Revised DEIR Section 4.3 – Air Quality

4.3 Air Quality

4.3.1 Overview

This section evaluates the proposed Estrella Substation and Paso Robles Area Reinforcement Project's (Proposed Project's) air quality impacts. The section first describes the air quality regulatory and environmental settings and then evaluates the project's air quality impacts. Regional and local laws and regulations are described in detail in Appendix A. The impact evaluation begins by describing the air quality significance criteria and the methodology used to evaluate significance, and then presents the impact evaluation. Mitigation measures are identified for impacts that are determined to be significant. The impacts analysis also considers the air quality emissions impacts associated with the reasonably foreseeable distribution components and alternatives.

Air quality is described for a specific location as the concentration of various pollutants in the atmosphere. Air quality conditions at a particular location are a function of the type and amount of air pollutants emitted into the atmosphere, the size and topography of the regional air basin, and the prevailing meteorological conditions.

4.3.2 Regulatory Setting

Federal Laws, Regulations, and Policies

Clean Air Act

The federal Clean Air Act (CAA) and the 1990 CAA Amendments govern air quality in the United States and are administered by U.S. Environmental Protection Agency (USEPA). The CAA authorizes USEPA to set limits on the concentrations in the air of certain air pollutants and grants it the authority to place limits on emission sources. USEPA implements a variety of programs under the CAA that focus on reducing ambient air concentrations of pollutants that cause smog, haze, acid rain, and serious health effects and on phasing out ozone-depleting chemicals.

National Ambient Air Quality Standards

As required by the CAA, USEPA has established National Ambient Air Quality Standards (NAAQS) for six major air pollutants. These pollutants, known as criteria air pollutants, are ozone (O_3); particulate matter (PM), specifically PM_{10} (PM with aerodynamic radius of 10 micrometers or less) and $PM_{2.5}$ (PM with aerodynamic radius of 2.5 micrometers or less); carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); and lead. California also has established ambient air quality standards, known as the California Ambient Air Quality Standards (CAAQS), which generally are more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. CAAQS are discussed in more detail below in "State Laws, Regulations, and Standards." The federal and state standards for criteria air pollutants are shown in Table 4.3-1.

A basic measure of air quality is whether an air basin is meeting the NAAQS and CAAQS. Areas that do not exceed these standards are designated as being in attainment; areas that exceed these standards are designated as nonattainment areas (NAAs), and areas for which insufficient data are available to make a determination are designated unclassified. As part of its enforcement responsibilities, USEPA requires each state with NAAs to prepare and submit a State Implementation Plan (SIP) that demonstrates the means by which it will attain the federal standards, and requires that a maintenance plan be prepared for each former NAA for which the state subsequently has demonstrated attainment of the standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs, within the time frame identified in the SIP.

Table 4.3-1. Attainment Status of the State and Federal Ambient Air Quality Standards

Contaminant	Averaging Time	Concentration	State Standards Attainment Status[1]	Federal Standards Attainment Status[2]
Ozone	1-hour	0.09 ppm	N	A (see footnote 3)
	8-hour	0.070 ppm	N	A
Carbon Monoxide	1-hour	20 ppm	A	
		35 ppm		U
	8-hour	9.0 ppm	A	U
Nitrogen Dioxide	1-hour	0.18 ppm	A	
		0.100 ppm[5]		U
	Annual arithmetic mean	0.030 ppm	A	
		0.053 ppm		U
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	A	
		0.075 ppm		U
	24-hour	0.04 ppm	A	
		0.14 ppm		U
	Annual arithmetic mean	0.030 ppm		U
Particulate Matter (PM_{10})	24-hour	50 µg/m^3	N	
		150 µg/m^3		U/A
	Annual arithmetic mean	20 µg/m^3	N	
Fine Particulate Matter ($PM_{2.5}$)	24-hour	35 µg/m^3		U/A
	Annual arithmetic mean	12 µg/m^3	A	U/A

Contaminant	Averaging Time	Concentration	State Standards Attainment Status[1]	Federal Standards Attainment Status[2]
Sulfates	24-hour	25 µg/m^3	A	
Lead[6]	30-day average	1.5 µg/m^3	A	
	3-months rolling	0.15 µg/m^3		No Attainment Info
Hydrogen Sulfide	1-hour	0.03 ppm	A	
Vinyl Chloride[6] (chloroethene)	24-hour	0.010 ppm	No Attainment Info	
Visibility Reducing Particles	8-hour (10:00 to 18:00 PST)	See footnote 4	A	

A – attainment
N – non-attainment
U – unclassified

µg/m^3 – micrograms per cubic meter
PST – pacific standard time
ppm – parts per million

Notes:

1. California standards for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements that are excluded include those that the California Air Resources Board (CARB) determines would occur less than once per year on average.
2. National standards shown are the "primary standards" designed to protect public health. National air quality standards are set by USEPA at levels determined to be protective of public health with an adequate margin of safety. National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once per year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 ppm (75 parts per billion) or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met by spatially averaging annual averages across officially designated clusters of sites and then determining if the 3-year average of these annual averages falls below the standard.
3. The national 1-hour ozone standard was revoked by USEPA on June 15, 2005. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 ppm to 0.070 ppm. An area meets the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. This table provides the attainment statuses for the 2015 standard of 0.070 ppm. Eastern San Luis Obispo County is in federal non-attainment for ozone while the Western part of the County is in attainment.

4. Statewide Visibility-Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per km when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment resulting from regional haze and is equivalent to a 10-mile nominal visual range.
5. To attain this standard, the 3-year average of the ninety-eighth percentile of the daily maximum 1-hour average at each monitoring station within an area must not exceed 0.100 ppm (effective January 22, 2010).
6. CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure below which there are no adverse health effects determined.

Sources: CARB 2019a, USEPA 2019, San Luis Obispo County Air Pollution Control District (SLOCAPCD) 2019

National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants, contained in two parts (Part 61 and 63) of Title 40 of the Code of Federal Regulations (CFR), regulate major sources of hazardous air pollutants (HAPs). HAPs include asbestos, beryllium, mercury, vinyl chloride, benzene, arsenic, radon/radionuclides, and various types of pesticides, herbicides, and other chemicals. A "major source" is defined as a source having the potential to emit 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs.

On-Road Vehicle Regulations

In 2016, the USEPA and the National Highway Traffic Safety Administration (NHTSA) adopted Phase 2 fuel efficiency standards for medium- and heavy-duty trucks for model years 2018 and beyond (USEPA 2016). This phase was intended to include technology-advancing standards that would substantially reduce greenhouse gas (GHG) emissions and fuel consumption, resulting in an ambitious, yet achievable, program that will allow manufacturers to meet the applicable standards over time, at reasonable cost, through a mix of different technologies. For semi-trucks, large pickup trucks, vans, and other trucks, Phase 2 standards will be phased in beginning with model year 2021 and culminating with model year 2027. While this regulation focuses on the reduction of GHG emissions, it is anticipated that this regulation would also help reduce criteria air pollutants.

On September 27, 2019, the USEPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One. The SAFE rule (Part One) went into effect in November 2019, and revoked California's authority to set its own GHG standards and set Zero Emission Vehicle (ZEV) mandates in California. The SAFE rule freezes new ZEV sales at model year 2020 levels for year 2021 and beyond and will likely result in a lower number of future ZEVs and a correspondingly greater number of future gasoline internal combustion engine vehicles.

Non-road Emission Regulations

USEPA has adopted emission standards for different types of non-road engines, equipment, and vehicles. The Tier 4 (currently in effect) standards require that emissions of PM and nitrogen oxides (NO_X) from non-road diesel engines are reduced compared to previous engines. Such emission reductions can be achieved through the use of control technologies, including advanced exhaust gas after-treatment.

Aircraft Emission Regulations

Aircraft Emissions are regulated by the USEPA under the CAA Title II Part B Aircraft Emission Standards and CFR Title 42 Chapter 85, Subchapter II Part B Aircraft Emission Standards. The USEPA has implemented the sampling, measurement and analytical determination of compliance from the International Civil Aviation Organization (ICAO) International Standards and Recommendation Practices, Annex 16 to the Convention on International Civil Aviation, Environmental Protection, Volume II, Aircraft Emissions The requirements are developed by the Federal Aviation Administration (FAA) in association with the USEPA are issued in Title 14 CFR Part 32 , Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes.

State Laws, Regulations, and Policies

California Ambient Air Quality Standards and the California Clean Air Act

The State of California initiated its own air quality standards, the CAAQS, in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are goals for air quality within the state, which generally are more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, CAAQS also regulate sulfates, H_2S, vinyl chloride, and visibility-reducing particles. These standards are listed in Table 3.2 1.

The California Clean Air Act (CCAA), enacted in 1988, provides a comprehensive framework for air quality planning. The CCAA requires NAAs to achieve and maintain the health-based CAAQS by the earliest practicable date. The CCAA requires NAAs in the state to prepare attainment plans, which are required to achieve a minimum 5 percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented. All air basins in California are either unclassified or in attainment of the NAAQS and CAAQS for CO, SO_2, and NO_2. Some air basins are classified as NAAs for the NAAQS and CAAQS for O_3, PM_{10}, and $PM_{2.5}$.

The California Air Resources Board (CARB) is responsible for ensuring implementation of the CCAA, meeting state requirements for the federal CAA, and establishing the CAAQS. CARB oversees activities of local air districts and is responsible for incorporating air quality management plans for local air basins into a SIP for USEPA approval. It also is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB also establishes passenger vehicle fuel specifications (see discussion of CARB rules below).

