

California Environmental Quality Act
Notice of Preparation of Draft Environmental Impact Report
and Scoping Meeting
for AB 617 Expedited Best Available Retrofit Control Technology Implementation
Schedule

TO: Interested Parties

FROM: Bay Area Air Quality
Management District
375 Beale St., Suite 600
San Francisco, CA 94105

Lead Agency: Bay Area Air Quality Management District
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**SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT
AND SCOPING MEETING**

Notice is hereby given pursuant to California Public Resources Code §21091, 21092, 21092.2, and 21092.3 and CEQA Guidelines Section 15085 and 15087 that the Bay Area Air Quality Management District ("Air District"), as lead agency, will prepare a Draft Environmental Impact Report (EIR) in connection with the project described below.

Project Title: AB 617 Expedited Best Available Retrofit Control Technology (BARCT) Implementation Schedule

Project Location: The project would apply within the Bay Area Air Quality Management District ("Air District"), which includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, and the southern portions of Solano and Sonoma counties.

Project Description: The AB 617 Expedited Best Available Retrofit Control Technology (BARCT) Implementation Schedule is intended to satisfy the requirements of Assembly Bill 617 (AB 617), which requires each air district that is a nonattainment area for one or more air pollutants to adopt an expedited schedule for implementation of best available retrofit control technology at industrial sources subject to California Greenhouse Gas (GHG) Cap-and-Trade requirements. The overall purpose of BARCT implementation is to reduce criteria pollutant emissions from these industrial sources. The project identifies six potential rule development projects to reduce air pollution from a variety of industrial stationary sources located throughout the San Francisco Bay Area Air Basin. The potential rule development projects include rules for organic liquid storage tanks, petroleum wastewater treating, Portland cement manufacturing, refinery fluid catalytic crackers and CO boilers, refinery heavy liquid leaks, and petroleum coke calcining.

Scoping Meetings: Notice is also given pursuant to California Public Resource Code, Sections 15206 and 15082 (c) that the Air District will conduct a California Environmental Quality Act (CEQA) scoping meeting at the Air District Headquarters' Yerba Buena Room, 375 Beale Street, San Francisco, California, on August 24, 2018 at 2 p.m., to discuss and accept oral comments on the scope and content described in a Notice of Preparation and an Initial Study (NOP/IS) prepared in anticipation of a draft Environmental Impact Report (DEIR) for the project.

Reviewing the Notice of Preparation/Initial Study (NOP/IS): The NOP/IS documents are available at the District headquarters, on the Air District's website at www.baaqmd.gov/ab617barct, or by request. Requests for copies of the NOP/IS should be directed to David Joe (djoe@baaqmd.gov) at (415) 749-8623.

Comment Procedure: Comments relating to the environmental analysis in the NOP/IS should be addressed to David Joe, Bay Area Air Quality Management District, 375 Beale Street, Suite 600, San Francisco, CA 94105. Comments may also be sent by e-mail to djoe@baaqmd.gov. Comments on the NOP/IS will be accepted until September 7, 2018 at 5:00 p.m.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Initial Study for AB617 Expedited BARCT Implementation Schedule

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August 2018

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CHAPTER 1

PROJECT DESCRIPTION

Introduction

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1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

The Bay Area Air Quality Management District (District or Air District), in accordance with Assembly Bill 617, (AB 617) is preparing the best available retrofit control technology (BARCT) implementation schedule project (project or proposed project). AB 617 requires each air district that is a nonattainment area for one or more air pollutants to adopt an expedited schedule for implementation of best available retrofit control technology (BARCT) by the earliest feasible date. This requirement applies to each industrial source subject to California Greenhouse Gas (GHG) Cap-and-Trade requirements.

The purpose of the proposed project is to reduce criteria pollutant emissions from industrial sources that participate in the GHG Cap-and-Trade system. The Cap-and-Trade system is designed to address and limit GHG emissions, and allows sources to comply with Cap-and-Trade limits by either reducing emissions at the source or purchasing GHG emission allowances. Emissions of criteria pollutants and toxic air contaminants are often associated with GHG emissions, and these criteria pollutants and toxic air contaminants may impact local communities that are already suffering a disproportionate burden from air pollution.

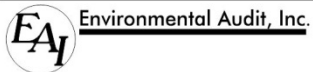
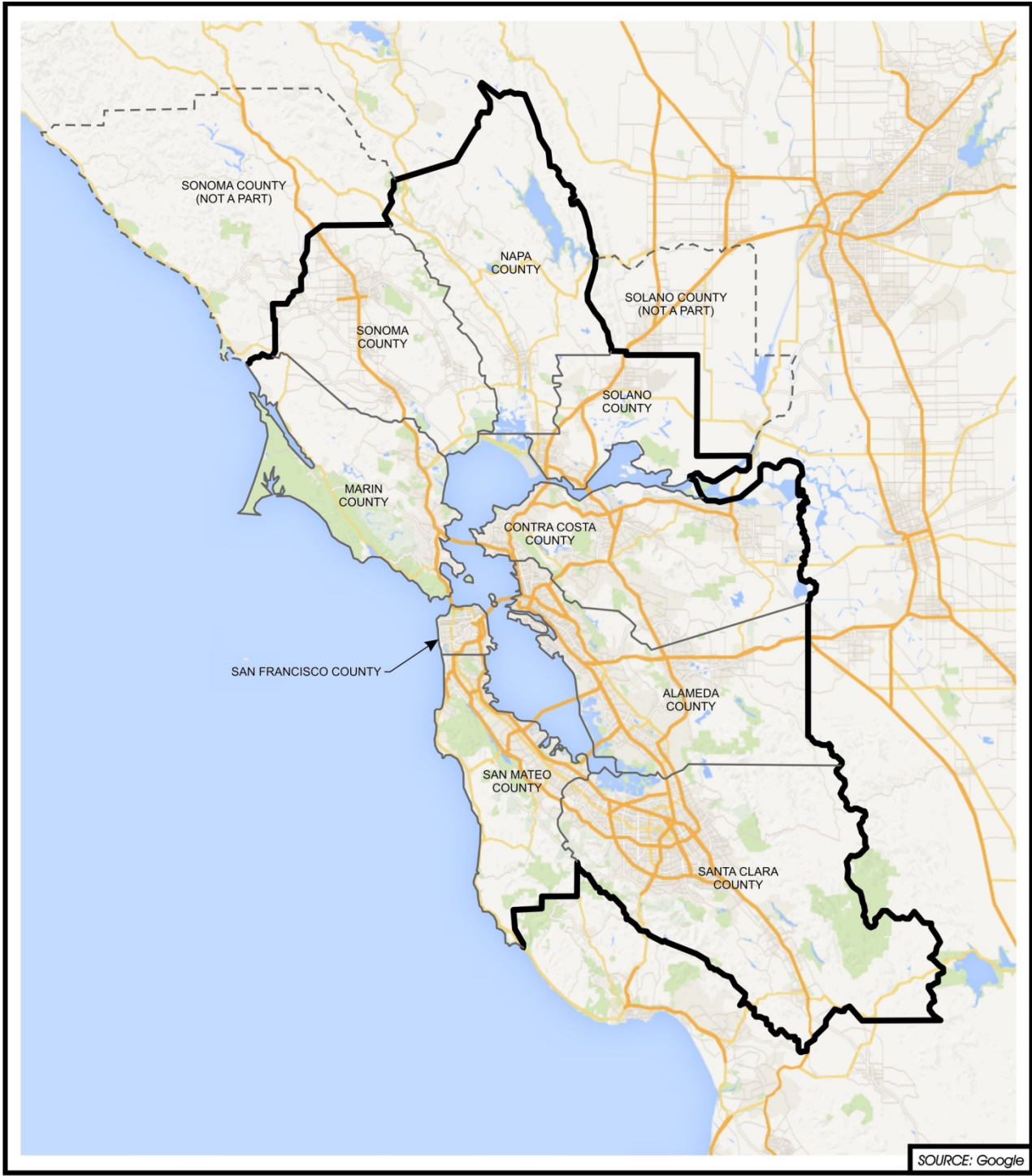
1.2 AGENCY AUTHORITY

CEQA, Public Resources Code §21000 et seq., requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. To fulfill the purpose and intent of CEQA, the Air District is the lead agency for this project and has prepared the Notice of Preparation/Initial Study for the proposed expedited BARCT implementation schedule.

The Lead Agency is the “public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment” (Public Resources Code Section 21067). It was determined that the Air District has the primary responsibility for supervising or approving the entire project as a whole and is the most appropriate public agency to act as lead agency (CEQA Guidelines Section 15051(b)).

1.3 PROJECT LOCATION

The Air District has jurisdiction of an area encompassing 5,600 square miles. The Air District 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. The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys and bays (see Figure 1-1).



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

1.4 PROJECT BACKGROUND

With the adoption of AB 617, the state acknowledges that many communities around the state continue to experience disproportionate impacts from air pollution. To address these impacts, AB 617 directs all air districts to apply BARCT to all industrial sources subject to Cap-and-Trade, and to identify communities with a “high cumulative exposure burden” to air pollution. Districts must then prioritize these communities for the development of community air monitoring projects and/or emission reduction programs. The State requires that monitoring campaigns and emission reduction programs be developed through a community-based process.

AB 617 represents a significant enhancement to the approach CARB and local air districts take in addressing local air quality issues. The Air District has already implemented and established a number of programs that support the goals and intent of AB 617; these programs include the Community Air Risk Evaluation (CARE) Program, Health Risk Assessments for the AB 2588 Air Toxics “Hot Spots” Program, and Air District Rule 11-18: Reduction of Risk from Air Toxic Emissions at Existing Facilities. However, the requirements of AB 617 formalize new programs and establish challenging goals and timelines for implementation.

The purpose of the proposed project is to reduce criteria pollutant emissions from industrial sources that participate in the GHG Cap-and-Trade system. The Cap-and-Trade system is designed to address and limit GHG emissions, and allows sources to comply with Cap-and-Trade limits by either reducing emissions at the source or purchasing GHG emission allowances. The Cap-and-Trade program includes particular provisions for “industrial” facilities, which are covered entities or facilities that are eligible for free allowance allocation. Under the Cap-and-Trade program, these free allocations are provided to certain industrial sectors to minimize potential leakage of economic activity and GHG emissions. Emissions of criteria pollutants and toxic air contaminants are often associated with GHG emissions, and these criteria pollutants and toxic air contaminants may impact local communities that are already suffering a disproportionate burden from air pollution. The proposed project aims to implement rule development projects that will require the use of BARCT for specific equipment in industrial facilities that are subject to GHG Cap-and-Trade requirements in order to reduce criteria pollutant emissions.

1.5 PROJECT DESCRIPTION

The expedited BARCT Implementation Schedule strategy will consist of the implementation of several rule development projects in order to fulfill the requirements of AB 617. The Bay Area air basin is in attainment with both the National Ambient Air Quality Standards and California Ambient Air Quality Standards for carbon monoxide (CO), SO₂, NO₂, and Lead. The air basin is designated as nonattainment for ozone (O₃) and particulate matter (PM_{2.5} and PM₁₀) California ambient air standards, therefore the BARCT review was conducted focusing on the following pollutants:

- Nitrogen Oxides (NO_x)
- Reactive Organic Gases (ROG)
- Particulate Matter less than 10 microns (PM₁₀)
- Particulate Matter less than 2.5 microns (PM_{2.5})
- Sulfur Dioxide (SO₂)

NO_x and ROG are included because they are precursors for ozone formation. SO₂ may contribute to the formation of condensable PM (i.e. formed in the emissions plume from the stack) at certain types of sources, so PM control strategies may include SO₂ limits.

A list of facilities, sources, and emissions were developed from the 2016 Reporting Year Emissions Inventory. The Bay Area has 80 facilities subject to Cap-and-Trade, which encompass 3,246 individual sources in 61 source categories. This list of facilities was reduced to 19 “industrial” facilities, which includes all covered entities that are eligible for free allowance allocations in accordance with the Cap-and-Trade requirements based on their engagement in an activity within a particular North American Industrial Code System (NAICS) Code listed in Table 8-1 of the Cap-and-Trade regulation (17 CCR § 95890(a)). These 19 industrial Cap-and-Trade facilities encompass 1,899 individual sources in 50 source categories. These sources were reviewed, and screening was conducted to remove sources where potential emission reductions would likely be small and not cost-effective (e.g., less than 10 pounds per day) and sources that already comply with BARCT. After screening for these sources with emissions greater than 10 pounds per day and sources that do not already achieve BARCT, the population of sources was reduced to the following (percentage values represent the percentage of total emissions from initial population of industrial Cap-and-Trade sources in the Bay Area):

- NO_x: 21 source categories, 73 sources representing 30% of the emissions (1,764 tpy)
- ROG: 23 source categories, 259 sources representing 93% of the emissions (4,430 tpy)
- PM: 16 source categories, 124 sources representing 92% of the emissions (2,358 tpy)
- SO₂: 15 source categories, 102 sources representing 71% of the emissions (3,651 tpy)

The Air District reviewed available information on current achievable emission limits and potential controls for each source category and pollutant. This information included guidelines and recent determinations of BACT, reasonably available control technology (RACT), and lowest achievable emission rate (LAER) from EPA and CARB. Six potential priority rule development projects have been identified as candidates for the expedited BARCT Implementation Schedule Project. Potential priority rule development projects are shown in Table 1-1.

1.6 SOURCES THAT MAY BE SUBJECT TO THE EXPEDITED BARCT SCHEDULE

The overall purpose of the expedited BARCT implementation schedule is to reduce criteria pollutant emissions from industrial sources that participate in CARB’s GHG Cap-And-Trade program. Emissions of criteria pollutants and toxic air contaminants are often associated with GHG emissions, and these criteria pollutants and toxic air contaminants may impact local communities. The expedited BARCT implementation schedule would apply to a wide range of commercial, industrial, and municipal facilities including petroleum refineries, chemical plants, wastewater treatment facilities, and manufacturing operations. Table 1-2 shows the most likely types of facilities anticipated to be subject to the expedited BARCT implementation schedule and the primary emissions that would be controlled.

