CHAPTER 3

Environmental Checklist

INTRODUCTION

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

GENERAL INFORMATION

Project Title:	BAAQMD Regulation 9-14
Lead Agency Name: Lead Agency Address:	Bay Area Air Quality Management District 939 Ellis Street San Francisco, California 94109
Contact Person:	Greg Nudd
Contact Phone Number:	415-749-4786
Project Location:	The proposed project applies to the area within the jurisdiction of the Bay Area Air Quality Management District. The regulation would affect one facility, the Phillips 66 Carbon Plant which is located at 2101 Franklin Canyon Road, Rodeo, which is in Contra Costa County, California.
Project Sponsor's Name: Project Sponsor's Address:	Bay Area Air Quality Management District 939 Ellis Street San Francisco, California 94109
General Plan Designation:	The Phillips 66 Carbon Plant is designated as heavy industrial in the Contra Costa County General Plan.
Zoning:	The Phillips 66 Carbon Plant is zoned as heavy industrial by Contra Costa County.
Description of Project:	See “Background” in Chapter 2.
Surrounding Land Uses and Setting:	See “Affected Area” in Chapter 2.
Other Public Agencies Whose Approval is Required:	None

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation / Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

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

☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Date:

Printed Name: Date:

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis.

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This checklist is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

SUMMARY OF PROPOSED PROJECT AND POTENTIAL IMPACTS

Chapter 2 provides a summary of the main components of proposed new Regulation 9-14. The District expects that the Phillips 66 Carbon Plant will upgrade its current dry sorbent injection (DSI) system to meet the proposed new regulatory SO_2 limits as that would be the most cost-effective control method. The impacts of this method of compliance and the potential secondary adverse environmental impacts are evaluated in this Negative Declaration. CEQA recognizes that regulatory requirements consisting of monitoring and inspections, do not typically generate environmental impacts (see for example, CEQA Guidelines §15309).

ENVIRONMENTAL CHECKLIST AND DISCUSSION

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant currently, which is located within a heavy industrial area in Contra Costa County. The major scenic resource of Contra Costa County is the extensive water and delta system of San Francisco, San Pablo, and Suisun Bays. The bays extend along the entire western and northern perimeter of the County. This waterway system provides a pleasant contrast to the land forms of the area. Where the water reaches the shoreline, a mix of land uses occur: salt marshes, railroad tracks, industrial activities, housing and parkland. All add to the diversity and interest of the shoreline (CCC, 2015)

Regulatory Background

Visual resources are generally protected by the City and/or County General Plans through land use and zoning requirements. The Contra Costa General Plan recognizes scenic ridges and waterways that include the waterways along the western and northern perimeter of the county and the ridges throughout the County.

Discussion of Impacts

I a-d. The proposed Rule 9-14 is designed to reduce overall emissions from coke calcining units in the Bay Area. The closest designated scenic ridge by the Contra Costa General Plan to the Phillips 66 Carbon Plant is located south of the facility on the south side of Highway 4 (CCC, 2015). The proposed project is not expected to require any new substantial construction or development. Any construction would occur within the Phillips 66 Carbon Plant. Modifications are expected to be limited to the Phillips 66 Carbon Plant to upgrade its dry sorbent injection (DSI) system. None of the modifications are expected to result in visual changes at the facility. Therefore, obstruction of scenic resources or degrading the visual character of a site, including but not limited to: trees, rock outcroppings, or historic buildings, is not expected.

The proposed project is not expected to require any new equipment or any new light generating equipment for compliance. The existing facility is currently lit for nighttime work and no additional light or glare would be added to impact day or nighttime views in the District.

Conclusion

Based upon these considerations, no significant adverse aesthetic impacts are expected from adoption of the proposed project.

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

II. AGRICULTURE and FOREST RESOURCES.

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.--Would the project:

a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

Setting

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

The proposed project focuses on reducing SO_2 emissions and PM formation from coke calcining facilities within the Bay Area, which is limited to the Phillips 66 Carbon Plant in Contra Costa County. The Phillips 66 Carbon Plant is zoned as heavy industrial (Contra Costa County, 2015) and land adjacent to the Carbon Plant (to the north and south) is zoned as agricultural lands.

Regulatory Background

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

Discussion of Impacts

II a-e. The proposed project is designed to reduce overall emissions from coke calcining operations. Modifications are expected to be limited to the Phillips 66 Carbon Plant to upgrade its DSI system. Any modifications would occur within the confines of the existing Phillips 66 Carbon Plant. Therefore, Regulation 9-14 would not require conversion of existing agricultural land to other uses. The proposed project would not conflict with existing agriculture related zoning designations or Williamson Act contracts. Williamson Act lands within the boundaries of the BAAQMD would not be affected. No effects on agricultural or forestland resources are expected because the proposed project would not require any new development. 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 these considerations, no significant adverse impacts to agricultural and forest resources are expected from the adoption of the proposed project.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY				
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐

Setting

Meteorological Conditions

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

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

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

Topography

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

Winds

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

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

Temperature

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

Inversions

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

Precipitation

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

Pollution Potential

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

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

Air Quality

Criteria Pollutants

It is the responsibility of the BAAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-1. The BAAQMD monitored levels of various criteria pollutants at 25 monitoring stations in 2014.

The 2014 air quality data from the BAAQMD monitoring stations are presented in Table 3-2. The data indicate that the air quality at all monitoring stations were below the state standard and federal ambient air quality standards for CO, NO_2, and SO_2. The federal 8-hour ozone standard was exceeded on five days in the District in 2014, while the state 8-hour standard was exceeded on 10 days. The State 1-hour ozone standard was exceeded on three days in 2014 in the District. The ozone standards are most frequently exceeded in the Eastern District (Livermore) (Seven days for the state 8-hour standard and four days for the federal 8-hour standard), followed by San Ramon, (four days for the state 8-hour standard and three days for the federal 8 hour standard) and San Martin (three days for the state 8-hour standard and five days for the federal 8-hour standard). The State 24-hour PM10 standard was exceeded on two days in 2014 in the District. The PM10 standards were exceeded in Bethel Island and San Jose for one day. The federal 24-hour standard was exceeded on 3 days in 2014 in the District. The PM2.5 standards are most frequently exceeded in the Coast/Central Bay District (Oakland, Oakland-West, and San Pablo one day each) (See Table 3-1).

