposal would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. There will be no increase in population as a result of the adoption of the amendments to Rule 6-3, therefore, no need for physically altered government facilities.

Conclusion

Based upon these considerations, no significant adverse impacts to public services are expected from the adoption of the amendments to Rule 6-3.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

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 residences and commercial facilities affected by the proposed rule amendments are located 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. The proposed amendments to Rule 6-3 have no provisions affecting land use plans, policies, or regulations. The proposed amendments would not increase or redistribute population and, therefore, would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or the expansion of existing recreational facilities. Therefore, adoption of the amendments to Rule 6-3 is not expected to have any significant adverse impacts on recreation.

Conclusion

Based upon these considerations, no significant adverse impacts to recreation are expected from the adoption of the amendments to Rule 6-3.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☑	☐
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?	☐	☐	☑	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards because of a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☐	☑
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?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is so vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 6-3 would apply to all areas within the BAAQMD's jurisdiction.

Transportation infrastructure within the BAAQMD ranges from single-lane roadways to multilane interstate highways. Transportation systems between major hubs are located within and outside the BAAQMD, including railroads, airports, waterways, and highways. Localized modes of travel include personal vehicles, busses, bicycles, and walking.

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, f. The proposed amendments to Rule 6-3 are not expected to created additional traffic or significant increases in staffing at existing residential or commercial facilities that would conflict with applicable plans, ordinances or policies affecting the performance of the circulation system. The proposed amendments to Rule 6-3 would further reduce PM emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. The proposed rule amendments are not expected to affect the performance of mass transit or non-motorized travel to street, highways and freeways, pedestrian or bicycle paths. No conflicts with any congestion management programs, to include level of service and travel demand measures, or other standards established by county congestion management agencies for designated roads or highways are expected. No changes are expected to parking capacity at or in the vicinity of affected residences or commercial facilities as the proposed amendments to Rule 6-3 only pertain to wood-burning devices. Therefore, no significant adverse impacts resulting in changes to traffic patterns or levels of service at local intersections are expected.

XV c. The proposed amendments to Rule 6-3 include minor modifications to existing residences and commercial facilities as well as restrictions on the type of wood-burning devices to be installed in new development. The proposed amendments are not expected to involve the delivery of materials via air so no increase in air traffic is expected.

XV d - e. The proposed amendments to Rule 6-3 are not expected to increase traffic hazards or create incompatible uses. No effect on emergency access to affected residences or commercial facilities is expected from adopting the proposed amendments. Utilizing compliant wood-burning devices versus non-compliant devices is not expected to have a significant adverse impact on traffic hazards, create incompatible uses or emergency access.

XV f. The proposed amendments to Rule 6-3 affects wood-burning devices and are not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

Conclusion

Based upon these considerations, no significant adverse impacts to transportation and traffic are expected from the adoption of the amendments to Rule 6-3.

		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?	☐	☐	☐	☑
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?	☐	☐	☐	☑
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?	☐	☐	☐	☑
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements needed?	☐	☐	☑	☐
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?	☐	☐	☐	☑
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☑	☐

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 residences and commercial facilities are supported by wastewater and storm water treatment facilities and treated wastewater is discharged under the requirements of NPDES permits.

Water is supplied to affected residents and commercial 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.

Hazardous waste generated at area residences and commercial facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facilites. 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- e. The proposed amendments to Rule 6-3 would further reduce PM emissions from wood-burning devices by further limiting exemptions; adopting the more stringent U.S. EPA standards; strengthening the visible emissions limitation; requiring real estate and rental disclosures to communicated PM2.5 health hazards; and transition new building construction and rental properties to cleaner heating options. These regulations regarding wood-burning devices will not generate or affect wastewater, stormwater or stormwater drainage, and will not require water or affect water supplies. No increases in demand for public utilities are expected as a result of the proposed amendments.

XVI f-g. The amendments to Rule 6-3 would require the installation of compliant wood-burning devices and generally would not generate additional waste. The amendments to Rule 6-3 could encourage the replacement of existing devices with newer compliant devices. As existing devices are replaced, their disposal is expected to be categorized as solid waste. Solid waste is either recycled or disposed of in landfills. The proposed amendments are not expected to generate any increase in solid waste. Since any residences or commercial facilities would replace their non-compliant wood burning devices because of a remodel, not because of proposed amendments. Compliant wood-burning devices installed during remodels and non-wood burning devices installed in new development are not expected to generate any more solid waste than non-Rule 6-3 compliant devices. In fact, natural gas burning or electric heating

devices would not generate solid waste (e.g., wood ash). Therefore, no significant adverse impacts are expected to solid waste as a result of the proposed amendments.

Conclusion

Based upon these considerations, no significant adverse impacts to utilities/service systems are expected from the adoption of the amendments to Rule 6-3.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☑	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

18. MANDATORY FINDINGS OF SIGNIFICANCE

Discussion of Impacts

XVII a. The proposed amendments to Rule 6-3 do not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory, as discussed in the previous sections of the CEQA checklist. The proposed rule amendments are expected to result in PM emission reductions from wood-burning devices, thus providing a beneficial air quality impact and improvement in air quality. As discussed in Section IV, Biological Resources and Section V, Cultural Resources, no significant adverse impacts are expected to biological or cultural resources.

XVII b-c. The proposed amendments to Rule 6-3 are expected to result in emission reductions of PM from affected wood-burning devices, thus providing a beneficial air quality impact

through reductions in PM. The proposed rule amendments are part of a long-term plan to bring the Bay Area into compliance with the state ambient air quality standards, thus reducing the potential health impacts. The proposed rule amendments do not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. The proposed amendments to Rule 6-3 are not expected to have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. No significant adverse environmental impacts are expected.

CHAPTER 4

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