TABLE 1-1 – Expedited BARCT Schedule Priority Rule Development Projects

PROPOSED RULE DEVELOPMENT PROJECTS – BARCT IMPLEMENTATION PLAN		
Project Name	Pollutant	Rule Development Project Summary
Organic Liquid Storage Tanks	ROG	Regulation 8, Rule 5: Storage of Organic Liquids would be amended to specifically address ROGs and associated TACs emissions from external floating roof tanks storing organic liquids. Emission reductions are expected from installing domes on external floating roof tanks and capturing emissions from internal floating roof tanks or coned roof tanks and removing ROG emissions through a vapor recovery unit to a thermal incinerator.
Petroleum Wastewater Treating	ROG	The Air District has addressed ROG emissions from petroleum wastewater treatment facilities (Rule 8-8 Wastewater Collection and Separation Systems) in previous rule developments. This project will review each of the five Bay Area refineries for any opportunities for reduction of wastewater ROG emissions. BACT for refinery wastewater systems includes the use of entirely enclosed systems in addition to good control practices.
Portland Cement Manufacturing	PM SO ₂	BARCT levels are still under development for PM emissions in cement kilns; however, controls will likely involve the reduction of SO ₂ , ammonia, or other condensable components and precursors. BARCT for SO ₂ emissions reductions includes the judicious selection and use of raw materials, dry scrubbing, and dry sorbent (lime) injection.
Refinery Fluid Catalytic Crackers and CO Boilers	PM SO ₂	PM and SO ₂ emissions reductions are expected through optimization of ammonia injection, additional ESP capacity, optimization of newer catalyst additives, and/or wet gas scrubbing.
Refinery Heavy Liquid Leaks	ROG	Amendments to Regulation 8, Rule 18: Equipment Leaks (Rule 8-18) in December 2015 addressed equipment that service heavy liquids at these sources, but those amendments have not yet been fully implemented due to litigation regarding uncertainty of heavy liquid fugitive emissions. The District is coordinating with each of the five Bay Area refineries to conduct Heavy Liquid Leak Studies. These studies are designed to determine appropriate emission factors for heavy liquid leaks. The results of these studies are expected by Fall 2018. BARCT levels will likely be set after these studies have concluded; implementation is expected to involve additional leak detection and repair (LDAR) provisions for components in heavy liquid service.
Petroleum Coke Calcining	NOx	Regulation 9, Rule 14: Petroleum Coke Calcining Operations (Rule 9-14), which currently only addresses SO ₂ emissions, may be amended to include NOx emission limits. Technologies available for NOx reduction in petroleum coke calcining operations is expected to include SCRs and LoTOx injection systems.

TABLE 1-2

Summary of Facilities and Sources Where BARCT Priority Rule Projects May Apply Under the Expedited BARCT Schedule Requirements

Facility	Sources	Pollutants Controlled
Refineries	Fugitive Emissions (tanks, valves, pumps, compressors) Fluidized Catalytic Cracking Units CO Boilers Wastewater Treatment Operations	ROG PM SO ₂
Petroleum Coke Calcining	Coke Calciners	NO _x
Cement Manufacturing	Cement Kiln	PM SO ₂
Refineries, Chemical Plants, Bulk Storage and Transfer Operations, and General Manufacturing	Organic Liquid Storage Tanks	ROG

1.6.1 REFINERIES

Petroleum refineries convert crude oil into a wide variety of refined products, including gasoline, aviation fuel, diesel and other fuel oils, lubricating oils, and feed stocks for the petrochemical industry. Crude oil consists of a complex mixture of hydrocarbon compounds with smaller amounts of impurities including sulfur, nitrogen, oxygen and metals (e.g., iron, copper, nickel, and vanadium). Crude oil that originates from different geographical locations may vary with respect to its composition, thus, potentially generating different types and amounts of emissions. The types of equipment where BARCT may be applied under the expedited BARCT requirements are further described below.

Fugitive Emissions Sources: Petroleum refineries include a large number and wide variety of fugitive emissions sources. Fugitive emissions are emissions of gases or vapors from pressurized equipment due to leaks and other unintended or irregular releases of gases during the crude refining process and do not include pollutants vented to an exhaust stack before release to the atmosphere. Generally, any processes or transfer areas where leaks can occur are sources of fugitive emissions. Fugitive emissions sources include, but are not limited to the following: valves, connectors (i.e., flanged, screwed, welded or other joined fittings), pumps, compressors, pressure relief devices, and diaphragms in ROG service. Fugitive emissions are generally controlled through leak detection and repair (LDAR) programs. Similarly, tanks storing crude oil or petroleum products also produce fugitive emissions.

Fluid Catalytic Cracking Units (FCCUs) and CO Boilers: FCCUs are complex processing units that convert heavy components of crude oil into light, high-octane products that are required in the production of gasoline. Each FCCU consists of a reaction chamber, a catalyst regenerator, and a fractionator. The cracking process begins in the reaction chamber where fresh catalyst is mixed with pre-heated heavy oils. A chemical reaction occurs that converts the heavy oil into a cracked hydrocarbon vapor mixed with catalyst. As the cracking reaction progresses, the cracked hydrocarbon vapor is routed to a distillation column or fractionator for further separation into lighter hydrocarbon components such as light gases, gasoline, light gas oil, and cycle oil. The catalyst becomes coated with carbonaceous material (coke)

during its exposure to the hydrocarbon feedstock. FCCUs include a catalyst regenerator where coke is burned off the surface of the catalyst to restore its activity so it can be re-used. Catalyst regenerators may be designed to burn the coke completely to carbon dioxide (full burn) or to only partially burn the coke to a mixture of CO and CO₂ (partial burn). Because the flue gas from these partial burn regenerators has high levels of CO, the flue gas is vented to a CO boiler where the CO is further combusted to CO₂. FCCUs and associated CO boilers can generate substantial PM, NO_x, and SO₂ emissions.

Petroleum Wastewater Treating: All refineries employ some form of wastewater treatment so that water effluents can safely be reused at the refinery or discharged. Wastewater treatment operations provide a means of treating water that has come into contact with petroleum hydrocarbons, and, as such, are a potential source of ROG emissions. The design of wastewater treatment plants is complicated by the diversity of refinery pollutants, including oil, phenols, sulfides, dissolved solids, and toxic chemicals. Although the treatment processes employed by refineries vary greatly they generally include drain systems, neutralizers, oil/water separators, settling chambers, clarifiers, dissolved air flotation systems, coagulators, and activated sludge units.

Drain systems consist of individual process drains, where oily water from various sources is collected, and junction boxes, which receive the oily water from multiple drains. The first stage of a typical wastewater treatment process is the oil-water separator, which physically separates the free oil and solids from the water. Gravity allows any oil in the water to rise to the surface of the separator and any solid particles to sink to the bottom. A continually moving scraper system pushes oil to one end and the solids to the other. Both are removed and the recovered oil is sent back to the refinery for reprocessing. Small suspended oil particles are then typically removed in the dissolved air flotation unit. Wastewater is sent to the activated sludge units, where naturally-occurring microorganisms feed on the dissolved organics in the wastewater, and convert them to water, CO₂ and nitrogen gas, which can be safely released into the atmosphere. Finally, wastewater enters the clarifying tanks, where the microorganisms settle to the bottom while the treated wastewater flows away.

1.6.2 PETROLEUM COKE CALCINING

Petroleum coke, the heaviest portion of crude oil, cannot be recovered in the normal refining process. Instead, petroleum coke is processed in a delayed coker unit to generate a carbonaceous solid referred to as “green coke,” a commodity. To improve the quality of the product, if the green coke has a low metals content, it will be sent to a calciner to make calcined petroleum coke. Calcined petroleum coke can be used to make anodes for the aluminum, steel, and titanium smelting industry. If the green coke has a high metals content, it can be used as a fuel grade coke by the fuel, cement, steel, calciner and specialty chemicals industries.

The process of making calcined (removing impurities) petroleum coke begins when the green coke feed from the delayed coker unit is screened and transported to the calciner unit where it is stored in a covered coke storage barn. The screened and dried green coke is introduced into the top end of a rotary kiln and is tumbled by rotation under high temperatures that range between 2,000 and 2,500 degrees Fahrenheit (°F). The rotary kiln relies on gravity to move coke through the kiln countercurrent to a hot stream of combustion air produced by the combustion of natural gas or fuel oil. As the green coke flows to the bottom of the kiln, it rests in the kiln for approximately one additional hour to eliminate any remaining moisture, impurities, and hydrocarbons. Hot gases from the calciner are sent to a pyroscrubber that

removes particulates through a combination of settling and incineration and sulfur compounds are oxidized to SO₂. Once discharged from the kiln, the calcined coke is dropped into a cooling chamber, where it is quenched with water, treated with de-dusting agents to minimize dust, and carried by conveyors to storage tanks and sold for industrial uses.

1.6.3 CEMENT MANUFACTURING

Cement is manufactured in a cement kiln using a pyroprocess or high temperature reactor that is constructed along a longitudinal axis with segmented rotating cylinders whose connected length is anywhere from 50 to 200 yards in length. The pyroprocess in the kiln consists of three phases during which clinker is produced from raw materials undergoing physical changes and chemical reactions. The first phase in the kiln, the drying and pre-heating zone, operates at a temperature between 1,000 °F and 1,600 °F and evaporates any remaining water in the raw mix of materials entering the kiln. The second phase, the calcining zone, operates at a temperature between 1,600 °F and 1,800 °F and converts the calcium carbonate from the limestone in the kiln feed into calcium oxide and releases CO₂. During the third phase, the burning zone operates on average at 2,200 °F to 2,700 °F (though the flame temperature can at times exceed 3,400 °F) during which several reactions and side reactions occur. As the materials move towards the discharge end, the temperature drops and eventually clinker nodules form and volatile constituents, such as sodium, potassium, chlorides, and sulfates, evaporate. The red-hot clinker exits the kiln, is cooled in the clinker cooler, passes through a crusher and is conveyed to storage.

As indicated above, cement manufacturing occurs at high temperatures and uses several combustion fuels. Fuels that have been used for primary firing include coal, petroleum coke, heavy fuel oil, natural gas, landfill off-gas and oil refinery flare gas. High carbon fuels such as coal are preferred for kiln firing, because they yield a luminous flame. The clinker is brought to its peak temperature mainly by radiant heat transfer, and a bright (i.e. high emissivity) and hot flame is essential for this. Combustion emissions are exhausted through the kiln's stack.

At cement manufacturing facilities, fugitive dust may consist of wind-driven particulate matter emissions from any disturbed surface work area that are generated by wind action alone. The process of making cement begins with the acquisition of raw materials, predominantly limestone rock (calcium carbonate) and clay, which exist naturally in rocks and sediment on the earth's surface. These and other materials used to manufacture cement are typically mined at nearby quarries and comprise "raw mix." The raw mix is refined by a series of mechanical crushing and grinding operations to segregate and eventually reduce the size of each component to 0.75 inch or smaller before being conveyed to storage.

1.6.4 ORGANIC LIQUID STORAGE FACILITIES

Storage vessels containing organic liquids can be found in many industries, including: (1) petroleum producing and refining; (2) petrochemical and chemical manufacturing; (3) bulk storage and transfer operations; and (4) other industries consuming or producing organic liquids. Organic liquids in the petroleum industry generally are mixtures of hydrocarbons having dissimilar true vapor pressures (for example, gasoline and crude oil). Organic liquids in the chemical industry are composed of pure chemicals or mixtures of chemical with similar vapor pressures (for example, benzene or a mixture of isopropyl and butyl alcohols). Tanks associated with refineries comprise over 95 percent of the organic liquid storage tanks identified in the BARCT evaluation process.

Six basic tank designs are used for organic liquid storage vessels: fixed roof (vertical and horizontal), external floating roof, domed external (or covered) floating roof, internal floating roof, variable vapor space, and pressure tanks (low and high). ROG emissions from organic liquids in storage occur because of evaporative loss of the liquid during its storage and changes in the liquid level. ROG emissions vary with tank design, as does the relative contribution of each type of evaporative loss. Emissions from fixed roof tanks are a result of evaporative losses during storage (breathing losses or standing storage losses) and evaporative losses during filling and emptying operations (referred to as working losses). External and internal floating roof tanks are ROG emission sources because of evaporative losses that occur during standing storage and withdrawal of liquid from the tank. Standing storage losses are a result of evaporative losses through rim seams, deck fittings, and/or deck seams. Pressure tank losses occur when connecting to or disconnecting from the tank.

1.7 BARCT EMISSION CONTROL TECHNOLOGIES

The expedited implementation of BARCT would apply to existing facilities in the Bay Area that are generally large sources of emissions and included in the CARB GHG Cap-and-Trade program as industrial facilities. The overall purpose of the BARCT implementation schedule project is to reduce criteria pollutant emissions from industrial sources that participate in the GHG Cap-and-Trade program. Emissions of criteria pollutants and TACs are often associated with GHG emission sources.

To comply with the BARCT requirements, operators at affected facilities may need to implement different types of air pollution control equipment or measures. The type of emission capture and control technology that may be used depends on the specific source and type of pollutant to be controlled. The most common air pollution control measures that are likely to be implemented as a result of the proposed expedited BARCT schedule are categorized into the following groups and are summarized in Table 1-3:

- Installing domes on external floating roof tanks and capturing vented emissions from internal floating roof tanks or coned roof tanks and removing ROG emissions through a vapor recovery unit;
- Covering lift stations, manholes, junction boxes, conveyances and other wastewater facilities at refineries and venting ROG emissions to a vapor combustor;
- Requiring additional lime injection on cement kilns to reduce SO₂ emissions;
- Controlling PM emissions from FCCUs using SO₂ reducing catalyst additives, additional ESP capacity, or wet gas scrubbers;
- Reducing ROG emissions from fugitive components in heavy liquid service at refineries through increased LDAR programs;
- Reducing NO_x emissions from coke calcining facilities through the use of SCR units and/or LoTOx system with a wet gas scrubber.

TABLE 1-3

Control Strategies and Target Pollutants

Control Strategy	Pollutant
Additional Controls on Organic Liquid Storage Tanks	ROG
Enclosures and Vapor Combustors at Refinery Wastewater Treatment Plants	ROG
Additional Lime Injection at Cement Plants	PM and SO ₂
Wet Gas Scrubbers, Additional ESP Capacity, and SO ₂ Reducing Catalysts at Refinery FCCUs and CO Boilers	PM and SO ₂
Increase LDAR for Equipment in Heavy Liquid Service Refineries	ROG
SCR and LoTOx (wet scrubber) at Petroleum Coke Calciners	NO _x

The following subsections briefly describe the most likely types of control technologies that would be used to comply with the BARCT rules included in the expedited BARCT implementation schedule.