Air quality conditions in the San Francisco Bay Area have improved since the District was created in 1955. Ambient concentrations of air pollutants and the number of days on which the region exceeds air quality standards have fallen dramatically (see Table 3-3). The District is in attainment of the State and federal ambient air quality standards for CO, NOx, and SO_2. The District is not considered to be in attainment with the federal ozone and PM2.5 24-hour standards and State PM10 and PM2.5 standards. This District's attainment status for federal standard for PM10 is currently unclassifiable. The District's attainment status for federal annual PM2.5 is currently U/A, which refers to meeting the standard or expected to be meeting the standard despite a lack of monitoring data.

TABLE 3-1

Federal and State Ambient Air Quality Standards

	STATE STANDARD	FEDERAL PRIMARY STANDARD	ATTAINMENT STATUS[1]		MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	STATE	FEDERAL	
Ozone	0.09 ppm, 1-hr. avg. >	0.070 ppm, 8-hr avg.>	N	N	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
	0.070 ppm, 8-hr		N		
Carbon Monoxide	9.0 ppm, 8-hr avg. >	9 ppm, 8-hr avg.>	A	A	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
	20 ppm, 1-hr avg. >	35 ppm, 1-hr avg.>	A	A	
Nitrogen Dioxide	0.03 ppm, annual avg.>	0.053 ppm, ann. avg.>	A	U	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
	0.18 ppm, 1-hr avg. >	0.10 ppm, 1-hr avg.>	NR	A	
Sulfur Dioxide	0.04 ppm, 24-hr avg.>	0.14 ppm, 24-hr. avg.>	A	A	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
	0.25 ppm, 1-hr. avg. >	0.075 ppm, 1-hr avg.>	A	A	
Suspended Particulate Matter (PM_{10})	20 µg/m3, annual arithmetic mean >	150 µg/m3, 24-hr avg.>	N	U	(a) Increase in coughing, wheezing, and shortness of breath. (b) Aggravated asthma. (c) Lung damage, including lifelong respiratory disease. (d) Potential for premature death in individuals with existing heart or lung disease.
	50 µg/m3, 24-hr average>		N		
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m3, annual arithmetic mean>	12 µg/m3, annual arithmetic mean>	N	U/A[2]	Decreased lung function from exposure and exacerbation of symptoms in sensitive groups, including those with respiratory disease, elderly, and children. May lead to permanent lung damage or premature death if exposed to elevated concentrations for long periods of time.
		35 µg/m3, 24-hour average>		N	
Sulfates	25 µg/m3, 24-hr avg. >=		A		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead	1.5 µg/m3, 30-day avg. >=	1.5 µg/m3, calendar quarter>	A	A	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
		0.15 µg/m3, 3-mo. avg. >		NR	
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average (10am – 6pm PST)		U	NR	Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent

1. Attainment statuses: A=in attainment N=Not in attainment U=Unclassifiable NR=Not Reported
2. The EPA U/A designation refers to meeting the standard or expected to be meeting the standard despite a lack of monitoring data.

TABLE 3-2
Bay Area Air Pollution Summary - 2014

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

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

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

TABLE 3-3

Bay Area Air Quality Summary
Days over Standards

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

Toxic Air Pollutants

The BAAQMD maintains a database that contains information concerning emissions of TACs from permitted stationary sources in the Bay Area. This inventory, and a similar inventory for mobile and area sources compiled by CARB, is used to plan strategies to reduce public exposure to TACs. The detailed concentrations of various TACs are reported in the BAAQMD, Toxic Air Contaminant Control Program, 2010 Annual Report (BAAQMD, 2010) and summarized in Table 3-4. The 2010 TAC data show decreasing concentrations of many TACs in the Bay Area. The most dramatic emission reductions in recent years have been for certain chlorinated compounds that are used as solvents including methyl chloroform, dichloromethane, and tetrachloroethylene. Table 3-4 contains a summary of ambient air toxics listed by compound.

TABLE 3-4

Summary of BAAQMD Ambient Air Toxics Monitoring Data[(1)]

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

TABLE 3-4 (Concluded)

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

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

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

Regulatory Background

Criteria Pollutants

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

The BAAQMD is governed by a 22-member Board of Directors composed of publicly-elected officials apportioned according to the population of the represented counties. The

Board has the authority to develop and enforce regulations for the control of air pollution within its jurisdiction. The BAAQMD is responsible for implementing emissions standards and other requirements of federal and state laws. It is also responsible for developing air quality planning documents required by both federal and state laws.

Toxic Air Contaminants

TACs are regulated in the District through federal, state, and local programs. At the federal level, TACs are regulated primarily under the authority of the CAA. Title III of the 1990 CAA amendments required U.S. EPA to promulgate National Emission Standards for Hazardous Air Pollutants (NESHAPs) 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. NESHAPs for various hazardous air pollutants have been promulgated since 1992.

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

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

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

Senate Bill (SB) 1731, enacted in 1992 (California Health and Safety Code §44390 et seq.), amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. At a minimum, such facilities must, as quickly as feasible, reduce cancer risk levels that exceed 100 per one million. The BAAQMD adopted risk reduction requirements for perchloroethylene dry cleaners to fulfill the requirements of SB 1731.