California Air Resources Board Rules, Regulations, and Programs

As noted above, CARB has established a number of rules and regulations for the purpose of meeting the standards in the federal and state CAAs. The relevant CARB rules, regulations, and programs are discussed briefly below.

Commercial Vehicle Idling Regulation

CARB adopted an Airborne Toxic Control Measure (ATCM) to limit idling of diesel-fueled commercial motor vehicles. This regulation requires heavy-duty diesel engines of model years 2008 and newer to be equipped with a non-programmable system that automatically shuts

down the engine after 5 minutes of idling or, optionally, meets a stringent NO_X idling emission standard (CARB 2019b).

Diesel Fuel Program

CARB established regulations which require that diesel fuel with sulfur content of 15 parts per million (ppm) or less (by weight) be used for all diesel-fueled vehicles that are operated in California. The standard also applies to non-vehicular diesel fuel, other than diesel fuel used solely in locomotives or marine vessels. The regulations also contain standards for the aromatic hydrocarbon content and lubricity of diesel fuels.

In-use Off-road Diesel Vehicle Regulation

CARB adopted a regulation to reduce diesel PM and NO_X emissions from in-use, off-road, heavy-duty diesel vehicles in California. The regulation imposes limits on vehicle idling and requires fleets to reduce emissions by retiring, replacing, repowering, or installing exhaust retrofits to older engines. Personal-use vehicles and vehicles used solely for agriculture are exempt from this regulation (CARB 2016).

Portable Engine Airborne Toxic Control Measure

The Portable Engine ATCM is designed to reduce the PM emissions from portable diesel-fueled engines rated at 50 brake horsepower or larger. Based on their cumulative horsepower, fleets must follow a phase-out schedule or meet fleet-average emission rates.

Portable Equipment Registration Program

The statewide Portable Equipment Registration Program (PERP) establishes a system to uniformly regulate portable engines and portable engine–driven equipment units. After being registered in this program, engines and equipment units may operate throughout the state without the need to obtain separate permits from individual air districts. Owners or operators of portable engines and certain types of equipment can voluntarily register their units to operate their equipment anywhere in the state, although the owners and operators may still be subject to certain district requirements for reporting and notification. Engines with less than 50 brake horsepower are exempt from this program.

California Toxic Air Contaminant Act

The California Toxic Air Contaminant Act created the statutory framework for the evaluation and control of chemicals as toxic air contaminants (TACs). A TAC is “an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health (California Health and Safety Code Section 39655).” California Department of Pesticide Regulation (CDPR) is responsible for evaluating chemicals, including pesticides, to determine whether the chemical should be listed as a TAC. Once a chemical is listed as a TAC, CDPR investigates the need for, and appropriate degree of, control for the TAC, including potential measures to reduce emissions to levels that adequately protect public health.

Assembly Bill 203 Occupation Safety and Health: Valley Fever

Enacted in 2019, Assembly Bill 203 modified section 6709 of the California Labor Code to require construction employers in counties where Valley Fever is highly endemic (>20 cases per 100,000 people per year) to provide training to all employees by May 1, 2020 and annually thereafter. San Luis Obispo County (County) is considered a highly endemic area. Training Requirements shall require review of the following:

- What Valley Fever is and how it is contracted;
- Areas, environmental conditions, and types of work that pose high risk of contracting Valley Fever;
- Personal factors that put employees at higher risk of infection or disease development, including pregnancy, diabetes, having a compromised immune system due to conditions such as human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS), having received an organ transplant, or taking immunosuppressant drugs such as corticosteroids or tumor necrosis factor inhibitors;
- Personal and environmental exposure prevention methods such as water-based dust suppression, good hygiene practices when skin and clothing is soiled by dust, avoiding contamination of drinks and food, working upwind from dusty areas when feasible, wet cleaning dusty equipment when feasible, and wearing a respirator when exposure to dust cannot be avoided;
- The importance of early detection, diagnosis, and treatment to prevent the disease from progressing; because the effectiveness of medication is greatest in the early stages of the disease;
- Recognizing common signs and symptoms of Valley Fever, including cough, fatigue, fever, headache, joint pain or muscle aches, rash on upper body or legs, shortness of breath, and symptoms similar to influenza that linger longer than usual;
- The importance of reporting symptoms to the employer and seeking prompt medical attention from a physician for appropriate diagnosis and treatment; *and*
- Prognosis and common treatment for Valley Fever.

California Department of Industrial Relations, Division of Occupational Safety and Health Regulations Applicable to Valley Fever

Since the San Luis Obispo County has a high incidence of Valley Fever, construction contractors are required to comply with the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) recommendations and regulations:

- Employers have a legal responsibility to immediately report to Cal/OSHA any serious injury or illness, or death (including any due to Valley Fever) of an employee occurring in a place of employment or in connection with any employment. Employers also have responsibilities to control workers' exposure to hazardous materials.

- Applicable regulations with regard to Valley Fever protection and exposure can be found in the California Code of Regulations (CCR), Title 8, sections:

  - 342 (reporting Work-Connected Fatalities and Serious Injuries),
  - 3203 (Injury and Illness Prevention),
  - 5141 (Control of Harmful Exposures),
  - 5144 (Respiratory Protection), and
  - 1433 (Employer Records-Log 300).

4.3.3 Environmental Setting

Criteria Air Pollutants

Ozone

O_3 is formed by photochemical reactions between NO_X and reactive organic gases (ROGs) in the presence of sunlight rather than being directly emitted. O_3 is a pungent, colorless gas that is a component of smog. Elevated O_3 concentrations can result in reduced lung function, particularly during vigorous physical activity. This health problem can be particularly acute in sensitive receptors such as the sick, seniors, and children. O_3 levels peak during the summer and early fall months.

Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairment to central nervous system functions. CO passes through the lungs into the bloodstream, where it interferes with the transfer of oxygen to body tissues.

Nitrogen Oxides

NO_X contribute to other pollution problems, including a high concentration of fine PM, poor visibility, and acid deposition. NO_2, a reddish-brown gas, and nitric oxide, a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to collectively as NO_X. NO_X is a primary component of the photochemical smog reaction. NO_2 can decrease lung function and may reduce resistance to infection.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in California. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine PM, and reduces visibility and the level of sunlight.

Reactive Organic Gases

ROGs are formed from combustion of fuels and evaporation of organic solvents. ROGs are the fraction of volatile organic compounds (VOCs) that are a prime component of the photochemical smog reaction. Individual ROGs can be TACs.

Particulate Matter

PM is the term used for a mixture of solid particles and liquid droplets suspended in the air. PM ranges from particles that can be seen with the naked eye, such as dust or soot, to particles that can only be seen with an electron microscope. Respirable PM of 10 microns in diameter or less is called PM_{10}. Fine particulate matter is a subgroup known as $PM_{2.5}$ and is defined as particles with a diameter of 2.5 microns or less.

PM can be emitted directly from primary sources or formed secondarily from reactions in the atmosphere. Primary sources include windblown dust, grinding operations, smokestacks, and fires. Secondary formation of PM occurs from reactions of gaseous precursors within the atmosphere, such as the formation of nitrates from NO_X emissions from combustion activities.

PM can accumulate in the respiratory system and aggravate health problems. These health effects include cardiovascular symptoms; cardiac arrhythmias; heart attacks; respiratory symptoms; asthma attacks; bronchitis; alterations in lung tissue, lung structure, and respiratory tract defense mechanisms; and premature death in people with heart or lung disease. Those at particular risk of increased health decline from exposure to PM include people with preexisting heart or lung disease, children, and seniors.

Lead

Lead is a metal that can be found naturally in the environment and also is released from metal production processes and manufactured products. In the past, motor vehicles were the major contributor of lead emissions to the air. However, because of increased regulations, air emissions of lead from vehicles have declined. The major sources of lead emissions to the air today are ore and metal processing and piston-engine aircraft operating on leaded aviation gasoline. Lead can accumulate in the bones and adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood.

Toxic Air Contaminants

TACs are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. The Health and Safety Code defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. Individual TACs vary greatly in

the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another's. There are almost 200 compounds designated in California regulations as TACs (Title 17, ~~California Code of Regulations [~~CCR~~]~~, Sections 93000-93001). The list of TACs also includes the substances defined in federal statute as hazardous air pollutants pursuant to Section 112(b) of the federal CAA (Title 42, U.S. Code, Section 7412[b]). Some of the TACs are groups of compounds which contain many individual substances (e.g., copper compounds, polycyclic aromatic compounds). TACs are emitted from mobile sources, including diesel engines; industrial processes and stationary sources, such as dry cleaners, gasoline stations, paint and solvent operations, and stationary fossil fuel-burning combustion.

Ambient TAC concentrations tend to be highest in urbanized and industrial areas near major TAC emission sources or near major mobile TAC emission sources, such as heavily traveled highways or major airports/seaports. Unlike for criteria pollutants, regular monitoring and reporting of all ambient TACs concentrations, such as diesel particulate matter (DPM) concentrations, is not performed in San Luis Obispo County. Generally, TACs do not have ambient air quality standards. The three TACs that do have State ambient air quality standards (lead, vinyl chloride, and hydrogen sulfide) are in attainment in San Luis Obispo County or have no attainment information available, and are not relevant to the air pollutant emission sources for this project.

Valley Fever

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever varies with the season and most commonly affects people who live in hot dry areas with alkaline soil. This disease affects both humans and animals, and is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-disturbing activities and become airborne. Agricultural workers, construction workers, and other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an elevated risk of contracting Valley Fever (CDPH ~~2013~~2021).