1.7.1 ADDITIONAL CONTROLS ON ORGANIC LIQUID STORAGE TANKS

ROG emissions from organic liquids in storage occur because of evaporative loss of the liquid during its storage and as a result of changes in the liquid level. ROG emissions vary with tank design, as does the relative contribution of each type of evaporative loss.

Potential ROG emission reductions would be achieved by installing domes on external floating roof tanks and capturing vented emissions from internal floating roof tanks or coned roof tanks and removing ROG emissions through a vapor recovery unit (VRU) flowing back to the tank for recovery or VRU to a thermal incinerator. Thermal oxidizers, or thermal incinerators, are combustion devices that control volatile TAC emissions by combusting them to CO₂ and water. Domed roofs on external floating roofs without VRUs would reduce ROG emissions by limiting wind effects.

1.7.2 ENCLOSURES AND VAPOR COMBUSTORS AT REFINERY WASTEWATER TREATMENT PLANTS

The main component of atmospheric emissions from refinery wastewater treatment plants are fugitive ROG emissions and dissolved gases that evaporate from the surfaces of wastewater residing in open process drains, separators, and ponds. The control of wastewater treatment plant emissions involves covering systems where emission generation is greatest (such as oil/water separators and settling basins) and removing dissolved gases from water streams with sour water strippers before contact with the atmosphere. Covering wastewater operations potentially can achieve greater than 90 percent reduction of wastewater system emissions. In addition, all lift stations, manholes, junction boxes, conveyances and any other wastewater facilities should be covered and all emissions routed to a vapor combustor with a destruction removal efficiency (DRE) of 99 percent for control. Vapor combustors are combustion devices that control ROG emissions by combusting them to carbon dioxide and water.

1.7.3 LIME INJECTION AT CEMENT PLANTS

The formation of SO₂ in cement kilns is a product of the chemical composition of the raw materials and fuel, as well as the high operating temperatures and oxygen concentration in the kiln. In a lime injection system, a hydrated lime powder is injected into the flue gas to capture acidic gases. The cement kiln within the District's jurisdiction currently operates a lime injection system for the control of hydrogen chloride (HCl) emissions, but the use of additional lime or additional lime injection capacity would likely be needed to further control SO₂ emissions. SO₂ reacts with lime (calcium carbonate) and is captured in the baghouse as calcium sulfate. The hydrated lime usually absorbs up to 60% of the SO₂ in the gases if injected at the correct temperature.

1.7.4 WET GAS SCRUBBERS

In wet scrubbing processes, liquid or solid particles are removed from a gas stream by transferring them to a liquid. This addresses only wet scrubbers for control of particulate matter. The liquid most commonly used is water. A wet scrubber's particulate collection efficiency is directly related to the amount of energy

expended in contacting the gas stream with the scrubber liquid. Most wet scrubbing systems operate with particulate collection efficiencies over 95 percent (U.S. EPA, 2017).

There are three energy usage levels for wet scrubbers. A low energy wet scrubber is capable of efficiently removing particles greater than about 5-10 micrometers in diameter. A medium energy scrubber is capable of removing micrometer-sized particles, but is not very efficient on sub-micrometer particles. A high-energy scrubber is able to remove sub-micrometer particles.

A spray tower scrubber is a low energy scrubber and is the simplest wet scrubber used for particulate control. It consists of an open vessel with one or more sets of spray nozzles to distribute the scrubbing liquid. Typically, the gas stream enters at the bottom and passes upward through the sprays. The particles are collected when they impact the droplets. This is referred to as counter-current operation. Spray towers can also be operated in a cross-current arrangement. In cross-current scrubbers, the gas flow is horizontal and the liquid sprays flow downward. Cross-current spray towers are not usually as efficient as counter-current units.

The most common high energy wet scrubber is the venturi, although it can also be operated as a medium energy scrubber. In a fixed-throat venturi, the gas stream enters a converging section where it is accelerated toward the throat section. In the throat section, the high-velocity gas stream strikes liquid streams that are injected at right angles to the gas flow, shattering the liquid into small drops. The particles are collected when they impact the slower moving drops. Following the throat section, the gas stream passes through a diverging section that reduces the velocity.

All wet scrubber designs incorporate mist eliminators or entrainment separators to remove entrained droplets. The process of contacting the gas and liquid streams results in entrained droplets, which contain the contaminants or particulate matter. The most common mist eliminators are chevrons, mesh pads, and cyclones. Chevrons are simply zig-zag baffles that cause the gas stream to turn several times as it passes through the mist eliminator. The liquid droplets are collected on the blades of the chevron and drain back into the scrubber. Mesh pads are made from interlaced fibers that serve as the collection area. A cyclone is typically used for the small droplets generated in a venturi scrubber. The gas stream exiting the venturi enters the bottom of a vertical cylinder tangentially. The droplets are removed by centrifugal force as the gas stream spirals upward to the outlet.

1.7.5 ELECTROSTATIC PRECIPITATOR

An ESP is a control device designed to remove particulate matter (both PM₁₀ and PM_{2.5}) from an exhaust gas stream. ESPs take advantage of the electrical principle that opposites attract. By imparting a high voltage charge to the particles, a high voltage direct current (DC) electrode negatively charges airborne particles in the exhaust stream, while simultaneously ionizing the carrier gas, producing an electrified field. The electric field in an ESP is the result of three contributing factors: the electrostatic component resulting from the application of a voltage in a dual electrode system, the component resulting from the space charge from the ions and free electrons, and the component resulting from the charged particulate. As the exhaust gas passes through this electrified field, the particles are charged. The strength or magnitude of the electric field is an indication of the effectiveness of an ESP. Typically, 20,000 to 70,000 volts are used. The particles, either negatively or positively charged, are attracted to the ESP collecting electrode of the opposite charge. When enough particulates have accumulated, the collectors are shaken

to dislodge the dust, causing it to fall by gravity to hoppers below and then removed by a conveyor system for disposal or recycling. ESPs can handle large volumes of exhaust gases and because no filters are used, ESPs can handle hot gases from 350 °F to 1,300 °F.

1.7.6 SO₂ REDUCING CATALYSTS

To help reduce formation of condensable particulate matter from sulfurous components, SO_x-reducing additives (catalysts) are used for reducing the production of SO_x by-products in FCCUs. A SO_x reducing catalyst is a metal oxide compound such as aluminum oxide (Al₂O₃), magnesium oxide (MgO), vanadium pentoxide (V₂O₅) or a combination of the three that is added to the FCCU catalyst as it circulates throughout the reactor. In the regenerator of the FCCU, sulfur-bearing coke is burned and SO₂, CO, and CO₂ by-products are formed. A portion of SO₂ will react with excess oxygen and form SO₃, which will either stay in the flue gas or react with the metal oxide in the SO_x-reducing catalyst to form metal sulfate. In the FCCU reactor, the metal sulfate will react with hydrogen to form either metal sulfide and water, or more metal oxide. In the steam stripper section of the FCCU reactor, metal sulfide reacts with steam to form metal oxide and hydrogen sulfide (H₂S). The net effect of these reactions is that the quantity of SO₂ in the regenerator is typically reduced between 40 to 65 percent while the quantity of H₂S in the reactor is increased. Generally, the increase in H₂S is handled by sulfur recovery processes located elsewhere within a refinery.

1.7.7 ENHANCED LDAR FOR COMPONENTS IN HEAVY LIQUID SERVICE

Oil refineries, chemical plants, bulk plants, bulk terminals, and other facilities that store, transport and use organic liquids may occasionally have leaks wherever there is a connection between two pieces of equipment, and lose some organic material as fugitive ROG emissions. Valves, pumps, and compressors can also leak organic materials. The District Rule 8-18 requires such facilities to maintain LDAR programs. The rule originally required the monitoring of components in light hydrocarbon liquid service, but was expanded in 2015 to include equipment in heavy hydrocarbon liquid service. Those amendments have not been fully implemented due to litigation regarding uncertainty of heavy liquid fugitive emissions. The District is in the process of conducting studies to determine appropriate emission factors for heavy liquid leaks. Completion of the heavy liquid leak study has been problematic, because some heavy hydrocarbon liquids are condensing and coating the leak detection sensors. The study approach is being re-configured and the results are expected by Fall 2018. The results of the study will be used to determine appropriate revisions to Rule 8-18, e.g., types of monitoring instruments, frequency of monitoring, leak concentration limits, time allowed for repair of the leak, recordkeeping requirements, etc.

1.7.8 SELECTIVE CATALYTIC REDUCTION (SCR) AT PETROLEUM COKE CALCINERS

SCR is post combustion control equipment for NO_x control of combustion sources such as boilers and process heaters and is capable of reducing NO_x emissions by as much as 95 percent or higher. A typical SCR system consists of an ammonia storage tank, ammonia vaporization and injection equipment, a booster fan for the flue gas exhaust, an SCR reactor with catalyst, and exhaust stack plus ancillary electronic instrumentation and operations control equipment. An SCR system reduces NO_x by injecting a mixture of ammonia and air into the flue gas exhaust stream from the combustion equipment. This mixture flows into the SCR reactor where the catalyst, ammonia and oxygen in the flue gas exhaust reacts with NO and NO₂ to form nitrogen and water in the presence of the catalyst. The amount of ammonia introduced into the SCR system is approximately a one-to-one molar ratio of ammonia to NO_x for optimum control efficiency, though the ratio may vary based on equipment-specific NO_x reduction requirements. SCR catalysts are available in two types of solid, block configurations or modules, plate or honeycomb type, and are comprised of a base material of titanium dioxide that is coated with either tungsten trioxide, molybdenic anhydride, vanadium pentoxide, iron oxide, or zeolite catalysts. These catalysts are used for SCRs because of their high activity, insensitivity to sulfur in the exhaust, and useful life span of five years or more. Ultimately, the material composition of the catalyst is dependent upon the application and flue gas conditions such as gas composition, temperature, etc. (SCAQMD, 2015).

For conventional SCRs, the minimum temperature for NO_x reduction is 500°F and the maximum operating temperature for the catalyst is 800 °F. The presence of particulates, heavy metals, sulfur compounds, and silica in the flue gas exhaust can limit catalyst performance. Minimizing the quantity of injected ammonia and maintaining the ammonia temperature within a predetermined range helps to avoid these undesirable reactions while minimizing the production of unreacted ammonia which is commonly referred to as “ammonia slip.” Depending on the type of combustion equipment utilizing SCR, the typical amount of ammonia slip can vary between less than five ppmv when the catalyst is fresh and 20 ppmv at the end of the catalyst life.

1.7.9 LOTOX (WET SCRUBBER) AT PETROLEUM COKE CALCINERS

The LoTOx™ is a registered trademark of Linde LLC (previously BOC Gases) and was later licensed to BELCO of Dupont for refinery applications. LoTOx™ stands for “Low Temperature Oxidation” process in which ozone (O₃) is used to oxidize insoluble NO_x compounds into soluble NO_x compounds which can then be removed by absorption in a caustic, lime, or limestone solution. The LoTOx™ process is a low temperature application, optimally operating at about 325 °F.

A typical combustion process produces about 95 percent NO and five percent NO₂. Because both NO and NO₂ are relatively insoluble in an aqueous solution, a WGS alone is not efficient in removing these insoluble compounds from the flue gas stream. However, with a LoTOx™ system and the introduction of O₃, NO and NO₂ can be easily oxidized into a highly soluble compound N₂O₅ and subsequently converted to nitric acid (HNO₃). Then, in a wet gas scrubber for example, the HNO₃ is rapidly absorbed in caustic (NaOH), limestone or lime solution. The LoTOx™ process can be integrated with any type of wet scrubbers (e.g., venturi, packed beds), semi-dry scrubbers, or wet ESPs. In addition, because the rates of oxidizing reactions for NO_x are fast compared to the very slow SO₂ oxidation reaction, no ammonium bisulfate ((NH₄)HSO₄) or sulfur trioxide (SO₃) is formed (Confuorto and Sexton, 2007).

CHAPTER 2

ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Evaluation of Environmental Impacts

Environmental Checklist and Discussion

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:	AB 617 Expedited BARCT Implementation Schedule
Lead Agency Name and Address:	Bay Area Air Quality Management District 375 Beale Street, Suite 600 San Francisco, California 94105
Contact Person:	Guy Gimlen
Contact Phone Number:	415-749-4734
Project Location:	BARCT would apply to industrial sources subject to California GHG Cap-and-Trade requirements 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 and Address:	Bay Area Air Quality Management District 375 Beale Street, Suite 600 San Francisco, California 94105
General Plan Designation:	The general plan designation varies as this rule would affect industrial facilities throughout the Bay Area. The majority of affected facilities are located within industrial or commercial designations.
Zoning:	See "General Plan Designation" above.
Description of Project:	See "Background" in Chapter 1.
Surrounding Land Uses and Setting:	See "Affected Area" in Chapter 1.
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. Impact areas in which the proposed project may have a significant impact are marked with a “✓”. An explanation supporting the determination of significant impacts can be found in the Detailed Checklist and Discussion section below.

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

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Bay Area Air Quality Management District covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano County and southern Sonoma County. 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. Important views of natural features include the San Francisco Bay and ocean, San Francisco Bay, Mount Tamalpais, Mount Diablo, and other peaks and inland valleys of the Coast Range. Cityscape views offered by buildings and distinctive Bay Area bridges, especially the Golden Gate and Bay Bridges and the San Francisco skyline, are also important built visual resources to the region (ABAG, 2017). Views along travel corridors, including roads and rail lines, are in abundance in the Bay Area and include views of the San Francisco Bay, city scape, mountains and hills, redwood groves, and broader views of the ocean and lowlands, such as along ridgelines. Because of the variety of visual resources, scenic highways or corridors are located throughout the Bay Area and includes 15 routes that have been designated as scenic highways and 29 routes eligible for designation as scenic highways (ABAG, 2017).

BARCT would apply to a limited number of industrial sources with physical modifications limited to facilities in industrial or commercial areas. Scenic highways or corridors are generally not located in the vicinity of industrial facilities.