Targeted Control of TACs Under the Community Air Risk Evaluation Program: In 2004, BAAQMD established the Community Air Risk Evaluation (CARE) program to

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

Discussion of Impacts

III a. The proposed project is not expected to conflict with or obstruct implementation of the applicable air quality plan. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area. The 2010 Clean Air Plan is the most recently adopted air quality plan for the Bay Area. The proposed project would contribute directly to meeting the objectives of the 2010 Clean Air Plan by reducing particulate formation and contributing towards attaining and maintaining the state and federal ambient air quality standards for $PM_{2.5}$. The proposed new Rule 9-14 is being considered to carry out Control Measure SSM8 of the Bay Area Clean Air Plan in which the District committed to investigating the potential for reducing SO_2 emissions from petroleum coke calcining plants.

Because Rule 9-14 would reduce SO_2 emissions and meet the objectives of the 2010 Clean Air Plan, the proposed rule is in compliance with the local air quality plan and is expected to provide beneficial impacts to air quality.

III b and d. Implementation of Rule 9-14 is expected to reduce emissions of SO_2. BAAQMD has established a baseline emissions inventory for estimating emissions reductions from the proposed project which is provided in Table 3-5. This inventory shows baseline emissions for pollutants targeted by the proposed regulations: PM (including directly-emitted filterable PM and condensable PM), ROG, NOx, and SO_2.

TABLE 3-5

Baseline Emissions from the Phillips 66 Carbon Plant

Facility	Average Annual Emissions (tons/year)				
	PM (filterable)(1)	PM (condensable)(1)	ROG(1)	NOx(1)	SO_2(2)
Phillips 66 Carbon Plant	29	—	0	239	1,480

(1) Based on 2012 annual emissions data

(2) Based on a 3-year average of the highest annual emissions from 2010-2014

Construction Air Quality Impacts

Construction activities associated with the proposed project are expected to be minor. Some construction may be necessary to upgrade the DSI system at the Phillips 66 Carbon Plant. If construction is necessary, construction would likely require a couple of medium-duty truck trips to deliver equipment, a construction crew of three to 10 workers, and a few pieces of construction equipment (e.g., forklift, welders, and hand tools). No grading is expected to be required so construction emissions are expected to be minor and less than significant.

Operational Air Quality Impacts

The Phillips 66 Carbon Plant (coke calciner) is the only facility in the District that would be affected by proposed Rule 9-14 to limit emissions of SO_2 from coke calcining facilities in the Bay Area. Table 3-6 depicts the BAAQMD estimated emission reductions for the regulatory actions associated with the proposed project.

TABLE 3-6

Estimated Emission Reductions Associated with the Proposed Project (tons per year)

Rule	PM	ROG	SO_2
Rule 9-14: Petroleum Coke Calcining	--	--	430
Total	**TBD**	**--**	**430**

The Phillips 66 is expected to comply by upgrading its existing DSI system as it would be the most cost-effective control method. Upgrading the DSI system is expected to increase the use of sodium bicarbonate by an estimated 2,380 tons per year, resulting in increased emissions associated with the transport of fresh sodium bicarbonate to the facility and the transport of spent sodium bicarbonate away from the facility. The increase in sodium bicarbonate use is expected to result in an increase of approximately 205 truck trips per year to deliver fresh sodium bicarbonate and an equal number of truck trips to remove spent sodium bicarbonate and transport it to a hazardous waste treatment facility (assumed to be U.S. Ecology in Beatty, Nevada). The estimated increase in criteria air emissions associated with the transport is provided in Table 3-7. Detailed emission calculations are provided in Appendix A.

As shown in Table 3-7, the emissions associated with transport of the additional sodium bicarbonate for use in the Phillips 66 Carbon Plant are expected to be well below the BAAQMD CEQA significance thresholds. Note that the BAAQMD 2011 CEQA thresholds were used as they are more conservative (lower) than the BAAQMD 1999 CEQA thresholds. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area. The emission decreases associated with implementation of the proposed new rule is expected to be greater than the indirect emission increases.

TABLE 3-7

Emissions Increases Associated with Transport of Sodium Bicarbonate (tons per year)

	VOC	CO	NOx	SOx	PM10	PM2.5
Sodium Bicarbonate Transport	0.02	0.57	0.09	0.00	4.78	0.83
Significance Threshold	10	NA	10	NA	15	10
Significant?	No	No	No	No	No	No

See Appendix A for detailed emission calculations and assumptions.

III c. CEQA Guidelines indicate that cumulative impacts of a project shall be discussed when the project's incremental effect is cumulatively considerable, as defined in CEQA Guidelines §15065(c). While the proposed project may result in an increase in transport emissions (see Table 3-7), the overall impact of the proposed project is a decrease in SO_2 from the Phillips 66 Carbon Plant. Therefore, the cumulative air quality impacts of the proposed project are expected to be beneficial, resulting in a decrease in SO_2 emissions.

III e. Sulfur compounds are odorous and Rule 9-14 reduces sulfur emissions. The proposed project is designed to limit emissions of SO_2 and the formation of PM from coke calcining operations in the Bay Area. The proposed project is not expected to result in an increase in odorous emissions at the Phillips 66 Carbon Plant. Odorous emissions are not specifically proposed to be covered by Rule 9-14 and sodium bicarbonate (baking soda) is not odorous. Therefore, the proposed project is not expected to result in an increase in the emissions that could generate odors. The BAAQMD will continue to enforce odor nuisance complaints through BAAQMD Regulation 7, Odorous Substances.

Conclusion

Based upon these considerations, no significant adverse air quality impacts are expected from the adoption of Rule 9-14. The proposed project is expected to provide beneficial air quality impacts by reducing emissions of SO_2 and related health benefits associated with reduced exposure to these compounds.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑	☐

Setting

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

The proposed project focuses on reducing SO_2 emissions and PM formation from coke calcining operations within the Bay Area, which is limited to the Phillips 66 Carbon Plant in Contra Costa County. The Phillips 66 Carbon Plant is zoned as heavy industrial (Contra Costa County 2015) and land adjacent to the Carbon Plant (to the north and south) is zoned as agricultural lands. The Phillips 66 Carbon Plant has largely been graded for industrial development. Native vegetation, other than landscape vegetation, has generally been removed to accommodate development. Any new development would fall under compliance with the City or County General Plans, although no new development is anticipated as a result of Rule 9-14.