Most people exposed to the CI spores will not develop the disease. Of 100 persons who are infected with Valley Fever, approximately 40 will exhibit some symptoms and two to four will have the more serious disseminated forms of the disease. After recovery, nearly all, including the asymptomatic, develop a life-long immunity to the disease (Guevara 2014). African-Americans, Asians, women in the 3rd trimester of pregnancy, and persons whose immunity is compromised are most likely to develop the most severe form of the disease (U.S Centers for Disease Control [CDC] 2013). In addition to humans, a total of 70 different animal species are known to be susceptible to Valley Fever infections, including dogs, cats, and horses; with dogs being the most susceptible (Los Angeles County Public Health [LACPH] 2007).

The Project is located in an area designated as "suspected endemic" for Valley Fever. More cases occur in the north and east parts of the county, where conditions are often dustier and

windier. Annual case reports for 2011 through 2018 from the CDPH indicate that San Luis Obispo County has reported incident rates for Valley Fever that range from a rate of 9.8 to 155.8 cases per year per 100,000 population (CDPH 2018). These incidence rates for San Luis Obispo County are among one of the highest rates in the state during the time period. Given the fact that fugitive dust-causing activities associated with the Project would occur, the potential for the Project construction activities to encounter and disperse CI spores and create the potential for additional Valley Fever infections is high. Mitigation measures that reduce fugitive dust will also reduce the chances of dispersing CI spores.

Regional Setting

The South Central Coast comprises all of San Luis Obispo, Santa Barbara, and Ventura counties. Overall, the region covers 7,887 square miles and is home to approximately 4% of California's population. The region is bounded by the Pacific Ocean on the west and south, and it includes six of the eight Channel Islands. All three counties comprise a relatively narrow coastal strip that gives way to inland mountains, with the highest elevations ranging from 6,000 to over 8,000 feet. San Luis Obispo County, the northernmost county, covers 3,304 square miles. The County is more rural and agricultural than many of California's other coastal regions, with a number of small communities scattered along the beaches, coastal hills, and mountains.

Meteorology and Climate

In terms of climate, the South Central Coast generally has relatively wet winters and warm dry summers. Coastal areas benefit from the marine influence, where onshore breezes keep beach communities cooler in summer and warmer in winter than communities located further inland. Year-round temperatures near the coast are mild, with average minimums in the 40s and 50s and average maximums in the 60s and low 70s. Average precipitation in this part of the region is between about 15 and 25 inches per year. In contrast, the inland areas are warmer and drier. In these areas, average minimum temperatures are still in the 40s and 50s. However, average maximums can be in the high 70s, and daily summer maximums can exceed 100 degrees Fahrenheit. Rainfall totals in the inland portions of the South Central Coast are generally less than 15 inches per year (CARB 2011).

The Proposed Project would involve work in Paso Robles and in surrounding rural areas of San Luis Obispo County. The locations of project alternatives vary; however, all are located within San Luis Obispo County. As shown in Table 4.3-1, the Proposed Project and all project alternatives are located in an area that is in nonattainment of state standards for ozone and PM_{10}.

Sensitive Receptors

Sensitive receptors are those segments of the population that are most susceptible to the effects of poor air quality, such as children, the elderly, and individuals with preexisting health problems (e.g., asthma) (CARB 2005). Examples of locations that may contain sensitive receptors include residences, senior living complexes, schools, parks, daycare centers, nursing homes, and medical facilities. Sensitive receptors in the project vicinity include residences near the substation site and along the reconductoring and new 70 kilovolt (kV) powerline segments. Land uses within and around the proposed Estrella Substation site are mostly agricultural (i.e., vineyards). Land uses within and along the proposed 70 kV power line route include agricultural

and residential, as well as industrial (Golden Hill Industrial Park) and public open space and recreation (e.g., Barney Schwartz Park, Cava Robles RV Resort).

In general, the reasonably foreseeable distribution components and many of the alternatives pass through similar or more rural areas. The southern reasonably foreseeable new distribution line segment would follow an existing road through agricultural fields north of the Estrella Substation site, while the northern reasonably foreseeable new distribution line segment would follow the SR 46 right-of-way. The additional 21/12 kV pad-mounted transformers would be installed along existing roads in relatively rural areas of San Luis Obispo County. Both of the alternative substation sites (Alternative SS-1 and SE-1A) are located in rural parts of the County on parcels currently being used for agricultural purposes. Alternatives PLR-1A and PLR-1C would both route the 70 kV power line through rural and agricultural areas east and north of Paso Robles. Alternative SE-PLR-2 would connect the substation under Alternative SE-1A to Paso Robles Substation and would pass through agricultural, rural residential, and urban areas. Several of the example front-of-the-meter (FTM) battery storage sites under Alternative BS-2 would be located in residential and commercial areas of Paso Robles (i.e., example FTM Sites 1-4), while the remaining sites would be located in more rural areas adjacent to the CAL FIRE Air Attack Base (FTM Site 5) and area substations (FTM Sites 6-8) (note: example FTM Site 7 is located within the City of Atascadero and is close to an existing church).

Existing Air Quality

Existing air quality in the central coast region is impaired for certain constituents, as much of the central coast region is currently in nonattainment for state ozone and PM_{10} standards. Smaller portions of the region are also in nonattainment for federal ozone and PM standards. Table 4.3-1 shows attainment status for criteria pollutants for counties within the central coast region. Table 4.3-2 shows ambient air quality monitoring data for air basins in the region.

Table 4.3-2. Ambient Air Quality Monitoring Data

Monitoring Station	Pollutant Standard		2018		2017		2016	
			No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration
San Luis Obispo County – Paso Robles-Santa Fe Avenue	$PM_{2.5}$	24-hour	-	-	-	-	-	-
	PM_{10}	24-hour	27	85.5 µg/m^3	-	57.0 µg/m^3	0	44.8 µg/m^3
	O_3	8-hour	2	0.072 ppm	2	0.075 ppm	0	0.067 ppm
		1-hour	0	0.087 ppm	0	0.083 ppm	0	0.091 ppm

Monitoring Station	Pollutant Standard		2018		2017		2016	
			No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration	No. Exceed	Maximum Concentration
San Luis Obispo County – Atascadero-Lift Station #5	$PM_{2.5}$	24-hour	0	34.1 µg/m^3	0	26.7 µg/m^3	0	28.6 µg/m^3
	PM_{10}	24-hour	5	55.4 µg/m^3	-	67.5 µg/m^3	-	56.3 µg/m^3
	O_3	8-hour	0	0.079 ppm	1	0.072 ppm	0	0.066 ppm
		1-hour	0	0.069 ppm	0	0.077 ppm	0	0.084 ppm
	NO_2	1-hour	-	0.038 ppm	-	0.039 ppm	-	0.034 ppm
		24-hour	-	0.018 ppm	-	0.019 ppm	-	0.013 ppm

Notes: NO_2 = nitrogen dioxide; O_3 = ozone; ppm = parts per million; µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = particulate matter of aerodynamic radius of 2.5 microns or less; PM_{10} = particulate matter of aerodynamic radius of 10 microns or less; - = insufficient or no data available to determine the value. $PM_{2.5}$ values are for NAAQS, PM_{10} and O_3 are for CAAQS.

Source: ~~California Air Resources Board (CARB)~~ 2020a, 2020b.

Existing sources of air pollution and odor in the central coast region include heavy duty trucks, passenger vehicles, farm equipment, off-road equipment, food processing plants, vineyards and wineries, industrial facilities, waste management facilities, airports, marine vessels, military facilities, power plants, and agricultural operations. Potential sources of odors in the project vicinity include agricultural operations and the Paso Robles Wastewater Treatment Plant.

4.3.4 Impact Analysis

Methodology

The assessment of environmental impacts and determination of necessary mitigation measures has been completed independently based on a critical analysis of the information provided by the Applicants (Pacific Gas & Electric Company and Horizon West Transmission collectively) in their Proponent's Environmental Assessment (PEA) and subsequent supporting documentation, including but not limited to data responses and PEA appendices. In addition, the assessment of environmental impacts is first based on the information in Chapter 2, *Project Description*, of this environmental impact report (EIR). If additional detailed information was required, those assumptions were generally based on the PEA appendices and other supporting documentation.

Construction emissions were estimated using the California Emission Estimator Model (CalEEMod) version 2016.3.2. CalEEMod is an emissions model that estimates criteria air pollutant emissions for land use development projects. It contains reasonable default assumptions that can be replaced if site-specific information is available. CalEEMod incorporates both CARB's EMission FACtors (EMFAC) for vehicles and current off-road in-use engine emissions model for construction equipment. Potential overlap in construction phases was considered if it was relevant to making a specific significance determination. Since construction was modeled for work to start in 2021 and changes would be less than 1 percent, no adjustments were made for the recently adopted SAFE Vehicles Rule, which is a joint NHTSA and USEPA rule. Operational emissions from maintenance and inspection is anticipated to be

minimal as the substations and power lines will be controlled remotely. Maintenance and inspections will happen less than once a month. Therefore, CalEEMod was not used to estimate any operational criteria air pollutant emissions. Detailed assumptions that informed the modeling and the modeling results are included in Appendix C.

Helicopter emissions were estimated following the FAA recommended methods consistent with their Aviation Environmental Design Tool (AEDT version 3c). AEDT uses a helicopter's engine specific fuel flow rate that corresponds to the ICAO "climbout" mode corresponding to 85 percent maximum power instead of time in the four landing take off (LTO) modes: take-off, climb out, approach and taxi. This is a change from previous FAA models used (e.g. Emissions and Dispersion Modeling System [EDMS]) which previously used all four LTO modes. The default time for the whole LTO sequence modeled as 100 percent in climb out mode is 887 seconds or 14.8 minutes (FAA 2016). Since the specific helicopter model is not available at this time, a Sikorsky S92A helicopter was used as a surrogate to represent a typical helicopter type used in utility construction projects and emission factors are readily available for this engine model. The helicopter emissions are determined by multiplying the fuel consumption with the emissions factors which are in terms of pounds of pollutant emitted per pound of fuel consumed. The helicopter was assumed to operate for 132 days with up to 10-hour days and it was assumed to have up to 20 LTOs per day. Fugitive dust emissions associated with helicopters primarily occurs during the LTO cycle. It is assumed that 1.5 kilograms are emitted as fugitive dust for each LTO cycle (Gillies et al 2007). Detailed helicopter emission calculations are available in Appendix C.