Regulatory Background

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

Significance Criteria

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

- The proposed project would have a substantial adverse effect on a scenic vista.
- The proposed project would substantially damage scenic resources, including but not limited to trees, rock outcropping, and historical buildings within a state scenic highway.
- The proposed project would substantially degrade the existing visual character or quality of the site and its surrounds.
- The proposed project would add a visual element of urban character to an existing rural or open space area or add a modern element to a historic area.
- The proposed project would create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Discussion of Impacts

I. a, b, and c). The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Air pollution control equipment or measures would be constructed/implemented within the confines of the existing industrial facilities and adjacent to existing industrial structures. Some BARCT measures are not expected to be visible outside of the existing facility. This would include covering portions of petroleum wastewater treatment facilities, lime injection at cement plants, use of SO₂ reducing catalysts, and increased LDAR.

Other BARCT measures would include the installation of equipment that may be visible outside of the existing industrial facilities, however, these facilities are located in industrial areas which do not have scenic views or scenic resources. For example, domes on storage tanks increase the height of the storage tanks making them more visible to the areas surrounding the storage tanks. However, storage tanks are generally located at refineries, bulk handling and storage facilities, or manufacturing facilities and are located within industrial areas. Thus, they are not expected to have significant adverse aesthetic impacts to the surrounding community. Additionally, new air pollution control equipment is not expected to block any scenic vista, degrade the visual character or quality of the area, or result in significant adverse aesthetic impacts.

I. d). The industrial facilities affected by the expedited BARCT requirements may need to install or modify air pollution control equipment to reduce criteria pollutant emissions from their facilities. These facilities are existing industrial facilities that currently operate or can operate 24 hours a day and have existing lighting for nighttime operations. For example, refineries operate continuously 24 hours per day, 7 days per week and are already lighted for nighttime operations. The same is true for most other types of manufacturing operations (e.g., cement plants). Therefore, implementation of the BARCT requirements is not expected to require any additional lighting to be installed as a result of the installation of new air pollution control equipment. New light sources, if any, would be located in industrial areas and are not expected to be noticeable in residential areas. Most local land use agencies have ordinances that limit the intensity of lighting and its effects on adjacent property owners. Therefore, the expedited BARCT requirements are not expected to have significant adverse aesthetic impacts to the surrounding community.

Conclusions

Based upon the above considerations, significant adverse impacts to aesthetics or light and glare are not expected to occur due to implementation of the AB 617 expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

Setting

The Air District 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. Agricultural land under Williamson Act contract includes both prime and nonprime lands. Prime agricultural land includes land with certain specific soil characteristics, land that has returned a predetermined annual gross value for three of the past five years, livestock-supporting land with specific carrying capacities, or land planted with fruit or nut trees, vines, bushes or crops that have a non-bearing period of less than five years (Government Code §51200-51207). Nonprime lands include pasture and grazing lands and other non-irrigated agricultural lands with lesser soil quality.

The Bay Area has a significant amount of land in agricultural uses. In 2010, approximately over half of the region's approximately 4.5 million acres were classified as agricultural lands, as defined by the California Department of Conservation Farmland Mapping and Monitoring Program. Of these, 2.3 million acres of agricultural land, over 70 percent (about 1.7 million acres) are used for grazing. Products grown in the Bay Area include field crops, fruit and nut crops, seed crops, vegetable crops, and nursery products. Field crops, which include corn, wheat, and oats, as well as pasture lands, represent approximately 62 percent of the Bay Area agricultural land (ABAG, 2017). In 2014, about 1.25 million acres of land were under Williamson Act contract in the Bay Area. Of this, about 203,200 acres were prime farmland and one million acres were nonprime. Lands under Williamson Act contract are primarily used for pasture and grazing and not for cultivation of crops. Approximately 70 percent of prime farmlands under contract are in Santa Clara, Solano, and Sonoma counties (ABAG, 2017).

Expedited BARCT requirements would affect a limited number of facilities with physical modifications limited to facilities in industrial areas that are zoned for industrial use and agricultural or forest lands are not located within these areas or facilities.

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.

Significance Criteria

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

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

Discussion of Impacts

II a-e. The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources,

wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Air pollution control equipment or measures would be constructed/implemented within the confines of the existing industrial facilities and adjacent to existing industrial structures. This equipment would be compatible with the existing industrial character and land use of the area and would not be located in agricultural or forestland areas. Thus, no impacts to agriculture and forestry resources are expected.

The proposed project would not conflict with existing agriculture related zoning designations or Williamson Act contracts. Existing agricultural and forest resources within the boundaries of the Air District are not expected to be affected by the construction of additional air pollution control equipment or modification to existing emission sources. 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, or impacts to forestland resources.

Conclusion

Based upon the above considerations, significant adverse impacts to agricultural or forestry resources are not expected to occur due to implementation of the AB 617 expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

It is the responsibility of the Air District to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and lead.

The San Francisco Bay Area is characterized by a large, shallow basin surrounded by mountain ranges tapering into sheltered inland valleys. The basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of mountains, valleys and bays. 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.

Air quality conditions in the San Francisco Bay Area have improved greatly since the Air District was created in 1955, and regional concentrations of criteria pollutants are now in compliance with or near compliance with most ambient air quality standards. The Bay Area is in attainment with both the National Ambient Air Quality Standards and the California Ambient Air Quality Standards for CO, SO₂, NO₂, and lead. The air basin is designated as nonattainment for ozone and particulate matter (PM₁₀ and PM_{2.5}) under the California ambient air quality standards.

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 Bay Area Air Quality Management District, 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 Air District is governed by a 24-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 Air District 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 regulatory programs for the control of TACs, including: (1) California's TAC identification and control program, adopted in 1983 as Assembly Bill 1807 (AB 1807) (California Health and Safety Code §39662), 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; and (2) The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California

Health and Safety Code §39656) established 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.

In 2004, the Air District initiated the Community Air Risk Evaluation (CARE) program to identify areas with relatively high concentrations of air pollution—including toxic air contaminants (TACs) and fine particulate matter—and populations most vulnerable to air pollution’s health impacts. Maps of communities most impacted by air pollution, generated through the CARE program, have been integrated into many District programs. For example, the Air District uses 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.

Significance Criteria

On June 2, 2010, the District's Board of Directors unanimously adopted thresholds of significance to assist in the review of projects under CEQA. These CEQA thresholds were designed to establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA. The CEQA thresholds were challenged in court. Following litigation in the trial court, the court of appeal, and the California Supreme Court, all of the Thresholds were upheld. However, in an opinion issued on December 17, 2015, the California Supreme Court held that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the project would exacerbate existing environmental hazards.

In view of the Supreme Court’s opinion, local agencies may rely on the District’s CEQA thresholds designed to reflect the impact of locating development near areas of toxic air contamination where such an analysis is required by CEQA or where the agency has determined that such an analysis would assist in making a decision about the project. However, the CEQA thresholds are not mandatory and agencies should apply them only after determining that they reflect an appropriate measure of a project’s impacts.

The Air District published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court’s opinion. The CEQA Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion. The Air District is currently working to revise any outdated information in the Guidelines as part of its update to the CEQA Guidelines and thresholds of significance. Since these are the most current air quality significance thresholds and address court decisions, they will be used in the CEQA analysis for the current project.

Construction Emissions

Regarding construction emissions, the Air District’s 2017 Thresholds of Significance will be used in the current air quality analysis for construction emissions (see Table 2-1).

TABLE 2-1

**Thresholds of Significance for Construction-Related
Criteria Air Pollutants and Precursors**

Pollutant/Precursor	Daily Average Emissions (lbs/day)
ROG	54
NO _x	54
PM ₁₀	82*
PM _{2.5}	54*
PM ₁₀ / PM _{2.5} Fugitive Dust	Best Management Practices

*Applies to construction exhaust emissions only.

Source: BAAQMD, 2017

Operational Emissions

The most recently available CEQA Guidelines established emission thresholds for specific projects, general plans, and regional plans. An air quality rule does not fall neatly into any of these categories. Air quality rules are typically regional in nature, as opposed to general plans, community plans and regional plans. In addition, air quality rules are usually specific to particular source types and particular pollutants. The Air Quality Plan threshold of “no net increase in emissions” is appropriate for Air Quality Plans because they include a mix of control measures with individual trade-offs. For example, one control measure may result in combustion of methane to reduce greenhouse gas emissions, while increasing criteria pollutant emissions by a small amount. Those increases from the methane measure would be offset by decreases from other measures focused on reducing criteria pollutants. In a particular rule development effort, there may not be opportunities to make these trade-offs.

The 2017 project-level stationary source CEQA thresholds are identified in Table 2-2. These represent the levels at which an individual project’s emissions would result in a cumulatively considerable contribution to the Air District’s existing air quality conditions. The Air District does not currently have significance thresholds specifically for rules. In order to provide a conservative air quality analysis, the project-specific thresholds recommended in the revised 2017 CEQA Guidelines (BAAQMD, 2017) will be used in the current air quality impacts analysis (see Table 2-2).

TABLE 2-2

**Thresholds of Significance for Operation-Related
Criteria Air Pollutants and Precursors**

Pollutant/Precursor	Daily Average Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	10
NO _x	54	10
PM ₁₀	82	15
PM _{2.5}	54	10

*Source: BAAQMD, 2017

Discussion of Impacts

III a. The proposed expedited BARCT requirements are not expected to conflict with or obstruct implementation of the applicable air quality plan. The applicable air quality plan is the Air District’s recently-adopted 2017 Clean Air Plan, *Spare the Air, Cool the Climate*. The Plan outlines a strategy for achieving the Bay Area’s clean air goals by reducing emissions of ozone precursors, particulate matter, and other pollutants in the region. The proposed expedited BARCT schedule will not conflict with or obstruct implementation of the 2017 Clean Air Plan, rather it will help achieve the Plan’s goals by helping to reduce criteria pollutant emissions, including emissions of ozone precursors (ROG and NO_x) and particulate matter or precursors to particulates (NO_x and SO₂), thus improving public health and air quality in the region.

III b, c and d. While the primary purpose of implementing expedited BARCT requirements is to reduce emissions of ROG, NO_x, SO₂, and PM, some types of control equipment have the potential to create secondary adverse air quality impacts, through construction activities or through the addition of air pollution control equipment (e.g., SCRs). The proposed expedited BARCT schedule may result in the installation of new equipment at facilities that need to comply with the new requirements.

Limited construction activities may be required for some BARCT measures to enclose open fugitive components, install new catalyst, increase lime injection and so forth. Construction emissions associated with this type of construction would be minor and would involve the transport of the new equipment which is expected to require one to two truck trips per project. Installation of the equipment would be expected to be limited to two to ten workers and would not require any major construction equipment and no site preparation activities would be expected to be required. Therefore, retrofitting this type of existing equipment would result in minor construction emissions.

Construction activities would also be required for the construction of new air pollution control equipment at existing facilities, including vapor combustors, wet gas scrubbers, ESPs, vapor recovery systems, and SCRs. Some of the BARCT equipment would be required at existing facilities with large emission sources, e.g., refinery FCCUs. Construction activities for these types of new air pollution control equipment could be substantial because the control equipment would be needed on large sources and would need to be appropriately sized. Construction activities associated with air pollution control

equipment at large sources could be substantial and generate significant, although temporary construction emissions.

Although the primary effect of installing air pollution control equipment is to reduce emissions of a particular pollutant, e.g., NO_x, some types of control equipment have the potential to create secondary adverse air quality impacts. For example, control strategies aimed at reducing NO_x from stationary sources may use ammonia for control (e.g., selective catalytic reduction). Ammonia use could result in increased ammonia emissions and, since ammonia is a precursor to particulate formation, increased particulate formation in the atmosphere. Because of the potential for secondary emissions from air pollution control equipment, there is also a potential that sensitive receptors could be exposed to increased pollutant concentrations, which may be significant. As a result, these potential air quality impacts of the expedited BARCT measures will be evaluated in the Draft EIR.

III e. The implementation of expedited BARCT is expected to result in emission decreases associated with control of criteria pollutant emissions, including SO_x emissions. Some sulfur compounds have odors. However, a number of methods to reduce SO_x emissions involve removing additional sulfur compounds, reducing the potential for odors in downstream equipment.

Odors associated with ammonia use in new SCR systems are expected to be minimal. Ammonia can have a strong odor; however, new SCRs are not expected to generate substantial ammonia emissions. Ammonia is generally stored in an enclosed pressurized tank, which prevents fugitive ammonia emissions. Ammonia emissions from the stack (also referred to as ammonia slip) are expected to be limited to 10 ppm and implemented through permit conditions. Since exhaust emissions are buoyant as a result of being heated, ammonia in the exhaust will disperse and ultimate ground level concentrations would be expected to be substantially lower than five ppm. Five ppm is below the odor threshold for ammonia of 20 ppm (OSHA, 2005). Potential odor impacts associated with the expedited BARCT requirements are not expected to be significant. The Air District will continue to enforce odor nuisance complaints through BAAQMD Regulation 7, Odorous Substances.

Conclusion

Implementation of expedited BARCT requirements would reduce ROG, SO₂, PM and NO_x emissions from industrial facilities that operate stationary large emission sources throughout the Bay Area. However, construction and operation of new air pollution control systems have the potential to increase emissions of other criteria pollutants and generate localized impacts. Therefore, potential adverse secondary air quality impacts which could result from implementing expedited BARCT requirements will be evaluated in the Draft EIR. No significant impacts were identified on air quality plans or the generation of odors and these topics will not be addressed further in the Draft EIR.

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

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

Setting

The Air District 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 Bay Area supports numerous distinct natural communities composed of a diversity of vegetative types that provide habitat for a wide variety of plant and wildlife species. Broad habitat categories in the region include grasslands, coastal scrubs and chaparral, woodlands and forests, riparian systems and freshwater aquatic habitat, and wetlands. Extensive aquatic resources are provided by the San Francisco Bay Delta estuary, as well as numerous other rivers and streams. Urban and otherwise highly disturbed habitats, such as agricultural fields, also provide natural functions and values as wildlife habitat (ABAG, 2017).

Expedited BARCT requirements would affect a limited number of facilities with physical modifications limited to facilities in industrial areas that are zoned for industrial use. Biological resources are not usually located in industrial areas.

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.

Significance Criteria

The proposed project impacts on biological resources will be considered significant if:

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

Discussion of Impacts

IV a, b, c and d). The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and

petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Air pollution control equipment or measures would be constructed/implemented within the confines of the existing industrial facilities and adjacent to existing industrial structures. These facilities have been built and graded and no major grading would be expected to occur due to the installation of additional air pollution control equipment. Construction activities would occur within industrial areas, where native biological resources have been removed or are non-existent. Thus, the proposed project is not expected to result in any impacts to biological resources.