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.

The Contra Costa County General Plan establishes an urban limit line as part of its Land Use Element. The purpose of the urban limit line is to ensure the preservation of identified non-urban agricultural, open space and other areas by establishing a line beyond which no urban land uses can be designated during the term of the General Plan.

Discussion of Impacts

IV a – f. The proposed project is designed to limit emissions of SO_2 from coke calcining operations in the Bay Area. The proposed project is not expected to require any new substantial development. Modifications would be limited to the Phillips 66 Carbon Plant, which is expected to modify its DSI system, which is located within the confines of the existing industrial facility. The site has been graded for the existing Carbon Plant and no native vegetation is located within the operating portions of the Carbon Plant. Therefore, the proposed new rule is not expected to result in impacts to biological resources and would

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

The proposed new Rule would not conflict with local policies or ordinances protecting biological resources, nor would it conflict with local, regional, or state conservation plans as the proposed project only applies to equipment in existing developed facilities. The proposed project will also not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan as no development outside of the existing Carbon Plant would be required

Conclusion

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

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

Setting

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

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

The Phillips 66 Carbon Plant is located with an area zoned as heavy industrial which has been graded to accommodate development. Cultural resources would not be expected to be impacted by modifications to the existing DSI system.

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). The Phillips 66 Carbon Plant is not listed in the California register or a local register as an historical resource.

Discussion of Impacts

V a – d. The proposed project is designed to limit emissions of SO_2 from coke calcining operations in the Bay Area. The proposed project is not expected to require any new development. Modifications are expected to be limited to upgrading the Phillips 66 Carbon Plant's DSI system. Modifications to the DSI system to increase the injections of sodium bicarbonate would not result in impacts outside of the existing units. Therefore, the proposed project is not expected to require the use of heavy construction equipment or require grading activities that could impact cultural resources. Therefore, no impacts to historical resources are expected as a result of the proposed project. Physical changes are expected to be limited to existing development and no major construction activities are expected to be required. 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 these considerations, no significant adverse impacts to cultural resources are expected from the adoption of the proposed project.

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural and open space uses. The Phillips 66 Carbon Plant is located with an area zoned as heavy industrial

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

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

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

The Phillips 66 Carbon Plant is located in the southeastern outskirts of Rodeo. According to the Contra Costa GIS Map, the eastern parts of the facility are located with an area susceptible to high landslide risk. Additionally, the western part of the facility is located within medium to high liquefaction susceptibility. The Franklin fault is the closest fault and is located east of the Carbon Plant.

While there are existing geological hazards in the vicinity of the refineries, there is extensive development within and surrounding the refineries and the areas have been urbanized. Development within geologically active areas is protected by developing structures in compliance with the California Building Codes.

Regulatory Background

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

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

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

Local governments are responsible for implementing the requirements of the Seismic Hazards Mapping Act. The maps and guidelines are tools for local governments to use in establishing their land use management policies and in developing ordinances and review procedures that will reduce losses from ground failure during future earthquakes.

Discussion of Impacts

VI a, c, and d. The proposed project is designed to limit emissions of SO_2 from coke calcining operations in the Bay Area. The proposed project is not expected to require any new development. Modifications are would be limited to the Phillips 66 Carbon Plant to upgrade its DSI system. Physical changes would be limited to an existing industrial facility and no major construction activities are expected to be required to increase the sodium bicarbonate injection rate. No significant impacts on geology and soils are anticipated from the proposed project which would apply to existing industrial operations.

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

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

Any new equipment at the affected facilities would be required to obtain building permits, as applicable, for all new or remodeled structures. The affected facilities must receive approval of all building plans and building permits to assure compliance with the latest California Building Code prior to commencing construction activities. The issuance of building permits from the local agency will assure compliance with the California Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since any new equipment would be required to comply with the California Building Codes.

VI b. Rule 9-14 would only affect the Phillips 66 Carbon Plant and no major construction activities are required to increase the injection rate on the DSI system. facilities in industrial areas, it is expected that the soil types present in the affected facilities would not be further susceptible to expansive soils or liquefaction due to adoption of the proposed project. Proposed Regulation 9-14 is not expected to result in substantial soil erosion or the loss of topsoil as no construction activities are expected to be required.

VI. e. Septic tanks or other similar alternative wastewater disposal systems are typically associated with small residential projects in remote areas. Regulation 9-14 would affect one existing coke calcining plant that is already connected to appropriate wastewater facilities. Based on these considerations, septic tanks or other alternative wastewater disposal systems are not expected to be impacted by Regulation 9-14.

Conclusion

Based upon these considerations, no significant adverse impacts to geology and soils are expected from the adoption of the proposed project.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. The six major GHGs identified by the Kyoto Protocol are (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, sea level rise, more extreme heat days per year, and more drought years.

Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), may have contributed to the increase in atmospheric levels of GHGs. Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions. The emission inventory in Table 3-8 focuses on GHG emissions due to human activities only, and compiles estimated emissions from industrial, commercial, transportation, domestic, forestry, and agriculture activities in the San Francisco Bay Area region of California. The GHG emission inventory in Table 3-8 reports direct emissions generated from sources within the Bay Area and estimates future GHG emissions.

TABLE 3-8

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

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

TABLE 3-8 (concluded)

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

Source: BAAQMD, 2009

Regulatory Background

In response to growing scientific and political concern regarding global climate change, California has taken the initiative to address the state's greenhouse gas emissions. California has adopted the Global Warming Solutions Act of 2006, also known as AB 32, which required the state to reduce its GHG emissions to 1990 levels by 2020. In addition, in 2005 Governor Schwarzenegger adopted Executive Order S-3-05, which committed to achieving an 80 percent reduction below 1990 levels by 2050. CARB has implemented these mandates through adoption of regulatory requirements to reduce GHG emissions (among other agency implementation actions). All refineries affected by the proposed new regulations are under CARB's AB32 cap and trade program, which established a limit on GHG emissions for each refinery. GHG emissions over the limit require additional GHG emission reductions or purchase of GHG emission credits from sources that had excess emission credits.