Criteria for Determining Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines and Air District guidance, a significant impact would occur with respect to air quality if the Proposed Project, reasonably foreseeable distribution components, or alternatives would:

A. Conflict with or obstruct implementation of the applicable air quality plan.

B. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

C. Expose sensitive receptors to substantial air pollutant concentrations.

D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Air District Thresholds

The San Luis Obispo County Air Pollution Control District (SLOCAPCD) has established thresholds of significance for construction and operational emissions which serve as a surrogate for determining if a project would result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state Ambient Air Quality Standard (AAQS) (SLOCAPCD 2017). If a project is below the significance threshold, then it does not result in a cumulatively considerable increase. If the project is above the significance thresholds than it would result in a cumulatively considerable impact. Mitigation of construction activities is required when emissions thresholds are equaled or exceeded.

Table 4.3-3 and Table 4.3-4 below contain the District's thresholds of significance for emissions from construction and operations, respectively.

Table 4.3-3. Thresholds of Significance for Construction Operations

Pollutant	Threshold		
	Daily	Quarterly Tier 1	Quarterly Tier 2
ROG + NOx (Combined)	137 lbs	2.5 tons	6.3 tons
Diesel Particulate Matter (DPM)	7 lbs	0.13 tons	0.32 tons
Fugitive Particulate Matter (PM_{10}), Dust[1]		2.5 tons	

Notes: DPM = diesel particulate matter; NO_X = nitrogen oxides; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases.

[1] Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5-ton PM_{10} quarterly threshold.

Depending on if construction emissions are exceeding the daily, quarterly Tier 1 or Tier 2, different levels of mitigation measures are required. Implementation of mitigation measures required for the daily or quarterly Tier 1 would reduce impacts to less than significant. The specific thresholds and their corresponding mitigation measures are detailed below.

ROG and NO_X Emissions

Daily: For construction projects exceeding the 137 lbs/day threshold requires Standard Mitigation Measures;

Quarterly – Tier 1: For construction projects exceedance of the 2.5 ton/quarter threshold requires Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment.

Quarterly – Tier 2: For construction projects exceeding the 6.3 ton/qtr threshold, Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP) and off-site mitigation are required.

DPM Emissions

Daily: For construction projects expected to be completed in less than one quarter, if emissions would exceed seven pounds per day, Standard Mitigation Measures are required.

Quarterly – Tier 1: For construction projects lasting more than one quarter, if emissions would exceed 0.13 tons per quarter, Standard Mitigation Measures and BACT for construction equipment are required.

Quarterly – Tier 2: For construction projects lasting more than one quarter, if emissions would exceed 0.32 ton per quarter, Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation are required.

Fugitive Particulate Matter Dust Emissions

Quarterly: Construction projects with emissions that would exceed 2.5 tons per quarter require Standard Fugitive PM_{10} Mitigation Measures and may require the implementation of a CAMP.

Table 4.3-4. Thresholds of Significance for Operational Emissions Impacts

Pollutant	Threshold	
	Daily	**Annual**
Ozone Precursors (ROG + NO_X)	25 lbs/day	25 tons/year
Diesel Particulate Matter (DPM)	1.25 lbs/day	
Fugitive Particulate Matter (PM_{10}), Dust	25 lbs/day	25 tons/year
CO	550 lbs/day	

Notes: CO = carbon monoxide; DPM = diesel particulate matter; lbs = pounds; NO_X = nitrogen oxides; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases.

Environmental Impacts

Proposed Project

Impact AQ-1: Potential to conflict with or obstruct implementation of the SLOCAPCD air quality plan – *Less than Significant*

The Proposed Project would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable state and federal air quality regulations. The area is in non-attainment for ozone and PM_{10}. The SLOCAPCD plans for these pollutants do not call for any additional future emission reduction regulations that would affect the Project's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources as well as occasional off-road and on-road vehicles for maintenance and operation that are not regulated by SLOCAPCD. The Proposed Project also would not conflict with any County or Paso Robles General Plan air quality goals or policies. Thus, impacts would be **less than significant**.

Impact AQ-2: Potential to violate ROG, NO_X, and PM_{10} significance thresholds and contribute substantially to an existing or projected air quality violation - *Significant and Unavoidable*

Construction

Construction of the Proposed Project would generate temporary emissions of air pollutants. Ozone precursors (NO_X and ROG) as well as PM_{10} and $PM_{2.5}$ would be emitted by the operation of construction equipment and the helicopters. The construction equipment will also emit DPM which is a subcomponent of particulate matter from diesel fueled equipment. Note that the helicopters that would be used for the Proposed Project do not emit DPM, as they use jet fuel. Fugitive dust (PM_{10} and $PM_{2.5}$) would be emitted by activities that disturb the soil, such as

demolition, grading and excavation, road construction, and building construction. The helicopters would also generate fugitive dust during their landings and takeoffs or hovering near the ground. The Project's estimated maximum daily and quarterly emissions are shown in Table 4.3-5. ~~Modeling of construction emissions assumed the Proposed Project's current schedule.~~ Changes to ~~any of~~ the timing of the individual project phases may increase or decrease the emissions depending on how construction phases overlap. The construction emissions were estimated as described above using CalEEMod and other models for the helicopter emissions. The unmitigated scenario shown in Table 4.3-5a below assumes the CARB default fleet mix of construction equipment provided in CalEEMod for this construction start year. The mitigated scenario shown in Table 4.3-5b below assumes that all diesel fueled construction equipment would meet Tier 4 final emission standards.

Table 4.3-5a. Construction Emissions-Unmitigated

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Maximum Daily Emissions (lbs/day)									
CalEEMod Sources	78.13	12.52	141.38	153.90	0.29	10.40	14.25	8.26	4.36
Helicopter	23.99	19.92	101.64	121.56	9.37	66.14	68.94	68.94	-
Total Maximum Daily	102.12	32.44	243.02	275.46	9.65	76.54	83.19	77.20	4.36
Significance Thresholds	-	-	-	137	-	-	-	-	7
Significant?	-	-	-	Yes	-	-	-	-	No
Maximum Quarterly Emissions (tons/quarter)									
CalEEMod Sources	-	-	-	3.78	-	0.06	-	-	0.12
Helicopter	-	0.9	4.57	5.47	-	2.98	-	-	-
Total Maximum Quarterly	-	-	-	9.25	-	3.04	-	-	0.12
Significance Thresholds	-	-	-	Tier 1 2.5 Tier 26.3	-	2.5	-	-	0.13
Significant?	-	-	-	Yes, Tier 2	-	Yes	-	-	No

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Total Project Emissions (tons)									
CalEEMod Sources	6.75	1.05	10.20	11.25	0.02	0.30	0.67	0.43	0.37
Helicopter	1.58	1.31	6.71	8.02	0.62	4.37	4.55	4.55	-
Total Construction Project	8.33	2.36	16.91	19.27	0.64	4.67	5.22	4.98	0.37

Notes: CalEEMod = California Emission Estimator Model; CO = carbon monoxide; DPM = diesel particulate matter; NO_X = nitrogen oxides; $PM_{2.5}$ = particulate matter with aerodynamic radius of 2.5 micrometers or less; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases; SO_X = sulfur oxides.

Table 4.3-5b. Construction Emissions-Mitigated

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Maximum Daily Emissions (lbs/day)									
CalEEMod Sources	113.04	3.92	47.84	51.76	0.29	6.40	6.81	2.84	0.45
Helicopter	23.99	19.92	101.64	121.56	9.37	66.14	68.94	68.94	-
Total Maximum Daily	137.03	23.84	149.48	173.32	9.65	72.54	75.75	71.78	0.45
Significance Thresholds	-	-	-	137	-	-	-	-	7
Significant?	-	-	-	Yes	-	-	-	-	No
Maximum Quarterly Emissions (tons/quarter)									
CalEEMod Sources	-	-	-	.85	-	0.06	-	-	0.11
Helicopter	-	0.9	4.57	5.47	-	2.98	-	-	-
Total Maximum Quarterly	-	-	-	6.32	-	3.04	-	-	0.11
Significance Thresholds	-	-	-	Tier 1 2.5 Tier 2 6.3	-	2.5	-	-	0.13
Significant?	-	-	-	Yes, Tier 2	-	Yes	-	-	No

	CO	ROG	NO_X	ROG + NO_X	SO_X	Fugitive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Total Project Emissions (tons)									
CalEEMod Sources	9.73	.33	2.17	2.50	0.02	0.24	0.28	0.035	0.035
Helicopter	1.58	1.31	6.71	8.02	0.62	4.37	4.55	4.55	-
Total Construction Project	11.36	1.64	8.88	10.52	0.64	4.61	4.83	4.59	0.035

Notes: CalEEMod = California Emission Estimator Model; CO = carbon monoxide; DPM = diesel particulate matter; NO_X = nitrogen oxides; $PM_{2.5}$ = particulate matter with aerodynamic radius of 2.5 micrometers or less; PM_{10} = particulate matter with aerodynamic radius of 10 micrometers or less; ROG = reactive organic gases; SO_X = sulfur oxides.