IV e and f). The proposed project is not expected to affect land use plans, local policies or ordinances, or regulations protecting biological resources such as a tree preservation policy or ordinances for the reasons already given. Land use and other planning considerations are determined by local governments and land use or planning requirements are not expected to be altered by the proposed project. Similarly, the proposed BARCT requirements are not expected to affect any habitat conservation or natural community conservation plans, biological resources or operations, and would not create divisions in any existing communities, as construction activities would be limited to existing facilities in industrial areas that have already been developed and graded.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to biological resources are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

Setting

The Air District 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. Cultural resources also include paleontological sites, which can consist of mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

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.

Important vertebrate and invertebrate fossils and unique geologic units have been documented throughout California. The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks. Pleistocene or older (older than 11,000 years) continental sedimentary deposits are considered to have a high paleontological potential while Holocene-age deposits (less than 10,000 years old) are generally considered to have a low paleontological potential because they are

geologically immature and are unlikely to contain fossilized remains of organisms. Metamorphic and igneous rocks have a low paleontological potential, either because they formed beneath the surface of the earth (such as granite), or because they have been altered under heat and high pressures.

Historic resources are standing structures of historic or aesthetic significance. Architectural sites dating from the Spanish Period (1529-1822) through the late 1960s are generally considered for protection if they are determined to be historically or architecturally significant. These may include missions, historic ranch lands, and structures from the Gold Rush and the region's early industrial era. More recent architectural sites may also be considered for protection if they could gain historic significance in the future (ABAG, 2017).

Of the 8,199 sites recorded in the Bay Area, there are 1,006 cultural resources listed on the California Register of Historic Resources (CRHR), meaning that they are significant at the local, State or federal level; of those, 744 are also listed on the National Register of Historic Places (NRHP). From this list, 249 resources are listed as California Historic Landmarks. The greatest concentration of historic resources listed on both the NRHP and the CRHR in the Bay Area occurs in San Francisco, with 181 resources. Alameda County has the second highest number with 147 resources (ABAG, 2017).

Expedited BARCT requirements would affect a limited number of facilities, with physical modifications limited to facilities in industrial areas that are zoned for industrial use which have been graded and developed.

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).

Significance Criteria

The proposed project impacts to cultural resources will be considered significant if:

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

Discussion of Impacts

V a, b, c and d). CEQA Guidelines state that generally, a resource shall be considered ‘historically significant’ if the resource meets the criteria for listing in the California Register of Historical Resources including the following:

- A. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- B. Is associated with the lives of persons important in our past;
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;
- D. Has yielded or may be likely to yield information important in prehistory or history (CEQA Guidelines §15064.5).

Generally, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places unless they can be shown to be exceptionally important. The expedited BARCT requirements would result in control measures and new air pollution control equipment to be constructed within the confines of the existing industrial facilities and adjacent to existing industrial structures. Affected facilities may have equipment or structures older than 50 years, however, this type of equipment does not meet the criteria identified in CEQA Guidelines §15064.5(a)(3). Further, construction activities associated with the proposed project are expected to be limited to industrial areas that have already been developed. Thus, the proposed BARCT requirements would not adversely affect historical or archaeological resources as defined in CEQA Guidelines §15064.5, destroy unique paleontological resources or unique geologic features, or disturb human remains interred outside formal cemeteries. Therefore, no impacts to cultural resources are anticipated to occur as a result of the proposed project as no major construction activities are required.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to cultural resources are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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VI. GEOLOGY AND SOILS. Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known 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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- d) Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (1994) (formerly referred to as the Uniform Building Code), 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

California has 11 natural geologic regions, known as geomorphic provinces, which are defined by the presence of similar physical characteristics, such as relief, landforms, and geology. Most of the Bay Area is located within the natural region of California known as the Coast Ranges geomorphic province, with the eastern portions of Contra Costa and Alameda Counties extending into the neighboring Great Valley geomorphic province, located east of the Coast Ranges. The Coast Range, extends about 400 miles from Oregon south into Southern California, and is characterized by a series of northwest trending ridges and valleys that roughly parallel the San Andreas fault zone. The San Francisco Bay is a broad, shallow regional structural depression created from an east-west expansion between the San Andreas and the Hayward fault systems.

Much of the Coast Range province is composed of marine sedimentary and volcanic rocks located east of the San Andreas Fault. The regional west of the San Andreas Fault is underlain by a mass of basement rock that is composed of mainly marine sandstone and various metamorphic rocks. Marginal lands surrounding San Francisco Bay consist generally of alluvial plains of low relief that slope gently towards the bay from bordering uplands and foothills (ABAG, 2017). 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 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 tectonic plate boundary marked by the San Andreas 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). The San Andreas and the Hayward faults are the two faults considered to have the highest probabilities of causing a significant seismic event in the Bay Area. These two faults are classified as strike-slip faults that have experienced movement within the last 150 years. Other principal faults capable of producing significant ground shaking in the Bay Area are included in Table 2-3, and include the Rodgers Creek-Healdsburg, Concord-Green Valley, Marsh Creek-Greenville, San Gregorio-Hosgri, West Napa and Calaveras faults (ABAG, 2017). A major seismic event on any of these active faults could cause significant ground shaking and surface fault rupture. 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.

TABLE 2-3

Active Faults in the Bay Area

Fault	Recency of Movement	Maximum Moment Magnitude Earthquake
San Andreas	1989	7.9
Hayward	1868	7.1
Rodgers Creek-Healdsburg	1969	7.0
Concord-Green Valley	1955	6.9
Marsh Creek-Greenville	1980	6.9
San Gregorio-Hosgri	Late Quaternary	7.3
West Napa	2000	6.5
Maacama	Holocene	7.1
Calaveras	1990	6.8
Mount Diablo Thrust	Quaternary	6.7

(Source: ABAG, 2017)

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 reviewing procedures that will reduce losses from ground failure during future earthquakes.

Significance Criteria

The proposed project impacts on the geological environment will be considered significant if:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion of Impacts

VI a, c, and d). The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. New development potentially resulting in earthquake hazards is expected to be limited to the construction of air pollution control equipment or measures at industrial facilities. New construction (including modifications to existing structures) requires compliance with the California Building Code. 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. Compliance with the California Building Code would minimize the impacts associated with existing geological hazards.

VI b). Construction associated with the proposed project is expected to be limited to air pollution control equipment at industrial facilities. All construction would take place at already existing facilities that have been previously graded. Thus, the proposed project is not expected to result in substantial soil erosion or the loss of topsoil as construction activities are expected to be limited to existing operating facilities that have been graded and developed, so that no major grading would be required.

VI e). Septic tanks or other similar alternative wastewater disposal systems are typically associated with small residential projects in remote areas. The expedited BARCT requirements would affect industrial

facilities that have existing wastewater treatment systems or which are connected to appropriate wastewater facilities and do not rely on septic tanks or similar alternative wastewater disposal systems. Based on these considerations, septic tanks or other alternative wastewater disposal systems are not expected to be impacted by the proposed project.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to geology and soils are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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VII. GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE. Would the project:

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

Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global climate change is caused primarily by an increase in levels of greenhouse gases (GHGs) in the atmosphere. The major greenhouse gases are the so-called “Kyoto Six” gases – carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) – as well as black carbon.¹ These greenhouse gases absorb longwave radiant energy (heat) reflected by the earth, which warms the atmosphere in a phenomenon known as the “greenhouse effect.” The potential effects of global climate change include rising surface temperatures, loss in snow pack, sea level rise, ocean acidification, more extreme heat days per year, and more drought years.

Increases in the combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.) since the beginning of the industrial revolution have resulted in a significant increase in atmospheric levels of greenhouse gases. CO₂ levels have increased from long-term historical levels of around 280 ppm before the mid-18th century to over 400 ppm today. This increase in greenhouse gases has already caused noticeable changes in the climate. The average global temperature has risen by approximately 1.4°F (0.8°C) over the past one hundred years, and 16 of the 17 hottest years in recorded history have occurred since 2001, according to the National Oceanic and Atmospheric Administration.

Total global greenhouse gas emissions contributing to climate change are in the tens of billions of metric tons of CO₂e (carbon dioxide equivalent) per year. The State of California alone produces about two percent of the entire world’s GHG emissions with major emitting sources including fossil fuel consumption from transportation (37 percent), electricity production (20 percent), industry (24 percent), agricultural and forestry (8 percent), residential activities (6 percent), and commercial activities (5 percent) (ABAG, 2017). The Bay Area’s contribution to the global total is approximately 85 million tons

¹ Technically, black carbon is not a gas but is made up of solid particulates or aerosols. It is included in the discussion of greenhouse gas emissions because, like true greenhouse gases, it is an important contributor to global climate change.

per year. Transportation sources generate approximately 40 percent of the total GHG emissions in the Bay Area, with the remaining 60 percent coming from stationary and area sources (BAAQMD, 2017).

Regulatory Background

California has committed to reducing its greenhouse gas emissions to 1990 levels by 2020, to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. This commitment was enacted in AB 32, the Global Warming Solutions Act of 2006, which adopted the 2020 target; in 2016's SB 32 (Pavley), which adopted the 2030 target; and in Executive Order S-3-05, which adopted the 2050 target. The Air District has adopted the same 80 percent reduction target for 2050 for the Bay Area's greenhouse gas emissions, in Board of Directors Resolution 2013-11.

To achieve these emission reduction goals, the California legislature directed the California Air Resources Board (CARB) to develop a Scoping Plan setting forth regulatory measures that CARB will implement, along with other measures, to reduce the state's greenhouse gas emissions. One of the principal regulatory measures is CARB's Cap and Trade program, which requires industrial greenhouse gas sources to obtain "allowances" equal to their greenhouse gas emissions. The amount of available allowances is subject to a "cap" on total emissions statewide, which CARB will reduce each year. Regulated facilities will either have to reduce their emissions or purchase allowances on the open market, which will give them a financial incentive to reduce emissions and will ensure that total annual emissions from the industrial sector will not exceed the declining statewide cap.

California has also adopted the "Renewable Portfolio Standard" for electric power generation, which requires that at least 33 percent of the state's electric power must come from renewable sources by 2020, and at least 50 percent must come from renewables by 2030. To complement these efforts on electricity generation, the state has also committed to increasing the energy efficiency of existing buildings by 50 percent by 2050 in order to reduce energy demand.

California has adopted regulatory measures aimed at reducing greenhouse gas emissions from mobile sources. These measures include standards for motor vehicle emissions and the state's Low Carbon Fuel Standard, which set limits on the carbon intensity of transportation fuels. California has also adopted SB 375, the Sustainable Communities and Climate Protection Act of 2008, which requires regional transportation and land use planning agencies to develop coordinated plans, called "Sustainable Communities Strategies," to reduce greenhouse gas emissions from the transportation sector by promoting denser development and alternatives to driving. The current Sustainable Communities Strategy for the Bay Area is *Plan Bay Area 2040*, which was adopted by the Metropolitan Transportation Commission and the Association of Bay Area Governments in July of 2017.

The Air District has committed to reducing the Bay Area's regional greenhouse gas emissions to 80 percent below 1990 levels by 2050, as noted above. The Air District has also committed to a broad suite of specific measures to address greenhouse gases in the 2017 Clean Air Plan, *Spare the Air, Cool the Climate*. That document lays out the Air District's vision for what the Bay Area may look like in a post-carbon year 2050 and describes policies and actions that the region needs to take in the near- to mid-term to achieve these goals.

Significance Criteria

CEQA Guidelines section 15064.4, promulgated in 2010, sets out the procedures for determining the significance of a project's greenhouse gas emissions. In making that determination, subdivision (b)(3) of that section allows a lead agency to consider “[t]he extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.”

In 2011, California Air Resources Board promulgated the regulations establishing the Cap and Trade Program (Cal. Code Regs., tit. 17, §§ 95801–96022) to reduce greenhouse gas emissions under the California Global Warming Solutions Act of 2006. The Cap and Trade Program seeks to reduce emissions of greenhouse gases from the subject sources by applying an aggregate greenhouse gas allowance budget on covered entities and providing a trading mechanism for greenhouse gas emission allowances or offsets. (Cal. Code Regs., tit. 17, § 95801.) Cap and Trade constitutes a “plan for the reduction . . . of greenhouse gas emissions” within the meaning of Guidelines section 15064.4, subdivision (b)(3), and that section therefore authorizes agencies to determine a project's greenhouse gas emissions will have a less than significant effect on the environment based on the project's compliance with the Cap and Trade Program. (*Association of Irrigated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal. App. 5th 708, 743.)

Discussion of Impacts

VII. a). While the primary purpose of implementing expedited BARCT requirements is to reduce emissions of ROG, NO_x, SO₂, and PM, some types of control equipment have the potential to create secondary adverse air quality impacts and generate GHG emissions, through construction activities or through the addition of air pollution control equipment. The proposed BARCT requirements may result in the installation of new equipment at facilities that need to comply with the new requirements.

Limited construction activities may be required for some BARCT measures to enclose open fugitive components, install new catalyst, increase lime injection, and so forth. Construction emissions associated with this type of construction would be minor and would involve the transport of the new equipment which is expected to require one to two truck trips per project. Installation of the equipment would be expected to be limited to two to ten workers and would not require any major construction equipment and no site preparation activities are expected to be required. Therefore, retrofitting this type of existing equipment would result in minor construction emissions.

Construction activities would also be required for the construction of new air pollution control equipment at existing facilities, including vapor combustors, wet gas scrubbers, ESPs, vapor recovery systems, and SCRs. Some of the BARCT equipment would be required at existing facilities with large emission sources, e.g., refinery FCCUs. Construction activities for these types of new air pollution control equipment would be temporary. Each of the sources that might be subject to the BARCT requirements set out in the expedited schedule is subject to the Cap and Trade Program and its greenhouse gas emissions are required to comply with the requirements of the Cap and Trade Program. As a result, the greenhouse gas emissions resulting from the implementation of the expedited BARCT schedule will be less than significant.

VII. b). The facilities affected by the expedited BARCT requirements could require the installation of additional air pollution control equipment or the implementation of new measures to control criteria pollutants. These measures could generate additional GHG emissions. However, the facilities subject to expedited BARCT must comply with the Cap and Trade Program, an obligation the implementation of the expedited BARCT schedule will not change. The GHG emissions resulting from the implementation of the BARCT schedule will therefore have a less-than-significant impact.