At the federal level, the U.S. EPA has adopted GHG emissions limits for new light-duty cars and trucks. This regulation of mobile sources has in turn triggered New Source Review and Title V permitting requirements for stationary sources. These requirements include using Best Available Control Technology to control emissions from major facilities. In addition, the U.S. EPA is also in the process of adopting New Source Performance Standards for major GHG source categories (currently limited to electric utility generating units).

The U.S. Congress passed "The Consolidated Appropriations Act of 2008" (HR 2764) in December 2007, which required reporting of GHG data and other relevant information from large emission sources and suppliers in the United States. The Rule is referred to as 40 Code of Federal Regulations (CFR) 4 Part 98 - Greenhouse Gas Reporting Program

(GHGRP). Facilities that emit 25,000 metric tonnes or more per year of GHGs are required to submit annual reports to U.S. EPA.

Discussion of Impacts

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

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

The Phillips 66 Carbon Plant is the only facility in the District that would be affected by proposed Rule 9-14. The Phillips 66 Carbon Plant is expected to comply by upgrading its existing DSI system as it would be the most cost-effective control method. Upgrading the DSI system is expected to increase the use of sodium bicarbonate by an estimated 2,380 tons per year, resulting in increased emissions associated with the transport of fresh sodium bicarbonate to the facility and the transport of spent sodium bicarbonate away from the facility. This would generate about 205 trucks per year to deliver the fresh sodium bicarbonate and about the same to remove the spent material, resulting in an increase in about one truck trip per day. In addition, the use of sodium bicarbonate will result in a reaction that generates carbon dioxide. The estimated increase in GHG emissions associated with increased use of sodium bicarbonate is provided in Table 3-9. Detailed emission calculations are provided in Appendix A.

TABLE 3-9

GHG Emissions Increases Associated with Increased Use of Sodium Bicarbonate (metric tonnes per year)

	CO_2	CH_4	N_20	CO_2eq
Sodium Bicarbonate Transport Emissions	132	0.00	0.01	134
SO_2 Scrubbing	658	0.00	0.00	658
Total GHG Emissions	790	0.00	0.01	791
BAAQMD Significance Threshold				1,100
Significant?				No

See Appendix A for detailed emission calculations and assumptions.

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

The proposed project would reduce emissions of SO_2 from coke calcining facilities in the Bay Area. While CO_{2eq} emissions would increase by approximately 656 tons as a result of the proposed project, these emissions are below the BAAQMD significance threshold (see Table 3-9) and are thus not considered to be significant.

Conclusion

Based on the above discussion, no significant adverse GHG impacts are expected due to implementation the proposed project.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c)	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑	☐
d)	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	For a project within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑	☐

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant currently, which is located within a heavy industrial area in Contra Costa County.

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

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

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

Regulatory Background

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

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

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 CFR Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19,

Division 2, Chapter 4.5) was issued by the Governor's Office of Emergency Services (OES). RMPs consist of three main elements: a hazard assessment that includes off-site consequences analyses and a five-year accident history, a prevention program, and an emergency response program.

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

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

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

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

Discussion of Impacts

VIII a - b. The potential hazards associated with coke calcining facilities are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facility. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions. The proposed new Rule is designed to reduce overall emissions from coke calcining units in the Bay Area. No new equipment, processes, or chemicals are being introduced. Therefore, no new hazards will be introduced at the existing Phillips 66 Carbon Plant.

The Carbon Plant currently uses the DSI system to control SO_2 emissions. Modifications are expected to be limited to the Phillips 66 Carbon Plant to upgrade its DSI system. Sodium bicarbonate (baking soda) is used in the DSI system at the Phillips 66 Carbon Plant. It is expected that the facility would increase (approximately double) its use of sodium bicarbonate to reduce SO_2 emissions in order to comply with new Rule 9-14. The use of additional sodium

bicarbonate is not expected to result in an increase in hazards associated with its use. The NFPA hazards ratings for sodium bicarbonate (also known as baking soda) are as follows: health is rated 1 (slightly hazardous, skin and eye irritant), flammability is rated 0 (non-flammable) and reactivity is rated 0 (none). The Department of Transportation (DOT) regulates the transportation of hazardous materials. Sodium bicarbonate is not regulated by DOT as it is considered to be non-hazardous. Further, sodium bicarbonate is not a regulated substance pursuant to BAAQMD's Regulation 2-5 – New Source Review of Toxic Air Contaminant. Therefore, sodium bicarbonate is not considered to be a TAC. Hazards and hazardous materials impacts due to the use of additional quantities of sodium bicarbonate are expected to be less than significant.

VIII c. Rule 9-14 would not generate hazardous emissions, handling of hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school. Rule 9-14 is expected to result in an increase in the use of additional sodium bicarbonate; however, sodium bicarbonate is not hazardous. Therefore, no increase in hazardous emissions from implementation of the proposed new Rule would be expected.

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. The Phillips 66 Carbon Plant that is affected by Rule 9-14 is not located on the hazardous materials sites list pursuant to Government Code §65962.5. Thus, implementation of Rule 9-14 would not interfere with site cleanup activities or create additional site contamination, and would not create a significant hazard to the public or environment.

VIII e – f. The proposed rule would not result in a safety hazard for people residing or working within two miles or a public airport or air strip. No impacts on airports or airport land use plans are anticipated from the proposed new rule, which would apply to the Phillips 66 Carbon Plant, which is not located near public airports or air strips. Modifications would be confined to the existing Phillips 66 Carbon Plant boundaries. Therefore, no significant adverse impacts on an airport land use plan or on a private air strip are expected.