As discussed above, combined ROG and NO_X emissions resulting from construction emissions would exceed SLOCAPCD's daily thresholds and quarterly Tier 1 and Tier 2 thresholds and, thus, would result in a cumulatively considerable increase. The DPM emissions resulting from construction do not exceed the daily or quarterly thresholds. The fugitive dust emissions resulting from construction would exceed the quarterly threshold mainly related to the helicopter fugitive dust emissions which will primarily occur at the Paso Robles airport.

These significant criteria air pollutant emissions could lead to increased concentrations of pollutants in the atmosphere and could result in health effects due to the increased emissions. The ambient concentration of criteria pollutants is a result of complex atmospheric chemistry; models to determine the concentrations and related health effects of emissions of pollutant precursors and direct emissions which are not readily available at the project level. Such modeling would require detailed information not only about the project, but also about the other pollutants being emitted in the region; this information is not widely available and, where it is available, its use would be speculative.

NO_X and ROG are precursors to ozone, and NO_X, ROG, and SO_X are precursors to secondarily formed $PM_{2.5}$. Chemical and physical processes transform some of these precursors to the criteria pollutant concentrations in the atmosphere. Multiple variables determine whether emissions of air pollutants from the project move and disperse in the atmosphere in a manner in which concentrations of criteria pollutants would become elevated and result in health impacts. A specific mass of precursor emissions does not equate to an equivalent concentration of the resultant ozone or secondary particulate matter in that area. The resulting health effects of ambient air concentrations are further based on a complex relationship of multiple variables and factors. The calculated health effects are dependent upon the concentrations of pollutants to which the receptors are exposed, the number and type of exposure pathways for a receptor, and the intake parameters for a receptor, which vary based upon age and sensitivity (e.g., presence of pre-existing conditions). Health effects would be more likely for individuals with greater susceptibility to exposure, and the location of receptors relative to the project impacts would affect whether receptors are exposed to project-related pollutants.

The following is a summary of the health effects from ozone, $PM_{2.5}$, and PM_{10}. Meteorology and terrain play major roles in ozone formation, and conditions for maximum ozone generation occur on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Central California can result in health effects. When inhaled, $PM_{2.5}$ and PM_{10} can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks and cause or aggravate bronchitis and other lung diseases. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Health effects of $PM_{2.5}$ include mortality (all causes), hospital admissions (respiratory, asthma, cardiovascular), emergency room visits (asthma), and acute myocardial infarction (non-fatal). For ozone, the endpoints are mortality, emergency room visits (respiratory), and hospital admissions (respiratory).

For this project, mass emissions from construction could exceed significance thresholds even if assuming the use of all Tier 4 final construction equipment as shown in the mitigated emissions. Though the Project's emissions are significant for these criteria air pollutants, it is anticipated that the health effects from the Project would generally be low compared to background incidences of such health effects due to the relatively low level of emissions from this project compared to the total emissions in the South Central Coast Air Basin.

As discussed in Chapter 2, *Project Description*, there are several applicant proposed measures (APMs) that would be implemented to reduce potential impacts related to air quality, including APMs AIR-1, AIR-2, and AIR-3. Even with the implementation of APM measures, construction-related ROG and NO_X emissions threshold exceedances would be considered a significant impact. **Mitigation Measure ~~AIR~~AQ-1** is proposed to reduce potentially significant impacts, requiring implementation of SLOCAPCD standard mitigation measures, BACT, and preparation of a site-specific CAMP that must be reviewed and approved by the air pollution control district (APCD) prior to the start of construction. The CAMP would be a comprehensive document that captures all pollutant emission reduction measures to be implemented for the approved project. Approval by the APCD would ensure all feasible and appropriate mitigation measures have been incorporated.

Even with implementation of Mitigation Measure ~~AIR~~AQ-1, ROG and NO_X emissions would still be expected to exceed significance thresholds; therefore, this impact would result in a cumulatively considerable increase in criteria pollutants for which the region is in non-attainment, and the impact remains **significant and unavoidable**.

Mitigation Measure AQ-1: Prepare a Construction Activity Management Plan for Review by SLOCAPCD and Final Approval by CPUC.

Horizon West Transmission (HWT), Pacific Gas and Electric Company (PG&E), or their contractor(s) shall implement the following measures:

- Prepare a CAMP. The CAMP shall be submitted to the APCD for review and to CPUC for final approval prior to the start of construction and shall include, but not be limited to, the following elements:

1. Evaluation of all SLOCAPCD standard and expanded fugitive dust mitigation measures for incorporation as a mitigation measure into the CAMP. Minimum performance criteria for fugitive dust measures to control dust is not to exceed 20% opacity for greater than 3 minutes in any 60-minute period while construction activity is occurring and disturbed areas are not covered, vegetated, or chemically stabilized;

2. Evaluation of all SLOCAPCD standard construction equipment mitigation measures and evaluation of construction equipment BACT for incorporation as a mitigation measure into the CAMP or documentation of infeasibility. Minimum performance standard is meeting or exceeding all applicable CARB mobile source and off-road equipment fleet regulations and documentation on why anything less than a Tier 4 final off-road engine is infeasible for the project such as unavailability of specialized equipment with a Tier 4 Final engine;

3. A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "fugitive dust control measures" listed in part 1; and include the following additional dust mitigation measures:

    a. Equipment must be washed down before moving from the property onto a paved public road.

    b. All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.

    c. Installation of one or more of the following track-out prevention measures:

        i. A gravel pad designed using good engineering practices to clean the tires of existing vehicles,

        ii. A tire shaker,

        iii. A wheel wash system,

        iv. Pavement extending for not less than fifty consecutive feet from the intersection with the paved public road, and/or

        v. Any other measure the CPUC finds as effective as the measures listed above.

    d. Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days, which shall include one or more of the following:

i. Keep the surface adequately wetted as follows: (A) If the district-approved dust mitigation plan has specified a percent moisture content for specific materials the determination shall be as specified in the district-approved dust mitigation plan; or (B) If no moisture threshold is specified in a district-approved dust mitigation plan, a sample of at least one (1) quart in volume shall be taken from the top three (3) inches of a road, or bare area or from the surface of a stockpile. The sample shall be poured out from a height of four (4) feet onto a clean hard surface. The material shall be considered to be adequately wetted if there is no observable dust emitted when the material is dropped.

ii. Establishment and maintenance of surface crusting sufficient to satisfy the following: Measurement of the stability of surface crusting on horizontal surfaces" shall be as follows: (A) Where a visible crust exists, drop a steel ball with a diameter of 15.9 millimeters (0.625 inches) and a mass ranging from 16 to 17 grams from a distance of 30 centimeters (one foot) directly above (at a 90-degree angle perpendicular to) the ground surface. If blow sand (thin deposits of loose grains covering less than 50 percent of the surface that have not originated from the surface being tested) is present, clear the blow sand from the surfaces to be tested before dropping the steel ball. Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations; (B) A sufficient crust is determined to exist if, when the ball is dropped as described in A., the ball does not sink into the surface so that it is partially or fully surrounded by loose grains and, upon removing the ball, the surface on which it was dropped has not been pulverized so that loose grains are visible. (C) To determine that a surface is sufficiently crusted, three different test areas must pass the ball drop test. Within each different test area, the ball is dropped three times in each test area within a survey area measuring 1 foot by 1 foot that represents a random portion of the surface being evaluated. The test area shall be deemed to have passed if at least two of the three times the ball was dropped, the results met the criteria specified in B. Only if all three different test areas pass, the area shall be deemed to be "sufficiently crusted."

iii. Covering with tarp(s) or vegetative cover;

iv. Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile;

v. Installation of wind barriers across open areas; or

vi. Any other measure as effective as the measures listed above.

e. Suspend grading operations when wind speeds are high enough to result in dust emission crossing the property line despite application of dust mitigation measures.

f. All earth moving activities should be ceased in times of high wind conditions defined as sustained wind speeds exceeding 25 miles per hour and /or if two wind gusts in excess of 25 mph are recorded in a 30-minute period.

4. Tabulation of on and off-road construction equipment (age, horse-power and miles and/or hours of operation) on a projected and actual monthly basis. Ensure a minimum performance standard for DPM emissions of less than the SLOCAPCD significance threshold of 7 pounds daily and 0.13 tons per quarter is achieved. It is unlikely given the current projections for the Proposed Project that the DPM thresholds would be exceeded. If any monthly projection of emissions associated with the Project's equipment usage is within 10% of this daily or quarterly DPM threshold, HWT, PG&E, and/or its contractors will adjust the equipment used and/or schedule to ensure that exceedance of these thresholds is avoided. The minimum performance standard for quarterly emissions of ROG and NO_X is the Tier 2 threshold of 6.3 tons. To ensure that emissions are below the Tier 2 threshold for ROG and NO_X, PG&E, HWT and its contractors will implement suitable emission reduction measures, which may include, but would not be limited to:

   a. Work with SLOCAPCD to establish emission offsets to reduce net emissions below 6.3 tons in a quarter;

   b. Limit the length of construction work-day periods and/or implement phased approaches for construction activities; and/or

   c. Implement any other suitable emission reduction measures to ensure that emissions are below the Tier 2 threshold.

5. Schedule construction truck trips during non-peak hours (i.e. avoid peak commute times such as 7-9 am and 4-6 pm) to reduce peak hour emissions to the extent feasible.