Conclusion

Based upon the above considerations, significant adverse impacts related to greenhouse gas emissions and climate change are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

MATERIALS. Would the project:

- | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Significantly increased fire hazard in areas with flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The Air District covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and portions 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.

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

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

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

Regulatory Background

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

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

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 CFR Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19, Division 2, Chapter 4.5) was issued by the Governor's Office of Emergency Services (OES). RMPs are documents prepared by the owner or operator of a stationary source containing detailed information including: (1) regulated substances held onsite at the stationary source; (2) offsite consequences of an accidental release of a regulated substance; (3) the accident history at the stationary source; (4) the emergency response program for the stationary source; (5) coordination with local emergency responders; (6) hazard review or process hazard analysis; (7) operating procedures at the stationary source; (8) training of the stationary source's personnel; (9) maintenance and mechanical integrity of the stationary source's physical plant; and (10) incident investigation. California proposed modifications to the CalARP Program along with the state's PSM program in response to an accident at the Chevron Richmond Refinery. The proposed regulations were released for public comment on July 15, 2016 and the public comment period closed on September 15, 2016. After the close of the comment period a modified version of the proposed regulations was released in February 2017 and the public comment period for comments on the modifications closed on March 30, 2017. The final document was then filed with the Secretary of State in July 2017 and has gone into effect as of October 1, 2017.

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.

Significance Criteria

The proposed project impacts associated with hazards will be considered significant if any of the following occur:

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

Discussion of Impacts

VIII a, b, and c. The expedited BARCT implementation schedule would require certain industrial facilities, including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners, to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. SCRs could potentially be installed to control NOx emissions. Installation of new SCR equipment would be expected to increase the amount of ammonia used for NOx control. SCRs would require the additional delivery of ammonia or urea to the facilities where they are installed. Ammonia is a hazardous material that can be released in liquid or gaseous form. Additional catalysts could be required for SCR units and sulfur reducing catalyst additives may be required for SO₂ control. Alkaline may be required for alkaline and lime injection systems. The potential increase in the storage, transport and use of ammonia, catalysts, catalyst additives, and alkaline materials could result in significant hazard impacts which will be further evaluated in the Draft EIR.

Hazards associated with ESPs include fire and explosion hazards that can occur at the inlet to ESPs when highly charged dust particles are transported by a gas carrier that can contain the mixtures of both incombustible and combustible flue gases. The risk of ignition and even explosion is especially high in the presence of an explosive mixture of oxygen, hydrocarbons, carbon monoxide, etc. The ignition source is typically caused by the breakdown between the corona electrode and the collecting electrode, but in some cases electrostatic discharge (typically back corona) can also act as an ignition source, which may contribute to a fire or explosion.

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

- Types of hazardous materials used and their locations;
- Training programs for employees including safe handling of hazardous materials and emergency response procedures and resources;
- Procedures for emergency response notification;
- Proper use of emergency equipment;
- Procedures to mitigate a release or threatened release of hazardous materials and measures to minimize potential harm or damage to individuals, property, or the environment; and
- Evacuation plans and procedures.

Hazardous materials at existing facilities would continue to be used in compliance with established by the California Occupational Safety and Health Administration (Cal-OSHA) regulations and procedures, including providing adequate ventilation, using recommended personal protective equipment and clothing, posting appropriate signs and warnings, and providing adequate worker health and safety training. The exposure of employees is regulated by Cal-OSHA in Title 8 of the CCR. Specifically, 8 CCR 5155 establishes permissible exposure levels (PELs) and short-term exposure levels (STELs) for various chemicals. These requirements apply to all employees. The PELs and STELs establish levels below which no adverse health effects are expected. These requirements protect the health and safety of the workers, as well as the nearby population including sensitive receptors.

In general, all local jurisdictions and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

The above regulations provide comprehensive measures to reduce hazards of explosive or otherwise hazardous materials. Compliance with these and other federal, state and local regulations and proper operation and maintenance of equipment should ensure the potential for explosions or accidental releases of hazardous materials is not significant.

Despite the measures listed above, a malfunction or accident when using add-on pollution control equipment could potentially expose people to hazardous materials, explosions, or fires. The transport, use, and storage of additional hazardous materials may result in a release in the event of an accident. As a result, hazard impacts related to hazards to the public, schools, or the environment will be further evaluated in the Draft EIR.

VIII d. Government Code §65962.5 requires creation of lists of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits or site cleanup activities. Most of the refineries affected by the expedited BARCT requirements are included on the hazardous materials sites list pursuant to Government Code §65962.5. It would be expected that other industrial facilities affected by the BARCT requirements would also be on the list. The facilities affected by the proposed BARCT requirements would be required to continue to manage any and all hazardous materials in accordance with federal, state, and local regulations. Implementing BARCT requirements are not expected to interfere with site cleanup activities or create additional site contamination. As a result, the proposed project is 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.

VIII e-f. The proposed project is not expected to result in a safety hazard for people residing or working within two miles of a public airport or air strip. No impacts on airports or airport land use plans are anticipated from the proposed expedited BARCT requirements. Modifications to industrial facilities to install BARCT would be confined to the existing industrial area and would not be expected to interfere with airport activities. The hazards associated with the potential use of additional hazardous materials will be evaluated in the Draft EIR as discussed above.

VIII g-h. No increase in hazards associated with wildfires is anticipated from implementation of expedited BARCT. Affected facilities already exist and operate within the confines of existing industrial facilities. Native vegetation has been removed from the operating portions of the affected facilities to minimize fire hazards. The proposed project would not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees, nor would it increase fire risk by increasing the use of flammable materials. It is expected that facilities adjacent to wildland areas take appropriate and required actions to protect their property from wildland fires. The proposed project requirements are not expected to expose people or structures to wild fires. Therefore, no significant increase in fire hazards is expected due to the proposed expedited BARCT requirements.

Conclusion

Implementation of the expedited BARCT requirements would reduce criteria pollutant emissions from industrial facilities throughout the Bay Area. However, construction and operation of new air pollution control equipment have the potential to result in an increase in the storage, transport and use of hazardous materials in the Bay Area and will be evaluated in the Draft EIR. No significant impacts were identified for sites included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5, projects located within or adjacent to airports or airport land use plans, emergency response plans, wildland fires, and hazards associated with flammable materials and these topics will not be addressed further in the Draft EIR.

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

Would the project:

- | | | | | |
|---|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| i) | Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) | Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The Air District 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). Reservoirs and drainage streams are located throughout the area within the Air District’s jurisdiction, and discharge into the Bays. Marshlands incised with numerous winding tidal channels containing brackish water are located throughout the Bay Area.

The San Francisco Bay estuary system is one of the largest in the country and drains approximately 40 percent of California. Water from the Sacramento and San Joaquin Rivers of the Central Valley flow into what is known as the Delta region, then into the sub-bays, Suisun Bay and San Pablo Bay, and finally into the Central Bay and out the Golden Gate strait. The Delta is a large triangle of interconnected sloughs and agricultural “islands” that forms a key link in California’s water delivery system. Some of the fresh water flows through the Delta and into Bay, but much is diverted from the Bay for agricultural, residential, and industrial purposes, as well as delivery to distant cities of southern California as part of state and federal water projects (ABAG, 2017).

The two major drainages, the Sacramento and San Joaquin Rivers receive more than 90 percent of runoff during the winter and spring months from rainstorms and snow melt. San Francisco Bay encompasses approximately 1,600 square miles and is surrounded by the nine Bay Area counties of which seven border the Bay. Other surface waters flow either directly to the Bay or Pacific Ocean. The drainage basin that contributes surface water flows directly to the Bay covers a total area of 3,464 square miles. The largest watersheds include Alameda Creek (695 square miles), the Napa River (417 square miles), and Coyote Creek (353 square miles) watersheds. The San Francisco Bay estuary includes deep-water channels, tidelands, and marshlands that provide a variety of habitats for plants and animals. The salinity of the water varies widely as the landward flows of saline water and the seaward flows of fresh water converge near the Benicia Bridge. The salinity levels in the Central Bay can vary from near oceanic levels to one quarter as much, depending on the volume of freshwater runoff (ABAG 2017).

Surface waters in the Bay Area include freshwater rivers and streams, coastal waters, and estuarine waters. Estuarine waters include the San Francisco Bay Delta from the Golden Gate Bridge to the Sacramento and San Joaquin Rivers, and the lower reaches of various streams that flow directly into the Bay, such as the Napa and Petaluma Rivers in the North Bay and the Coyote and San Francisquito Creeks in the South Bay (ABAG, 2017).

The Bay Area region is divided into a total of 28 groundwater basins. The ten primary groundwater basins in the Bay Area are the Petaluma Valley, Napa-Sonoma Valley, Suisun-Fairfield Valley, San Joaquin Valley, Clayton Valley, Diablo Valley, San Ramon Valley, Livermore Valley, Sunol Valley, and Santa Clara Valley basins. Groundwater in the region is used for numerous purposes, including municipal and

industrial water supply. However, groundwater use accounts for only about five percent of the total water usage (ABAG, 2017).

Together, surface water and ground water supply approximately 31 percent of Bay Area water. Surface water from local rivers and streams (including the Delta) is an important source for all Bay Area Water agencies, but particularly in the North Bay counties, where access to imported water is more limited because of infrastructure limitations. The greatest proportion of Bay Area water is imported from Sierra Nevada and Delta sources, comprising approximately 66 percent of supply. The primary Sierra Nevada sources are the Mokelumne River and Tuolumne River watersheds. Several Bay Area water agencies receive Delta water through the State and Central Valley Water Projects, which comprise a vast network of canals and aqueducts for the delivery of water throughout the Bay Area and the Central Valley (ABAG, 2017).

Recycled water in the Bay Area has come to be widely used for a number of applications, including landscape irrigation, agricultural uses, commercial and industrial purposes, and as a supply to the area's wetlands. The Alameda County Water District operates the Newark Desalination Facility which supplies approximately 12.5 million gallons per day to the distribution system (ABAG, 2017).

Wastewater treatment in the Bay Area is provided by various agencies as well as individual city and towns wastewater treatment systems. Some treatment plants serve individual cities while others serve multiple jurisdictions. More than 50 agencies provide wastewater treatment throughout the Bay Area. Most industrial facilities have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of National Pollutant Discharge Elimination System (NPDES) permits.

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 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 Boards administer 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 statewide 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 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.

Significance Criteria

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 263,000 gallons per day of potable water.

Water Quality:

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

Discussion of Impacts

IX a, b, and f. The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Construction activities for new air pollution control equipment could be substantial for large facilities, e.g., FCCUs at refineries. However, construction activities would occur within the confines of existing industrial facilities that have already been graded and developed. While water may be used for dust suppression, substantial earthmoving would not be required. Therefore, significant water use would not be associated with construction activities.

The operation of some types of air pollution control equipment does not require the use of water or generate wastewater discharge, for example SCRs do not require the use of water and are not expected to result in any increase in wastewater. However, the use of wet gas scrubbers and wet ESPs do require additional water use. The proposed project would be considered significant if it exceeded the CEQA threshold of 263,000 gallons or more of potable water per day. Wet gas scrubbers on a refinery FCCU can require substantial water use in excess of 263,000 gallons per day and would result in additional wastewater discharge. Therefore, the potential impacts of water use and wastewater discharge will be evaluated in the Draft EIR.

VIII c, d, and e. Compliance with expedited BARCT requirements is expected to be limited to the installation of air pollution control equipment and modifications to industrial facilities. All activities associated with the proposed project are expected to occur within the confines of existing industrial facilities. The proposed project does not have the potential to substantially increase the area subject to runoff since the construction activities are expected to be limited in size and would be located within the confines of existing industrial facilities that have already been graded. In addition, storm water drainage within the facilities is currently controlled and construction activities are not expected to alter the storm water drainage within these facilities. Therefore, the BARCT measures are not expected to substantially alter the existing drainage or drainage patterns, result in erosion or siltation, alter the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite. Additionally, the proposed project is not expected to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of contaminated runoff. Therefore, no significant adverse impacts to storm water runoff are expected as a result of the proposed project.

VIII g, h, i, and j. The proposed project does not include the construction of new or relocation of existing housing or other types of facilities and, as such, would not require the placement of housing or other structures within a 100-year flood hazard area. (See also XIII “Population and Housing”). The facilities affected by BARCT are industrial facilities. Any new construction associated with the proposed project is expected to occur within the confines of existing industrial facilities. As a result, the proposed project would not be expected to create or substantially increase risks from flooding; expose people or structures to significant risk of loss, injury or death involving flooding; or increase existing risks, if any, of inundation by seiche, tsunami, or mudflow.

Conclusion

Implementation of the expedited BARCT requirements would reduce criteria pollutant emissions from industrial facilities throughout the Bay Area. However, construction and operation of new air pollution control equipment has the potential to result in an increase in water use and wastewater

discharge associated with new air pollution control equipment and will be evaluated in the Draft EIR. No significant impacts were identified for storm water runoff and drainage, flood hazards, or the risks of inundation by seiche, tsunami or mudflow and these topics will not be addressed further in the Draft EIR.

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

Setting

The Air District 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 land uses surrounding the Bay margins tend to be more intensely developed, particularly from San Francisco south along the Peninsula to Santa Clara County, and Contra Costa County south through Alameda County to Santa Clara County. These areas also include extensive networks of open space. The counties north of the Bay (Marin, Sonoma, and Napa) are more sparsely developed with a combination of suburban development, smaller cities and towns, and agriculture defining the landscape. Other areas of the Bay Area, such as the East Bay and Solano County, tend to be more suburban in character, with heavy industry related to oil refineries dotting the landscape as well as agriculture (ABAG, 2017).

Approximately 18 percent of the region’s 4.8 million acres are considered to be urban or built-up land according to the California Farmland Mapping and Monitoring Program. The remaining undeveloped area includes open space and agricultural lands as well as water bodies and parks. Approximately 29 percent of the region is identified as protected open space. The Bay Area includes 101 cities, with San Jose, San Francisco, and Oakland representing the largest urbanized centers (ABAG, 2017).

Regulatory Background

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

Significance Criteria

The proposed project impacts will be considered significant on land use and planning if the project conflicts with the land use and zoning designations established by local jurisdictions, or any applicable habitat conservation or natural community conservation plan.