VIII g. No impacts on emergency response plans are anticipated from the proposed new rule, which would apply to coke calcining facilities operating in the Bay Area. The existing Phillips 66 Carbon Plant already uses, produces, stores, and transports hazardous materials, so emergency response plans already include hazards associated with existing operations. The proposed new rule is not expected to require any changes in emergency response planning. Therefore, no significant adverse impacts on emergency response plans are expected.

VIII h. No increase in hazards associated with wildfires is anticipated due to implementation of Rule 9-14. The Phillips 66 Carbon Plant is an existing, operating calcining facility. Native vegetation has been removed from the operating portions of the Phillips 66 Carbon Plant to minimize fire hazards. Rule 9-14 is not expected to increase the risk of hazards associated with wildland fires as there would be no increase in flammable materials. Therefore, the proposed project would not expose people or structures to significant risk of loss, injury or death involving wildland fires.

Conclusion

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the implementation of proposed new Rule 9-14.

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

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant currently, which is located within a heavy industrial area in Contra Costa County.

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

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

Regulatory Background

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

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

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

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

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

Discussion of Impacts

VIII a. and f. The Phillips 66 Carbon Plant operates under the RWQCB Waste Discharge Requirements (Order No. R2-2008-0013) which regulates the operation, maintenance, and monitoring of the facility's surface impoundment, settling basins, and groundwater monitoring wells. The facility uses rainwater and make-up water for plant operations and dust control. The water is collected in the facility's Basin System for the recovery and recycling of coke fines and for water used in plant operations. The Basin System consists of two settling basins and a large surface impoundment and is designed to recover water used at the Carbon Plant, including: (1) boiler and cooling tower blowdown water; (2) dust control water; (3) stormwater runoff; and (4) to recover coke fines. Recovered water is recycled from the surface impoundment and used in the operation of the Carbon Plan in a closed loop system (RWQCB, 2012).

Sources or wastewater at the Phillips 66 Carbon Plant include boiler and cooling tower blowdown, filter backwashing, excess spray runoff from the uncalcined coke (green coke) storage area, and make-up water for the water supply agency. No increase in wastewater discharge is expected from the proposed project so no impacts on water quality resources are anticipated from the proposed project. The proposed project is not expected to require any new substantial construction or development. Modifications are expected to be limited to the Phillips 66 Carbon Plant to upgrade its DSI system. No wastewater would be generated by these modifications as the DSI system is a dry system and uses sodium bicarbonate for emission control.

VIII b. No increase in water use is expected as a result of the proposed project. The District anticipates that the Phillips 66 Carbon Plant will upgrade the current DSI system to meet the proposed new regulatory SO_2 limits as that appears to be the most cost-effective control method A dry sorbent injection system does not require additional water use, so no increase in water would be generated by the increased use of sodium bicarbonate.

Construction activities associated with the proposed project are expected to be minor. Some minor construction may be necessary to upgrade the DSI. Construction would likely require a couple of medium-duty truck trips to deliver equipment, a construction crew of three to 10 workers, and a few pieces of construction equipment (e.g., forklift, welders, and hand tools). No grading is expected to be required so that little to no increase in water use would be expected during construction activities.

VIII c, d, and e. The BAAQMD anticipates the Phillips 66 Carbon Plant will upgrade the current DSI system to meet the proposed new regulatory SO_2 limits as that appears to be the most cost-effective control method. All activities associated with the proposed project would occur within the confines of the Phillips Carbon Plant Facility.

The proposed project does not have the potential to substantially increase the area subject to runoff since the Phillips 66 Carbon Plant has already been graded and paved. In addition, storm water drainage within the Phillips 66 Carbon Plant has been controlled via the Basin System as described in VIII a) above and construction activities are not expected to alter the storm water drainage within the Facility. Therefore, Rule 9-14 is not expected to substantially alter the existing drainage or drainage patterns, result in erosion or siltation, alter the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite. 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"). Any construction activities associated with the proposed project would occur within the confines of an existing industrial facility. 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

Based upon these considerations, no significant adverse impacts to hydrology and water quality are expected from the adoption of the proposed project.

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant currently, which is located within a heavy industrial area in Contra Costa County.

Regulatory Background

Land uses are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements. The Contra Costa County has designated areas for urban and well as non-urban uses that include agriculture, open space, wetlands, and other nonurban uses.

Discussion of Impacts

X a-c. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area. Rule 9-14 does not include any components that would require major modifications to the Phillips 66 Carbon Plant and it would not result in impacts that would physical divide an established community or generate additional development.

The proposed project is not expected to require any new substantial construction or development. Modifications are expected to be limited to the Phillips 66 Carbon Plant to upgrade its DSI system. Construction activities would be limited to the confines of existing industrial facility, which is zoned for heavy industrial land use. Land uses surrounding the facility include open

space, light industrial, dry farming, and agricultural preserve land. The nearest residential area is 0.3 miles northwest of the facility. Modifications would be limited to the confines of the Phillips 66 Carbon Plant and are not expected to affect adjacent land uses.

The General Plan and land use plans for Rodeo (Contra Costa County) allow for and encourage the continued use of industrial areas within their respective communities. The Contra Costa General Plan Land Use Element identifies the following land use policies (CCC, 2015).

- 3.163. A buffer of agricultural lands around the eastern Union Oil (currently Phillips 66) property is created in this plan to separate the viewpoint residential area from future industrial development on the property. These open space lands should remain undeveloped.

Based on a review of the applicable land use plan, the modification to equipment within the confines of existing Carbon Plan would not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project. Contra Costa County recognizes and supports the continued use of industrial facilities. The minor modifications (i.e., use of additional sodium bicarbonate) required to comply with Regulation 9-14 that would be imposed by the proposed project would not interfere with those policies or objectives.