~~**Mitigation Measure AQ-1: Prepare a Construction Activity Management Plan for Approval by SLOCAPCD.**~~

~~HWT, PG&E, or their contractor(s) shall implement the following measures:~~

- ~~Prepare a Construction Activity Management Plan that contains at a minimum the following SLOCAPCD standard mitigation measures, BACT measures and diesel idling restrictions that are not already in the APMs. The CAMP shall be submitted to the air pollution control district (APCD) for review and approval prior to the start of construction and shall include, but not be limited to, the following elements:~~

~~1. A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "dust control measures" section;~~

~~2. Tabulation of on and off-road construction equipment (age, horse-power and miles and/or hours of operation). Use of diesel construction equipment meeting CARB's Tier 3 and Tier 4 off-road and 2010 on-road compliant engines; Repowering equipment with the cleanest engines available; At a minimum, the off-road equipment fleet shall meet the CARB off-road emissions average for that calendar year and ensure that quarterly DPM emissions are less than SLOCAPCD significance thresholds.~~

~~3. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions;~~

~~4. Limits for the length of construction work-day periods and/or phased approaches for construction activities, if determined appropriate and necessary by the APCD.~~

Operation

The Proposed Project's operational emissions would be negligible and would be substantially lower than the SLOCAPCD's operational significance thresholds. Maintenance and inspection are anticipated to be minimal as the substations and power lines would be controlled remotely. Maintenance and inspection activities would take place less than once a month. The low amount of operational emissions and intermittent nature of these activities would not result in emissions that would exceed the criteria emission significance thresholds. Therefore, the impact of operations would be **less than significant.**

Impact AQ-3: Potential to expose sensitive receptors to substantial pollutant concentrations – ~~*Less than Significant*~~*Significant and Unavoidable*

An evaluation of the potential to expose sensitive receptors to substantial pollutant concentrations can be either a qualitative assessment based on the quantity of pollutants released, duration of the project, and location of sensitive receptors to the project location, or it can be quantitative, involving complex modeling of pollutant dispersion, exposure, and toxicity.

Estimates of chronic and cancer health effects associated with DPM and other fossil fuel combustion TACs associated with construction emissions over short periods are uncertain for several reasons. Cancer Potency Factors (CPFs) are based on animal lifetime studies or worker studies with long-term exposure to the carcinogenic agent, not short-term exposure like that which would occur during temporary construction. Some studies indicate that the dose rate affects the potency of a given dose of a carcinogenic chemical. In other words, a dose of emissions delivered over a short period may have a different potency than the same dose of emissions delivered over a lifetime (OEHHA 2015). Furthermore, construction impacts are most substantial adjacent to the construction area and decrease rapidly with distance. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005).

In most locations of pole installation for the Proposed Project, a given sensitive receptor would only be potentially exposed to emissions for the short amount of time it takes to install about 3 poles. After 3 poles, the distance to the sensitive receptor would be greater than 1,000 feet. The SLOCAPCD CEQA Air Quality Handbook states that "the proximity of sensitive individuals (receptors) to a construction site constitutes a special condition and may require a more comprehensive evaluation of toxic diesel PM impacts…types of construction projects that typically require a more comprehensive evaluation include large-scare, long-term projects that occur within 1,000 feet of a sensitive receptor location(s)" (SLOCAPCD 2017, p 2-3). Thus, projects with short-term impacts with sensitive receptors further than 1,000 feet away do not typically require a Health Risk Assessment (HRA). For the proposed Project, the longest period of construction activity and associated emissions in one location would be during construction of the Estrella Substation. The nearest sensitive receptors to this site are approximately 215 feet southwest of the site. However, the nearby sensitive receptors to the Estrella Substation site are not downwind from the most prominent wind directions so the majority of the construction emissions that would occur at this site are unlikely to disperse toward these receptors as shown in Figure 4.3-1.

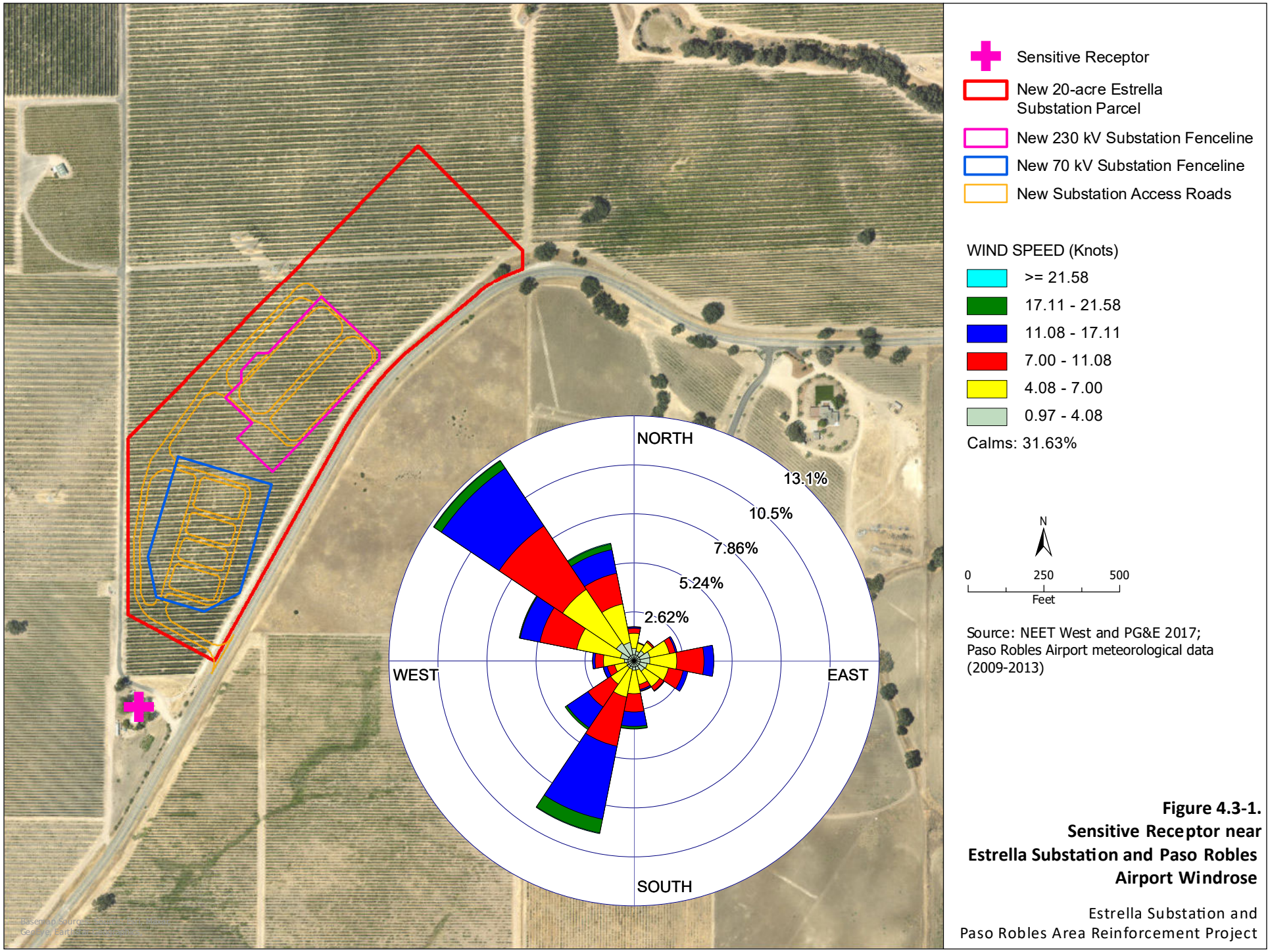

Figure 4.3-1.
Sensitive Receptor near Estrella Substation and Paso Robles Airport Windrose

Estrella Substation and
Paso Robles Area Reinforcement Project

The SLOCAPCD has defined the excess cancer risk significance threshold at a cancer risk of 10 in a million or less and an acute hazard index of 1 or less as stated in the referenced California Air Pollution Control Officers Association (CAPCOA) Health Risk Assessments for Proposed Land Use Projects (2009).

A public comment on the Draft EIR included an HRA prepared by the commenter's consultants, which suggested that health impacts may be above the thresholds for the SLOCAPCD (see Appendix A to this recirculated DEIR, Key Document #5). An HRA is used to evaluate the health risks associated with a project. The HRA involves estimating emissions of DPM and TACs, followed by air dispersion modeling to estimate ambient air concentrations at various distances from the source of emissions (e.g. construction equipment). After the ambient air concentrations are determined, these are combined with exposure parameters (e.g. breathing rate, time at location) and toxicity information to determine health impacts on nearby sensitive receptors.

The HRA conducted by the commenter contained two scenarios (one in which Tier 4 Final engines are used [Scenario #1], and one in which Tier 2 engines are used [Scenario #2]) (Environmental Permitting Specialists 2021). Scenario 1 in this HRA matches closest to the types of equipment and anticipated emissions of the Proposed Project since Mitigation Measure AQ-1 requires implementation of Tier 4 Final engines and is similar to the emissions shown in the mitigated scenario of Table 4.3-5b. Scenario 2 assumed use of Tier 2 engines which would be more conservative than the unmitigated emissions presented in Table 4.3-5a as implementation of California off-road fleet rules requires most fleets to have most equipment use better than Tier 2 engines. For Scenario 1, this commenter-prepared HRA indicates that in some locations near the Estrella Substation site, the cancer risk may be up to 25 in a million. This cancer risk of 25 in a million is above the SLOCAPCD threshold of 10 in a million. The commenter's HRA also suggests that acute health impacts would be less than 1 for Scenario 1 and therefore would be below the SLOCAPCD acute hazard index threshold of 1.