Discussion of Impacts

X a-c. The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Construction activities for new air pollution control equipment could be substantial for large facilities, e.g., FCCUs at refineries. However, construction activities would occur within the confines of existing industrial facilities that have already been graded and developed. Thus, the proposed project is not expected to have impacts to non-industrial land uses and would not result in impacts that would physically divide an established community.

The General Plans and land use plans for areas with industrial land uses, generally allow for and encourage the continued use of industrial areas within their respective communities. Some of the General Plans encourage the modernization of existing industrial areas, including refineries (Benicia, 2015 and Santa Clara, 2011). The construction of equipment within the confines of existing facilities is not expected to conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the facilities that would be required to implement BARCT. The jurisdictions with land use approval recognize and support the continued use of industrial facilities. The construction required to comply with BARCT requirements that would be imposed by the proposed project would not interfere with those land use policies or objectives.

The proposed project has no components which would affect land use plans, policies, or regulations. Regulating emissions from existing facilities, will not require local governments to alter land use and other planning considerations. Habitat conservation or natural community conservation plans, agricultural resources or operations would not be affected by the proposed project, and divisions of existing communities would not occur. Therefore, current or planned land uses within the District will not be significantly affected as a result of the proposed project.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to land use and planning are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

Setting

The Air District 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.

Regulatory Background

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

Significance Criteria

The proposed project impacts on mineral resources will be considered significant if:

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

Discussion of Impacts

XI a-b. The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Construction activities would occur within the confines of existing industrial facilities that have already been graded and developed. Construction of air pollution control equipment and modifications to existing industrial facilities as a result of the proposed project is not expected to affect mineral resources. Construction and operation of new equipment associated with proposed project is not expected to require mineral resources that are of value to the region or result in the loss of a locally important mineral resource site. Thus, no significant adverse impacts to mineral resources are expected.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to mineral resources are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

Setting

The ambient noise environment in the urban areas of the Bay Area is defined by a wide variety of noise sources, with the predominant noise source being traffic. Traffic noise exposure is primarily a function of the volume of vehicles per day, the speed of those vehicles, the type of ground surface, the number of those vehicles represented by medium and heavy trucks, the distribution of those vehicles during daytime and nighttime hours, and the proximity of noise-sensitive receivers to the roadways. Existing average traffic noise exposure ranges from 52.1 decibels (dBA) (next to collector and small roads) to as high as 75.9 dBA (next to freeways). Bus transit also contributes to roadway noise levels. In San Francisco, a large portion of the transit bus fleet is electrified and, consequently, the contribution of bus transit to localized roadway noise levels is decreased (ABAG, 2013).

The Bay Area is also presently affected by noise from freight and passenger rail operations. While these operations generate significant noise levels in the immediate vicinity of the railways, train operations are intermittent and area railways are widely dispersed. Commuter rail such as San Francisco Muni Metro and Santa Clara Valley Transportation Authority (VTA) operate with more frequency than standard gauge rail operations but lower speeds resulting in lower noise levels. Bay Area Rapid Transit (BART) operations, on the other hand, can attain higher speeds and have the potential for greater noise levels along extended stretches. Noise levels from rail operations in the Bay Area can range from 70 dBA to 82 dBA, Community Noise Equivalent Level (CNEL). Train operations may be a source of ground vibration near the tracks. (ABAG, 2017).

The Bay Area is home to many airports—including public use, private use, and military facilities. Major airports include San Francisco International, Oakland International and Norman Y. Mineta San José International. In addition to the numerous daily aircraft operations originating and terminating at these facilities, aircraft not utilizing these airports frequently fly over the Bay Area. All of these operations contribute to the overall ambient noise environment. In general, like rail noise, the proximity of the receiver to the airport and aircraft flight path determines the noise exposure. Other contributing factors include the type of aircraft operated, altitude of the aircraft, and atmospheric conditions. Atmospheric conditions may contribute to the direction of aircraft operations (flow) and affect aircraft noise propagation (ABAG, 2017).

Based on the adopted Airport Land Use Compatibility Plan (ALUCP) for San Francisco International Airport, the 65 dBA CNEL contour extends approximately 6 miles northwest of the airport. Based on the ALUCP for Oakland International Airport, the 65 dBA CNEL contour extends approximately 5 miles south of the airport. Based on the ALUCP for Mineta San Jose International Airport, the 65 dBA CNEL contour extends approximately 2.5 miles northwest from the airport. Many other smaller airports and airstrips exist within the Bay Area where widely varying noise levels contribute to the existing noise environment (ABAG, 2017).

A wide variety of industrial and other non-transportation noise sources are located within the Bay Area. These include manufacturing plants, landfills, treatment plants (e.g., water), power generation facilities, food packaging plants, lumber mills, and aggregate mining facilities, just to name a few. Noise generated by these sources varies widely, but in many cases may be a significant, if not dominant, contributor to the noise environment in a specific community (ABAG, 2017).

Regulatory Background

Noise levels 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.

Significance Criteria

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

- Construction noise levels exceed the local noise ordinances or, if the noise ordinance is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion of Impacts

XII a, c, and d. The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources, wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Construction activities for new air pollution control equipment could be substantial for large facilities, e.g., FCCUs at refineries. However, construction activities would occur within the confines of existing industrial facilities and adjacent to existing industrial structures. The existing noise environment at each of the affected facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting facility premises. Construction required for the installation of air pollution control equipment or facility modifications is not expected to significantly alter the existing noise of an industrial facility. Construction activities associated with the proposed project would generate temporary noise associated with construction equipment and construction-related traffic. Construction would likely require truck trips to deliver equipment, construction workers, and construction equipment (e.g., forklift, welders, backhoes, cranes, and generators). All construction activities would be temporary, would occur during daylight hours or within hours established under the local noise ordinance, and would occur within the confines of existing industrial facilities so that no significant increase in noise during construction activities is expected.

Air pollution control equipment is not generally a major noise source. The equipment would be located within heavy industrial areas and compatible with such uses. Further, all noise producing equipment must comply with local noise ordinances and applicable OSHA and Cal/OSHA noise requirements. Therefore, industrial operations affected by the expedited BARCT requirements are not expected to have a significant adverse effect on local noise levels or noise ordinances.

XII b. The proposed project is not expected to generate or expose people to excessive groundborne vibration or groundborne noise. The use of large construction equipment that would generate substantial noise or vibration (e.g., backhoes, graders, jackhammers, etc.) would be limited because the sites are already graded and developed. Further, construction activities are temporary and would occur during the daylight hours, in compliance with local noise standards and ordinances. Therefore, the proposed project is not expected to generate excessive groundborne vibration or noise.

XII e-f. Affected facilities would still be expected to comply, and not interfere, with any applicable airport land use plans. It is assumed that operations in these areas near airports are subject to and in

compliance with existing community noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. In addition to noise generated by current operations, noise sources in each area may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses. None of the proposed BARCT measures would locate residents or commercial buildings or other sensitive noise sources closer to airport operations. There are no components of the proposed BARCT measures that would substantially increase ambient noise levels within or adjacent to airports. Therefore, these topics will not be further evaluated in the EIR.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts on noise are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

Setting

The Air District 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 expedited BARCT requirements would apply to facilities which are located within industrial areas of the Bay Area.

Population in the Bay Area in 2015 was about 7.6 million people, which is approximately 20 percent of California’s population. The population of the Bay Area is expected to grow to about 9.6 million people by 2040. Approximately 4 million people in the Bay Area were employed in 2015, and that number is expected to grow to 4.7 million jobs by 2040. There were approximately 2.8 million households in the Bay Area in 2015, and the number of households is expected to increase to 3.4 million by 2040 (ABAG, 2017).

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.

Significance Criteria

The proposed project impacts on population and housing will be considered significant if:

- The demand for temporary or permanent housing exceeds the existing supply.

- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion of Impacts

XIII a). According to ABAG, population in the Bay Area is currently about 7.6 million people and is expected to grow to about 9.6 million people by 2040 (ABAG, 2017). The proposed project is not anticipated to generate any significant effects, either directly or indirectly, on the Bay Area's population or population distribution. The proposed project will require construction activities to modify existing operations and/or install air pollution control equipment at existing industrial facilities. It is expected that the existing labor pool would accommodate the labor requirements for the construction of the new and modified industrial equipment. In addition, it is not expected that the affected facilities would need to hire additional personnel to operate new air pollution control equipment. In the event that 1-2 new employees are hired, the existing local labor pool in the District (over seven million people) can accommodate any increase in demand for workers that might occur as a result of adopting the expedited BARCT requirements. As such, adopting the expedited BARCT requirements is not expected to induce substantial population growth.

XIII b and c). As discussed previously, the proposed expedited BARCT requirements are designed to reduce criteria pollutant emissions from stationary sources in the Bay Area. Construction associated with the proposed project is expected to be limited to constructing new air pollution control equipment or facility modifications at industrial facilities. All construction would take place at existing industrial facilities. The implementation of the expedited BARCT requirements is not expected to result in the creation of any industry/business that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the Bay Area. Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed project.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to population and housing are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

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

Setting

The Air District 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.

Public services are provided by a wide variety of local agencies. Fire protection services are managed at the local level, typically by municipalities, counties, fire protection districts, or volunteer fire companies. California Government Code §38611 states that any city organized under general law must establish a fire department unless it is included within the boundaries of an established fire protection district. State and federal lands are generally served by State and federal fire agencies, e.g., CALFIRE and National Park Service. In some cases, businesses and native Tribes manage their own fire departments. Each fire protection agency is responsible for serving its own prescribed area, but mutual aid agreements are in wide use across the region such that agencies can rely on assistance from neighboring agencies in the case of overwhelming demand (ABAG, 2017).

Police services are provided on the State, county, and local levels. Police services provide law enforcement in crime prevention, traffic and congestion control, safety management, emergency response, and homeland security. The California Highway Patrol (CHP) is responsible for police protection along the interstate highway systems and provides services for traffic management, emergency response, and protection of the highway system. Each county in the Bay Area has its own sheriff’s department responsible for police protection in unincorporated areas of each county. Each incorporated city and town has a police department responsible for police protection within its own jurisdiction. Unincorporated areas and individual cities and towns also may contract with county sheriff departments for police services instead of providing their own (ABAG, 2017).

Although the California public school system is under the policy direction of the Legislature, the California Department of Education relies on local control for the management of school districts. School district governing boards and district administrators allocate resources among the schools of the district and set education priorities for their schools. Each jurisdiction in the Bay Area provides residents with local public education facilities and services, including elementary, middle, secondary, and post-secondary schools, as well as special and adult education. As of 2015-2016 school year, there were 2,018 public and charter schools in the Bay Area with 1,019,853 enrolled students and 51,702 teachers (ABAG, 2017).

Public facilities within the Air District 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.

Significance Criteria

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

Discussion of Impacts

XIV a. As noted in the “Population and Housing” discussion above, the proposed project is not expected to induce population growth because the existing local labor pool (e.g., workforce) is sufficient to accommodate the expected construction work force. No increase in permanent workers is expected to be required to operate the equipment associated with the expedited BARCT requirements. Therefore, there will be no increase in local population and thus no impacts are expected to local schools or parks.

The proposed project 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. The facilities affected by the proposed project are existing facilities for which public services are already required and no increase in the need for such services is expected. Furthermore, a number of industrial facilities have existing security and fire-fighting capabilities, e.g., refineries, and are able to respond to fire and security issues independent of public police and fire services. There will be no increase in population as a result of the adoption of the expedited BARCT schedule and, therefore, no need for physically altered government facilities.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts on public services are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XV. RECREATION.

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|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <p>a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <p>b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
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Setting

The Air District covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and portions 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 Bay Area contains approximately 1.3 million acres of parks and open space areas, with Santa Clara County having the most (about 19%) followed by Sonoma County (17%), and Marin County (16%). Approximately 265,000 acres of new parkland were added to the regional’s open space inventory between 2002 and 2013, representing a 26 percent increase. Additionally, approximately 200,000 acres of privately owned land are held in permanent reserve as of 2013. While access by the general public to these reserve areas is restricted, they are important for the preservation of wildlife habitats and the protection of the environment and rural characteristics of various parts of the region (ABAG, 2017).

Parks and open space are generally categorized according to their size and amenities. Smaller parks such as pocket parks, neighborhood parks, community parks, urban forests, and community gardens serve local communities, typically are located in urbanized areas, and often include a wide range of improvements from playing fields and picnic areas to playgrounds and fitness trails. These parks are most often managed by local park districts or municipalities, which typically set minimum standards for park acreage based on their population. Larger open space areas such as regional parks, greenbelts, trails and pathways, natural and wildlife preserves, state parks and federal parks serve a broader geographic range, typically are located outside of major urbanized areas, and generally include fewer improvements. Management of these parks is divided among a range of organizations and agencies including regional park districts, State and federal government, private individuals, and non-profit land trusts.

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.

Significance Criteria

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

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

Discussion of Impacts

XV a-b. As discussed under “Land Use” above, there are no provisions in the expedited BARCT requirements that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposed BARCT requirements. Construction associated with the proposed project is expected to be limited to air pollution control equipment and modifications to existing industrial facilities and would employ temporary construction workers. All construction would take place at existing facilities that have been previously graded. Further, no increase in permanent workers is expected at the facilities where BARCT would be installed. Thus, there would be no increase in population that would result in more frequent use of recreational facilities.

The proposed project 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 expedited BARCT requirements is not expected to have any significant adverse impacts on recreation.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to recreational facilities are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards because of a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Air District 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. Transportation systems located within the Bay Area include railroads, airports, waterways, and highways.

The transportation infrastructure for vehicles and trucks in the Bay Area ranges from single lane roadways to multilane interstate highways. The Bay Area currently contains over 1,300 directional miles of limited-access highways, which include both interstates and state highways. These facilities provide access to major employment centers and to destinations outside of the Bay Area. In addition, the Bay Area has over 33,000 directional miles of arterials and local streets, providing localized access to individual communities. Together, these roadway facilities accommodate nearly 158 million vehicle miles each weekday. The road network also serves over 600,000 vehicles that travel into or out of the region from adjacent areas. Over half of these interregional travelers use two regional gateways: Interstate 80 connecting Solano County and Yolo County, and Interstate 580 and Interstate 205 connecting Alameda County and San Joaquin County (ABAG, 2017).