The proposed project has no components which would affect land use plans, policies, or regulations. Regulating emissions from coke calciners will not require local governments to alter land use and other planning considerations due to the proposed project. 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 with the District will not be significantly affected as a result of the proposed project.

Conclusion

Based upon these considerations, no significant adverse impacts to land use and planning are expected from the adoption of the proposed project.

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

Setting

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

Regulatory Background

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

Discussion of Impacts

X a-b. Rule 9-14 is not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area. The proposed new rule is not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, no impacts on mineral resources are expected.

Conclusion

Based upon these considerations, no significant adverse impacts to mineral resources are expected as a result of the proposed project.

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant currently, which is located within a heavy industrial area in Contra Costa County.

Regulatory Background

Noise issues related to construction and operation activities are addressed in local General Plan policies and local noise ordinance standards. The General Plans and noise ordinances generally

establish allowable noise limits within different land uses including residential areas, other sensitive use areas (e.g., schools, churches, hospitals, and libraries), commercial areas, and industrial areas.

Discussion of Impacts

XI a, c, and d. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area. Modifications are expected to be limited to the Phillips 66 Carbon Plant to upgrade its DSI system. No new major industrial equipment is expected to be required to be installed due to the proposed project so that no noise impacts associated with the operation of the proposed project are expected. Further, the Carbon Plant is by Contra Costa county noise ordinance. Therefore, industrial operations affected by the proposed new rule are not expected to have a significant adverse effect on local noise control laws or ordinances.

Construction activities associated with the proposed project are expected to be minor in order to upgrade the DSI system. Construction would likely require a couple of medium-duty truck trips to deliver equipment, a construction crew of three to 10 workers, and a few pieces of construction equipment (e.g., forklift, welders, and hand tools). All construction activities are expected to occur within the confines of the existing Phillis 66 Carbon Plant so that no significant increase in noise during construction activities is expected.

XI b. The proposed project is not expected to generate or expose people to excessive groundborne vibration or groundborne noise. No major construction equipment that would generate vibration (e.g., backhoes, graders, jackhammers, etc.) is expected to be required. Therefore, the proposed project is not expected to generate excessive groundborne vibration or noise.

XI. e-f. The existing Phillips 66 Carbon Plant is not located within existing airport land use plans. The proposed new Rule would not locate residents or commercial buildings or other sensitive noise sources closer to airport operations. As noted in the previous item, there are no components of the proposed regulations that would substantially increase ambient noise levels, either intermittently or permanently.

Conclusion

Based upon these considerations, no significant adverse impacts to noise are expected from the adoption of the proposed project.

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant, which is located within a heavy industrial area in Contra Costa County.

Regulatory Background

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

Discussion of Impacts

XIII. a). According to the Association of Bay Area Governments (ABAG), population in the Bay Area is currently about 7.2 million people and is expected to grow to about 9.3 million people by 2040 (ABAG and MTC, 2013). 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 new Rule will only affect the Phillips 66 Carbon Plant in Rodeo. It is expected that the existing labor pool would accommodate the labor requirements for any modifications at the facility. In addition, it is not expected that the affected facility would need to hire additional personnel to implement the proposed rule, which would require the increased injection of sodium bicarbonate in the DSI system. In the event that new employees are hired, it

is expected that the existing local labor pool in the District can accommodate any increase in demand for workers that might occur as a result of adopting the proposed new Rule. As such, adopting the proposed new Rule is not expected to induce substantial population growth.

XIII. b and c). Rule 9-14 would require modifications to coke calcining facilities in the Bay Area. The implementation of the Rule is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the Bay Area. Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed new rule.

Conclusion

Based upon these considerations, no significant adverse impacts to population and housing are expected from the adoption of the proposed project.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES. Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant currently, which is located within a heavy industrial area in Contra Costa County.

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

Regulatory Background

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

Discussion of Impacts

XIII a. The proposed new Rule is designed to reduce emissions of SO_2 from coke calcining operations in the Bay Area. Proposed Regulation 9-14 could require minor construction

activities and modifications, the modifications are not expected to require additional service from local fire departments above current levels.

The Phillips 66 Carbon Plant maintains its own security system. Therefore, the proposed project is not expected to increase the need or demand for additional police services above current levels.

As noted in the "Population and Housing" discussion above, the proposed new rule is not expected to induce population growth because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate any activities that may be necessary at affected facilities. Additionally, modifications to the Phillips 66 Carbon Plant are not expected to require an increase in employees. 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. There will be no increase in population as a result of the adoption of the proposed project, therefore, no need for physically altered government facilities.

Conclusion

Based upon these considerations, no significant adverse impacts to public services are expected from the adoption of Rule 9-14.

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant currently, which is located within a heavy industrial area in Contra Costa County, with open space areas located adjacent to the facility.

Regulatory Background

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

Discussion of Impacts

XIV a-b. As discussed under "Land Use" above, there are no provisions in Rule 9-14 affecting 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 new Rule. Modifications to the Phillips 66 Carbon Plant would occur within the boundaries of the existing facility, which is a heavy industrial facility, so there would be no impacts on recreation facilities. Rule 9-14 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 proposed project is not expected to have any significant adverse impacts on recreation.