The CPUC's qualitative analysis, as documented in the DEIR, supports a finding that human health impacts from construction-related DPM and other TAC emissions would be relatively limited due to the short construction duration and the sparsely populated area surrounding the project site. Information provided by the commenters and their consultants was not adequate to conduct a thorough review to determine if their model accurately represents the Proposed Project, as key details required to make their study reproducible regarding the specific sources spatial representation and actual emissions assigned to specific sources were not provided. Despite, the lack of detailed information provided, this analysis conservatively concludes, based on the limited data provided in the commenter's HRA, that a few receptors located close to the project construction areas, in particular the Estrella ~~s~~Substation area, may experience increased TACs which may lead to adverse health impacts. This impact would be significant.

~~Due to the limited construction duration, the limited construction emissions, and the sparsely populated area surrounding the project site, there is very low potential for fugitive dust or DPM to impact sensitive receptors during construction. Because of the limited duration of construction in any one location, total Project construction-related DPM and other TAC emissions would not be of a magnitude and duration great enough to result in significant air toxic risks to exposed sensitive receptors. While this impact would be less than significant,~~ ~~i~~Implementation of APMs AIR-1, AIR-2, and AIR-3 and **Mitigation Measure AQ-1** would ~~also~~

provide a substantial reduction in the DPM emissions that occur on the project site during construction . due to use of diesel particulate filters and using Tier 4 final engines to the extent feasible. However, even with this mitigation, the impact would remain significant.

Additionally, the potential for Valley Fever cases associated with Proposed Project construction is high given that San Luis Obispo County has some of the highest incidence rates in the state. Cal/OSHA regulations address worker health and safety issues related to Valley Fever. There is the potential even after implementation of the fugitive dust mitigation measures for spores to reach nearby sensitive receptors. Since Valley Fever is endemic to the area, nearby sensitive receptors may already have developed immunity. **Mitigation Measure AQ-2**- requires, prior to the start of construction, the project applicants or their contractors to draft a Valley Fever Management Plan (VFMP), consult with the California Department of Public Health and the San Luis Obispo Department of Public Health regarding Valley Fever best mitigation practices and implement all such feasible measures recommended by these agencies. The Proposed Project's operating emissions would be negligible and would not have the potential to impact sensitive receptors.

Therefore, the Project's construction and operation air pollutant emissions would notcould potentially expose sensitive receptors to substantial pollutant concentrations and would could result in a **less than** significantsignificant impact even after implementation of mitigation measures. Therefore, this impact would be **significant and unavoidable**.

Mitigation Measure AQ-2: Prepare a Valley Fever Management Plan for Review by CDPH and San Luis Obispo Department of Public Health and Final Approval by CPUC.

HWT, PG&E, or their contractor(s) shall implement the following measures:

- Prepare a VFMP. The VFMP shall be submitted to the California Department of Public Health and the San Luis Obispo Department of Public Health for review and to CPUC for final approval prior to the start of construction. The VFMP shall include, but not be limited to, the following elements as currently suggested by the California Department of Public Health:
  - Adopt site plans and work practices that reduce workers' exposure to minimize primary and secondary exposure to the community through direct dispersal of spores or secondary dispersal from contaminated workers or equipment bringing spores to the community. The site plans and work practices may include:
    - Minimize the area of soil disturbed.
    - Use water, appropriate soil stabilizers, and/or re-vegetation to reduce airborne dust.
    - Stabilize all spoils piles by tarping or other methods.
    - Provide air conditioned cabs for vehicles that generate heavy dust and make sure workers keep windows and vents closed.

- Suspend work during heavy winds.
- Onsite sleeping quarters, if provided, should be placed away from sources of dust.

- Take measures to reduce transporting spores offsite, such as:
  - Clean tools, equipment, and vehicles before transporting offsite.
  - If workers' clothing is likely to be heavily contaminated with dust, provide coveralls and change rooms, and showers where possible.
- Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect the community.
- Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect community.
- Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect community.

Impact AQ-4: Potential to create objectionable odors affecting a substantial number of people – *Less than Significant.*

Some objectionable odors may be temporarily created during construction-related activities, such as from diesel exhaust and asphalt paving activities, and/or during operation and maintenance-related activities, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated project site area. Therefore, any impacts from objectionable odors would be **less than significant**.

Reasonably Foreseeable Distribution Components and Ultimate Substation Buildout

Construction and operation activities for the reasonably foreseeable distribution components would be similar to the Proposed Project, but on a much smaller scale. Installation of reasonably foreseeable distribution poles would require much less effort and equipment use than that for the 70 kV poles and require construction of only 1.7 miles of new distribution line. Likewise, installation of the additional 21/12 kV transformers would require minimal site preparation and grading, while the work within the substation would require no new ground disturbance.

Ultimate substation buildout (e.g., installation of additional transmission and distribution transformers and associated equipment within the substation footprint) would similarly be on a smaller scale than the Proposed Project. Buildout of the substation would not be of a level to emit substantial amounts of criteria air pollutants or conflict with the SLOCAPCD air quality plan. While the new distribution and transmission lines from Estrella Substation supported through ultimate buildout could involve construction activities that could exceed significance thresholds for criteria air pollutants, these impacts are speculative at this time. Thus, similar to the Proposed Project, the reasonably foreseeable distribution and ultimate substation buildout components would not conflict with or obstruct implementation of the applicable air quality plans. This impact under significance criterion A would be **less than significant**.

The reduced use of construction-related equipment (e.g., less equipment and lesser duration of use) and the smaller scale of activities associated with the reasonably foreseeable distribution and ultimate substation buildout components as compared to the Proposed Project, would result in a small fraction of the Proposed Project's criteria pollutant emissions. The Applicants would implement APM AIR-1, AIR-2, and AIR-3, which would further reduce or minimize emissions. Because criteria pollutant emissions would be below the SLOCAPCD's daily and quarterly criteria pollutant significance thresholds, impacts under significance criterion B would be **less than significant.**

Like the Proposed Project, the criteria pollutant and TAC emissions from the reasonably foreseeable distribution and/or ultimate substation buildout components would be largely one-time, construction-related emissions that would not substantially impact sensitive receptors during construction. The reasonably foreseeable distribution and ultimate substation buildout components would generate fugitive dust or DPM emissions that are not of a magnitude and duration to create significant air toxic risks to the nearest receptors. While this impact would be less than significant, implementation of APMs AIR-1, AIR-2, and AIR-3 would also provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the applicable APMs would reduce the fugitive dust emissions during construction of the reasonably foreseeable distribution components and associated impacts to sensitive receptors. Thus, impacts under significance criterion C would be **less than significant.**

Some objectionable odors may be temporarily created during construction-related activities for the reasonably foreseeable distribution and ultimate substation buildout components, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated project site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternatives

No Project Alternative

Under the No Project Alternative, no impacts from criteria air pollutants and TACs would occur. No new substation or new/reconductored power line would be constructed; therefore, there would be no construction emissions or potential for increased emissions from maintenance and operations. **No impact** would occur under significance criteria A, B, C, or D.

Alternative SS-1: Bonel Ranch Substation Site

Similar to the Proposed Project, Alternative SS-1 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative SS-1's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative SS-1 would not conflict with any applicable General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Alternative SS-1 would have slightly higher potential for criteria air pollutants and TAC emissions compared to the proposed Estrella Substation. The substation located at the Bonel Ranch site would involve a longer length of the 230 kV interconnection and therefore require approximately one additional month of construction. Because geotechnical studies have not been completed for this site, it is possible that unsuitable soils could be encountered during construction of the substation or 230 kV connection that could require greater excavation, off-haul, and/or import of soils than the Proposed Project. Operations and maintenance of Alternative SS-1 would be similar to that of the proposed Estrella substation. The additional construction emissions for this alternative would cause a slight increase in the amount of ROG and NO_X emissions as well as fugitive dust as compared to the Proposed Project. As with the Proposed Project, even with the implementation of APMs, construction-related ROG and NO_X emissions threshold exceedances would be considered a significant impact. Implementation of **Mitigation Measure AQ-1** would decrease emissions, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts to criteria pollutant emissions under criterion B from Alternative SS-1 are anticipated to be **significant and unavoidable**.

Alternative SS-1's additional construction emissions would cause a slight increase in the amount of DPM. It is not anticipated that this slight increase in emissions would cause emissions to exceed SLOCAPCD's significance threshold for DPM emissions. Since this location has sensitive receptors located further from the construction site, the health impacts to the nearest sensitive receptors would likely be lower compared to the Proposed Project, but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. ~~However, the limited construction duration, construction-related emissions and sparsely populated area surrounding the Alternative SS-1 site would result in low potential for DPM to impact sensitive receptors during construction. The slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors.~~ This impact would be significant. ~~While this impact would be less than significant, i~~Implementation of APMs and Mitigation Measure AQ-1 would also provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce emissions during Alternative SS-1 construction and associated impacts to sensitive receptors. Alternative SS-1's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative SS-1's

impacts under significance criterion C would be ~~**less than significant**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative SS-1, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative SS-1 site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative PLR-1A: Estrella Route to Estrella Substation