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.

There are over 11,500 transit route miles of service including heavy rail (BART), light rail (Muni Metro and Santa Clara Valley Transportation Authority or VTA Light Rail), commuter rail (Caltrain and Alameda Commuter Express or ACE), diesel and electric buses, cable cars, and ferries. This public transit system accommodates a total of almost 1.7 million passengers a day, with about 53 percent of daily passengers on Muni Metro, about 26 percent of daily passengers on BART, 11 percent on AC Transit, and nine percent on VTA. Amtrak provides long-distance passenger rail services to the Bay Area via the Capitol Corridor, San Joaquin, Coast Starlight, and California Zephyr lines (ABAG, 2017).

In addition to public transit systems and operators, private transit options have been increasing including privately operated commuter shuttles (e.g., Apple and Google), publicly accessible private shuttles (e.g., Emery Go-Round and Chariot), and transportation network companies (e.g., Uber and Lyft) (ABAG, 2017).

The Bay Area also has an extensive local system of bicycle routes and pedestrian paths and sidewalks. At a regional level, the share of workers driving alone was about 65 percent in 2015. The portion of commuters that carpool was about 10 percent in 2015, while an additional 12 percent utilize public transit.

About two percent of commuters walked to work in 2015. In addition, other modes of travel (bicycle, motorcycle, etc.), account for five percent of commuters in 2015 (ABAG, 2017).

The Bay Area is served by five seaports, which provide the opportunity for intermodal transfers to truck and railcars. The Port of Oakland is the third largest U.S. seaport on the West Coast (after the Ports of Long Beach and Los Angeles). Other seaports include the Port of San Francisco, the Port of Richmond, the Port of Benicia, and the Port of Redwood City. These seaports are supported by freight railroad services operated by Union Pacific and Burlington Northern Santa Fe.

The Bay Area is also served by three international airports: San Francisco International Airport, Oakland International Airport, and Norman Y. Mineta San Jose International Airport. Each of these airports provides mobility for people and freight nationally and internationally. The region is also served by one smaller airport with limited commercial service, Charles M. Schulz Sonoma County Airport, as well as numerous small general aviation airports.

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.

Significance Criteria

The proposed project impacts on transportation and traffic will be considered significant if:

- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

Discussion of Impacts

XVI a and b. The expedited BARCT implementation schedule would require certain industrial facilities including refineries, manufacturing, bulk storage and transfer operations, cement plants, and petroleum coke calciners to reduce criteria pollutant emissions. These facilities may need to install additional air pollution control equipment, including domes on storage tanks, enclosures on fugitive emission sources,

wet gas scrubbers, wet ESPs, SCRs, and LoTOx equipment.

Physical modifications at facilities due to installation of BARCT are expected to be limited to industrial facilities. Construction activities for new air pollution control equipment could be substantial for large facilities, e.g., FCCUs at refineries. However, construction activities would occur within the confines of existing industrial facilities and adjacent to existing industrial structures.

Construction activities associated with the proposed project would generate temporary noise associated with construction equipment and construction-related traffic. Construction would likely require truck trips to deliver equipment, construction workers, and construction equipment (e.g., forklift, welders, backhoes, cranes, and generators). All construction activities and related traffic would be temporary, would occur during daylight hours, would occur within the confines of existing industrial facilities, and would cease following the completion of construction. As discussed in "Population and Housing" above, the labor force in the Bay Area is sufficient to handle the temporary increase in construction-related jobs. No increase in permanent workers is expected due to the installation of additional air pollution control equipment or facility modifications. The installation of some air pollution control equipment, e.g., SCRs and wet gas scrubbers, could result in an increase of about 1-2 trucks per week to deliver ammonia, catalyst or alkaline materials to the facilities for the operation of the equipment. The increase in one truck per day would be a negligible increase in traffic in the Bay Area.

The proposed project is not expected to affect the performance of mass transit or non-motorized travel to street, highways and freeways, pedestrian or bicycle paths, as no increase in permanent workers is expected. 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 facilities as the proposed project only pertains to equipment located within existing industrial facilities. Therefore, no significant adverse impacts resulting in changes to traffic patterns or levels of service at local intersections are expected.

XVI c. The expedited BARCT requirements are not expected to involve the delivery of materials via air so no increase in air traffic is expected. Construction associated with the proposed project is expected to be limited to air pollution control equipment and modifications at existing industrial facilities. All construction would take place at existing industrial facilities. Therefore, the proposed project would not result in a change in air traffic patterns or result in a change in location that results in substantial safety risks.

XVI d - e. The proposed expedited BARCT requirements would not increase traffic hazards or create incompatible uses. The proposed project does not involve construction of any roadways or other transportation design features, so no changes to current roadway designs that would increase traffic hazards are expected. Emergency access at industrial facilities affected by the expedited BARCT requirements is not expected to be impacted by the proposed project, as no modifications that effect traffic or access are expected to be required. The expedited BARCT requirements are not expected to increase vehicle trips or to alter the existing long-term circulation patterns, thus creating traffic hazards or impacting emergency access.

XVI f) The proposed expedited BARCT requirements are not expected to affect the performance of mass transit or non-motorized travel to street, highways and freeways, pedestrian or bicycle paths as construction associated with the proposed project is expected to be limited to existing industrial facilities. Implementation of expedited BARCT requirements could result in a temporary increase in traffic at these industrial facilities during the construction period and one or two delivery trucks per week. No increase in permanent workers is expected following the construction period. Therefore, the proposed project would not conflict with any congestion management programs or other plans, increase travel demand, impact public transit, or impact bicycle or pedestrian safety. No changes are expected to parking capacity at or in the vicinity of affected facilities as the BARCT requirements are not expected to require additional permanent employees. Therefore, no impacts resulting in changes to traffic patterns or adopted traffic plans or programs are expected.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to traffic and transportation are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
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XVII. TRIBAL CULTURAL RESOURCES.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resourced Code section 5020.1(k), or | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The Air District 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. Tribal cultural resources include site features, places, cultural landscapes and sacred places or objects which are of cultural value to a Tribe. The Carquinez Strait represents the entry point for the Sacramento and San Joaquin Rivers into the San Francisco Bay. Dense concentrations of Native American archaeological sites occur along the historic margins of San Francisco and San Pablo Bays. In addition, archaeological sites have also been identified in the following environmental settings in all Bay Area counties: near water sources, such as vernal pools and springs; along ridgetops and on midslope terraces; and at the base of hills and on alluvial flats. Native American archaeological sites have also been identified in the inland valleys of all Bay Area counties. Remains associated with a Native American archaeological site may include chert or obsidian flakes, projective points, mortars and pestles, and dark friable soil contain shell and bone dietary debris, heat-affected rock, or human burials (ABAG, 2017).

Native American populations, identified by their language, that lived within the Bay Area, included Costanoan, Eastern Miwok, Patwin, Coast Miwok, Pomo, and Wappo. Native villages and campsites were inhabited on a temporary basis and are found in several ecological niches due to the seasonal nature of their subsistence base. Remains of these early populations indicate that main villages, seldom more than 1,000 residents, were usually established along water courses and drainages. By the late 1760s, about 300,000 Native Americans lived in California (ABAG, 2013).

Regulatory Background

The State CEQA Guidelines were amended in July 2015 to include evaluation of impacts on tribal cultural resources. Tribal cultural resources include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe (Public Resources Code 21074).

Significance Criteria

The proposed project impacts to tribal resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of Tribal cultural significance to a community or ethnic or social group or a California Native American Tribe.
- Unique objects with cultural value to a California Native American Tribe are present that could be disturbed by construction of the proposed project.

Discussion of Impacts

XVII a). As discussed in Section V, Cultural Resources, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places unless they can be shown to be exceptionally important. The proposed expedited BARCT requirements may require the construction of air pollution control equipment and facility modifications to industrial facilities, adjacent to existing industrial structures. Affected facilities may have equipment or structures older than 50 years, however, this type of equipment does not meet the criteria identified in CEQA Guidelines §15064.5(a)(3), are not listed or eligible for listing in the California Register of Historic Resources or a local register of historical resources (Public Resources Code Section 5020.1(k), and are not considered to have cultural value to a California Native American Tribe.

Further, construction associated with the proposed project is expected to be limited to the construction at industrial facilities. All construction would take place at existing facilities that have been previously graded. Because construction will be limited to facilities that have been graded, the proposed expedited BARCT requirements are not expected to require physical changes to a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American Tribe. The proposed BARCT requirements are not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources.

As part of releasing this CEQA document for public review and comment, the document is circulated to the State Clearinghouse that provides notice of the proposed project to all California Native American Tribes that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code § 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which Native American Tribes may respond to the notice, in writing, requesting consultation on the proposed expedited BARCT requirements.

Since construction activities will be limited to existing industrial facilities that have been previously graded and developed, the proposed expedited BARCT requirements are not expected to affect historical or tribal resources as defined in Public Resources Section 5020.1(k), or 5024.1. Therefore, no impacts to tribal resources are anticipated to occur as a result of the proposed project.

Conclusion

Based upon the above considerations, significant adverse project-specific impacts to tribal cultural resources are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVIII. UTILITIES/SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements needed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

Given the large area covered by the Air District, public utilities are provided by a wide variety of local agencies. The San Francisco Bay Hydrologic Region covers approximately 4,550 square miles and encompasses numerous individual watersheds that drain into the San Francisco Bay and directly into the Pacific Ocean. Water is supplied to affected facilities by water purveyors in the Bay Area, which include the Alameda County Water District, Contra Costa Water District, East Bay Municipal District, Marin Municipal Water District, Napa Water Department, San Francisco Public Utilities Commission, Santa

Clara Valley Water District, Solano County Water Agency, Sonoma County Water Agency, and the Zone 7 Water Agency.

Solid waste includes the garbage, refuse and other discarded solid materials generated by residential, commercial, and industrial activities. Solid waste is handled through a variety of municipalities, through recycling activities and at disposal sites. The Bay Area is currently served by 16 privately operated landfills and one operated by the Sonoma County Public Works Department. The 16 landfills have a total remaining capacity of 261,889,000 cubic yards, or a total daily throughput of 41,804 tons per day (ABAG, 2017).

There are no hazardous waste disposal sites within the jurisdiction of the Air District. Hazardous waste generated at facilities, which is not recycled off-site, is required to be disposed of at a licensed hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California.

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.

Significance Criteria

The proposed project impacts on utilities/service systems will be considered significant if:

- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- An increase in demand for utilities impacts the current capacities of the electric utilities.
- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.
- The project increases demand for water by more than 263,000 gallons per day.
- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion of Impacts

XVIII a, b, d and e). The potential water use and wastewater impacts associated with implementation of the proposed expedited BARCT requirements were discussed under Hydrology and Water Quality (see Section IX a.). Certain types of air pollution control devices (e.g., wet gas scrubbers) could result in substantial water use and wastewater discharge. Therefore, these topics will be evaluated further in the Draft EIR.

XVIII c). Air pollution control equipment and facility modifications to implement the expedited BARCT requirements would occur within the confines of existing industrial facilities where stormwater is already controlled. The proposed project is not expected to require additional paving that would generate

additional stormwater runoff. Therefore, the proposed project would not be expected to alter the existing drainage systems or require the construction of new storm water drainage facilities. Nor would the proposed project create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, no significant adverse impacts on storm drainage facilities are expected.

XVIII f and g). Construction of air pollution control equipment as a result of the expedited BARCT requirements is not expected to significantly increase solid or hazardous wastes generated by the affected existing facilities. Some air pollution control equipment uses catalysts that need to be replaced when they are depleted. The catalyst is usually recycled because of the metal content of the catalyst and would not be expected to generate additional hazardous or solid waste that requires disposal. Waste streams from affected facilities would be treated/disposed/recycled in the same manner as they currently are handled. Therefore, no significant impacts to solid or hazardous waste disposal facilities are expected due to the proposed project. Facilities are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

Conclusion

Based upon the above considerations, the potentially significant impacts associated with water use and wastewater treatment will be evaluated in the Draft EIR, as discussed in Section IX – Hydrology and Water Quality above. The potential project-specific impacts to other utilities and service systems are not expected to occur due to implementation of the expedited BARCT requirements and, therefore, will not be further evaluated in the Draft EIR.

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

Discussion of Impacts

XIX a. The proposed expedited BARCT requirements are designed to reduce criteria pollutant emissions from industrial facilities in the Bay Area. Modifications may be required to industrial facilities to install air pollution control equipment. As discussed in Section IV, Biological Resources; Section V, Cultural Resources; and Section XVIII no significant adverse impacts are expected to biological, cultural, or tribal resources. The facilities affected by the expedited BARCT requirements are existing industrial facilities that have been graded and developed, where native biological resources have been removed or are non-existent. Similarly, impacts to cultural or tribal resources would not be expected to occur.

Therefore, the proposed expedited BARCT requirements 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. As discussed in Section IV, Biological Resources; Section V, Cultural Resources; and Section

XVII, Tribal Cultural Resources, no significant adverse impacts are expected to biological, cultural, or tribal cultural resources.

XIX b-c. The proposed expedited BARCT requirements are expected to result in a reduction in criteria pollutant emissions and implement portions of the AB 617 requirements, helping to achieve the goals of reducing ozone and PM in the Bay Area, thus improving public health and air quality in the region. As discussed in Section III, Air Quality, emissions during construction activities and operation could potentially exceed applicable significance thresholds, which represent levels at which a project's individual emissions would result in a cumulatively considerable contribution to the Air District's existing air quality conditions. (However, please see the discussion in Chapter 2, Section III, "Air Quality", above, regarding the applicability of the Air District's project-level CEQA thresholds to rule development projects.) The hazard associated with the additional use of ammonia and other potentially hazardous materials may also result in impacts, as well as potential water demand and wastewater treatment impacts. These potential impacts will be evaluated in the Draft EIR.

As discussed in the previous checklist discussions, the proposed expedited BARCT requirements are not expected to exceed any of the applicable significance thresholds, which also serve as the cumulative significance thresholds, for the environmental resources of aesthetics, agricultural and forestry resources, biological resources, cultural resources, geology and soils, greenhouse gases, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and tribal cultural resources. Therefore, the proposed project impacts on these environmental resources are not considered to be significant or cumulatively considerable (CEQA Guidelines §15064 (h)(1)) and will not be evaluated in the Draft EIR.

Chapter 3

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