Conclusion

Based upon these considerations, no significant adverse impacts to recreation are expected from the adoption of Rule 9-14.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established b the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards because of a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☐	☑
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles). Transportation systems located within the Bay Area include railroads, airports, waterways, and highways. The Port of Oakland and three international airports in the area serve as hubs for commerce and transportation. The transportation infrastructure for vehicles and trucks in the Bay Area ranges from single lane roadways to multilane interstate highways. The Bay Area currently contains over 1,300 directional miles of limited-access highways, which include both interstates and state highways. In addition, the Bay Area has over 33,000 directional miles of arterials and local streets, providing more localized access to individual communities. Together, these roadway facilities accommodate nearly 17 million vehicle trips a day. There are over 11,500 transit route miles of service including heavy rail (BART), light rail (Muni Metro and VTA Light Rail), commuter rail (Caltrain and ACE), diesel and electric buses, cable cars, and ferries. The Bay Area also has an extensive local system of bicycle routes and pedestrian paths and sidewalks. At a regional level, the share of workers driving alone was about 68 percent in 2010. The portion of commuters that carpool was about 11 percent in 2010, while an additional 10 percent utilize public transit. About 3 percent of commuters walked to work in 2010. In addition, other modes of travel (bicycle, motorcycle, etc.), account for three percent of commuters in 2010 (MTC, 2013). Cars, buses, and commercial vehicles travel about 149 million miles a day (2010) on the Bay Area Freeways and local roads. Transit serves about 1.6 million riders on the average weekday (MTC, 2013).

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. Proposed Regulation 9-14 will affect the Phillips 66 Carbon Plant with is located east of Highway 80, off the John Muir Highway (Route 4) on Franklin Canyon Road in Rodeo, California.

Regulatory Background

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

Most local counties maintain a transportation agency that has the duties of transportation planning and administration of improvement projects within the county and implements the Transportation Improvement and Growth Management Program, and the congestion

management plans (CMPs). The CMP identifies a system of state highways and regionally significant principal arterials and specifies level of service standards for those roadways.

Discussion of Impacts

XV a, b, and f. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area. Modifications are expected to be limited to the Phillips 66 Carbon Plant to upgrade its DSI system. Sodium bicarbonate (baking soda) is used in the DSI system at the Phillips 66 Carbon Plant. It is expected that the facility would increase (approximately double) its use of sodium bicarbonate to reduce SO_2 emissions in order to comply with new Rule 9-14. This is expected to require about 2,380 tons per year of sodium bicarbonate to be delivered to the Plant and about the same amount of spent sodium bicarbonate to be removed. This would generate about 205 trucks per year to deliver the fresh sodium bicarbonate and about the same to remove the spent material, resulting in an increase in about one-two truck trips per day. The increase in one-two trucks per day would be a negligible increase in traffic in the Bay Area as roadways in the Bay Area accommodate nearly 17 million vehicle trips per day (ABAG and MTC, 2013).

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. 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 pertain 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.

XV c. The proposed project is not expected to involve the delivery of materials via air so no increase in air traffic is expected.

XV d - e. The proposed project is not expected to increase traffic hazards or create incompatible uses. No effect on emergency access to affected industrial facilities is expected from adopting Rule 9-14 as traffic is only expected to increase by approximately one-two trucks per day. The proposed project is not expected to have a significant adverse impact on traffic hazards, create incompatible uses or emergency access.

XV f. The proposed project affects the Phillips 66 Carbon Plant and is not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

Conclusion

Based upon these considerations, no significant adverse impacts to transportation and traffic are expected from the adoption of the proposed project.

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

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and potions of western Solano and southern Sonoma Counties. Because the area of coverage is vast (approximately 5,600 square miles), land uses vary greatly and include commercial, industrial, residential, and agricultural uses. Rule 9-14 would only apply to the Phillips 66 Carbon Plant, which is located within a heavy industrial area in Contra Costa County.

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

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

Hazardous waste generated within the Bay Area, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facilites. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

Regulatory Background

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

Discussion of Impacts

XVII a, b, d, and e. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area. The Phillips 66 Carbon Plant that is affected Rule 9-14 already exists and already uses water, generates wastewater, treats wastewater, and discharges wastewater under existing wastewater discharge permits. The potential water use and wastewater impacts associated with implementation of proposed regulations are addressed under Hydrology and Water Quality (see Section IX a.) and have been determined to be less than significant.

XVII. c. Implementation of the proposed project may require minor modifications within the confines of the Phillips 66 Carbon Plant. These modifications would not alter the existing drainage system or require the construction of new storm water drainage facilities. Nor would the proposed new rule 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.

XVII f-g. Rule 9-14 would reduce SO_2 emissions from the Phillips 66 Carbon Plant by increasing the use of sodium bicarbonate. An estimated 2,380 tons per year of spent sodium bicarbonate is expected to be generated by the Phillips 66 Carbon Plant. It is assumed that this material will continue to be taken to the U.S. Ecology Beatty Nevada hazardous waste facility

for treatment and disposal. U.S. Ecology, Inc. is currently receiving waste, and is in the process of extending the operational capacity for an additional 35 years (U.S. Ecology, 2015). Clean Harbors in Grassy Mountain, Utah is also available to receive hazardous waste and is expected to continue to receive waste for an additional 70 years (Clean Harbors, 2015). Therefore, the proposed project impacts on hazardous waste landfills are less than significant.

The proposed project is not expected to generate any increase in solid waste. Therefore, no significant adverse impacts are expected to solid waste as a result of the proposed project.

Conclusion

Based upon these considerations, no significant adverse impacts to utilities/service systems are expected from the adoption of the proposed project.

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

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Discussion of Impacts

XVII a. The proposed project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory, as discussed in the previous sections of the CEQA checklist. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area, thus providing a beneficial air quality impact and improvement in air quality. As discussed in Section IV, Biological Resources and Section V, Cultural Resources, no significant adverse impacts are expected to biological or cultural resources.

XVII b-c. The proposed project is designed to limit emissions of SO_2 from coke calcining facilities in the Bay Area, thus providing a beneficial air quality impact and improvement in air

quality. The estimated increase in emissions associated with the additional trucks to transport fresh and spent sodium bicarbonate is minor in comparison to the potential emissions reductions (see Tables 3-6 and 3-7). The proposed project is part of a long-term plan to bring the Bay Area into compliance with the state ambient air quality standards, thus reducing the potential health impacts. The proposed project does not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. Rule 9-14 is not expected to have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. No significant adverse environmental impacts are expected.

CHAPTER 4

References Cited

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