Alternative PLR-1A would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative PLR-1A's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative PLR-1A would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Due to its longer duration of construction (10 months longer for the new 70 kV line and 6 months longer for the reconductoring segment), Alternative PLR-1A would have greater potential for construction-related impacts to criteria air pollutant and TAC emissions compared to the Proposed Project. Operation and maintenance of Alternative PLR-1A would involve a similar number and frequency of vehicle trips compared to the Proposed Project 70 kV power line. The additional construction emissions for this alternative would cause a slight increase in the amount of ROG and NO_X emissions as well as fugitive dust and would result in a significant impact under criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emissions, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative PLR-1A are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause an increase in the amount of DPM emissions. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. However, the limited construction duration in any particular location and sparsely populated area surrounding the Alternative PLR-1A would result in a low potential for DPM to impact sensitive receptors during construction. Since this location has fewer sensitive receptors, and many sensitive receptors are located further from the construction site, the health impacts to the nearest sensitive receptors would likely be lower compared to the Proposed Project, but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. This impact would be significant. ~~Further, the longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, the potential for DPM emissions to exceed SLOCAPCD's significance thresholds would be considered a significant impact for criterion C.~~ Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce emissions during Alternative PLR-1A construction and associated impacts to sensitive receptors. Alternative PLR-1A's operating

emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative PLR-1A's impacts under significance criterion C would be ~~**less than**~~ **significant** ~~**with mitigation**~~**and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative PLR-1A, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative PLR-1A site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative PLR-1C: Estrella Route to Bonel Ranch, Option 1

Alternative PLR-1C would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative PLR-1C's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative PLR-1C would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Alternative PLR-1C would be similar in length to Alternative PLR-1A and would require a similarly extended construction duration compared to the Proposed Project. As such, the alternative would have the same potential for increased construction-related criteria air pollutant and TAC emission impacts as Alternative PLR-1A (see above). Operation and maintenance of Alternative PLR-1C would involve a similar number and frequency of vehicle trips compared to the Proposed Project 70 kV power line. The additional construction emissions for this alternative would cause a slight increase in the amount of ROG and NO_X emissions as well as fugitive dust and would result in a significant impact under criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emission, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative PLR-1C are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase in the amount of DPM emissions. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. However, the limited construction duration in any one location and sparsely populated area surrounding the Alternative PLR-1C alignment would result in low potential for DPM to impact sensitive receptors during construction. Since this location has fewer sensitive receptors, and many sensitive receptors are located further from the construction site, the health impacts to the nearest sensitive receptors would likely be lower compared to the Proposed Project but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. This impact would be significant. ~~Further, the longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, the potential for DPM emissions to exceed~~

~~SLOCAPCD's significance thresholds would be considered a significant impact for criterion C.~~ Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce emissions during Alternative PLR-1C construction and associated impacts to sensitive receptors. Alternative PLR-1C's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative PLR-1C's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative PLR-1C, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative PLR-1C site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative PLR-3: Strategic Undergrounding, Options 1 & 2

Alternative PLR-3 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative PLR-3's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative PLR-3 would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Alternative PLR-3 would require a slightly longer construction duration compared to the project for the 70kV powerline segment that would be buried underground. Construction of Alternative PLR-3 (both options) would require a total of 12 months compared to 10 months for the entire overhead new 70 kV power line segment. The type of construction equipment used for trenching the powerline underground is different from equipment used to construct overhead lines. Therefore, it is possible that construction emissions could either slightly increase or decrease depending on the combination of time and changes to equipment. Nevertheless, these slight changes are not expected to substantially alter the alternative's overall potential for construction-related impacts to criteria air pollutant and TAC emissions as compared to the Proposed Project 70 kV powerline. Operation and maintenance of Alternative PLR-3 would involve similar number and frequency of vehicle trips compared to the Proposed Project 70 kV powerline.

The construction emissions for this alternative would cause a slight increase or decrease in the amount of ROG and NO_X emissions as well as fugitive dust as compared to the Proposed Project. As discussed above under Impact AQ-2, the Proposed Project would result in a significant impact under significance criterion B because of construction-related ROG and NO_X emissions threshold exceedances. These exceedances are substantial and would be primarily driven by project phasing in addition to the change to the alignment portion proposed for undergrounding. As a result, even in the case that ROG and NO_X emissions slightly decrease under Alternative PLR-3,

and most certainly under the scenario that emissions slightly increase, Alternative PLR-3 is still expected to exceed ROG and NO_X emissions thresholds. Therefore, Alternative PLR-3 would result in a significant impact under significance criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emissions but would not reduce emissions below the thresholds of significance. Since the impact of the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative PLR-3 are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase or decrease in the amount of DPM emissions. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. ~~However, the limited construction duration in any particular location and relatively sparsely populated area surrounding the Alternative PLR-3 alignments (both options) would result in low potential for fugitive dust or DPM to impact sensitive receptors during construction.~~This would be more intense in duration than the Proposed Project and may expose sensitive receptors to greater health impacts but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27. This impact would be significant. ~~Further, the slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, the potential for DPM emissions to exceed SLOCAPCD's significance thresholds would be considered a significant impact.~~ Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce the fugitive dust emissions during Alternative PLR-3 construction and associated impacts to sensitive receptors. Alternative PLR-3's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of Mitigation Measure AQ-2 would lower this risk, but not necessarily below the level of significance. Therefore, Alternative PLR-3's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative PLR-3, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the Alternative PLR-3 site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation

Alternative SE-1A would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative SE-1A's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative SE-1A would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

Construction of Alternative SE-1A would take slightly longer than the proposed Estrella Substation due to the longer length of the 230 kV interconnection, while the types of equipment to be used in each phase of construction would be the same. The number of construction vehicle trips and the frequency of the trips for Alternative SE-1A is estimated to be the same as for the Proposed Project (refer to Table 4.17-3 in Section 4.17, *Transportation and Traffic*); although, the number and frequency of haul trips associated with soil import/export cannot be determined since geotechnical studies have not been completed. The estimated number of vehicle trips and frequency of the trips necessary for operation and maintenance of the facilities under Alternative SE-1A would be the same as for the Proposed Project.

The construction emissions for this alternative would cause a slight increase or decrease in the amount of ROG and NO_X emissions as well as fugitive dust as compared to the Proposed Project. As discussed above, the Proposed Project would result in a significant impact under significance criterion B because of construction-related ROG and NO_X emissions threshold exceedances. Because these exceedances are substantial and would be primarily driven by project phasing in addition to the change to the substation location, even in the case that ROG and NO_X emissions slightly decrease under Alternative SE-1A, and most certainly under the scenario that emissions slightly increase, Alternative SE-1A is still expected to exceed ROG and NO_X emissions thresholds. Therefore, Alternative SE-1A would result in a significant impact under significance criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emission, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts under significance criterion B from Alternative SE-1A are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase or decrease in the amount of DPM emissions as well as fugitive dust. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM. ~~However, the limited construction duration in any particular location and sparsely populated area surrounding the Alternative SE-1A site would result in low potential for fugitive dust or DPM to impact sensitive receptors during construction. Further, the slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, should DPM emissions exceed SLOCAPCD's significance thresholds, impacts would be considered significant.~~The sensitive receptors in this location are in similar proximity as the Proposed Project Estrella Substation and health impacts would likely be similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27 and may result in adverse health impacts. This impact would be significant. -Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce the fugitive dust emissions during Alternative SE-1A construction and associated impacts to sensitive receptors. Alternative SE-1A's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of **Mitigation Measure AQ-2** would lower this risk, but not necessarily below the level of significance. Therefore, Alternative SE-1A's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative SE-1A, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the sparsely populated Alternative SE-1A site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative SE-PLR-2: Templeton-Paso South River Road Route

Alternative SE-PLR-2 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative SE-PLR-2's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative SE-PLR-2 would not conflict with any General Plan air quality goals or policies. Thus, impacts under significance criterion A would be **less than significant**.

In total, construction of the new 70 kV power line segment for Alternative SE-PLR-2 would take 9 months less than the Proposed Project's 70 kV power line. The reconductoring segment would not be needed under Alternative SE-PLR-2 and emissions associated with this construction phase would be eliminated. The estimated number of vehicle trips and frequency of the trips necessary for operation and maintenance of Alternative SE-PLR-2 would generally be the same as for the Proposed Project.

The construction emissions for this alternative would cause a slight increase or decrease in the amount of ROG, NO_X emissions as well as fugitive dust as compared to the Proposed Project. As discussed above, the Proposed Project would result in a significant impact under significance criterion B because of construction-related ROG and NO_X emissions threshold exceedances. Because these exceedances are substantial and would be primarily driven by project phasing in addition to the change to the alignment, even in the case that ROG and NO_X emissions slightly decrease under Alternative SE-PLR-2, and most certainly under the scenario that emissions slightly increase, Alternative SE-PLR-2 is still expected to exceed ROG and NO_X emissions thresholds. Therefore, Alternative SE-PLR-2 would result in a significant impact under significance criterion B. Implementation of APMs and **Mitigation Measure AQ-1** would decrease emission, but not reduce emissions below the thresholds of significance. Since the Proposed Project is significant for construction emissions, the impacts to criteria pollutant emissions from Alternative SE-PLR-2 are anticipated to be **significant and unavoidable.**

The additional construction emissions for this alternative would cause a slight increase or decrease in the amount of DPM emissions as well as fugitive dust. The DPM emissions could potentially exceed SLOCAPCD's significance thresholds for DPM~~. However, the limited construction duration in any particular location would result in low potential for fugitive dust or DPM to impact sensitive receptors during construction. Further, the slightly longer construction duration compared to the Proposed Project would not be of a magnitude or duration that could create significant air toxic risks to sensitive receptors. Nevertheless, should DPM emissions exceed SLOCAPCD's significance thresholds, impacts would be considered significant under significance criterion C~~. The sensitive receptors in this location are in similar proximity as the Proposed Project transmission routes and health impacts would likely be similar but still substantially similar to that discussed for the Proposed Project on pages 2-R.4.3-23 to 2-R.4.3-27

and may result in adverse health impacts. This impact would be significant. –Implementation of APMs and **Mitigation Measure AQ-1** would provide a substantial reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations and implementation of the APMs would reduce the fugitive dust emissions during Alternative SE-PLR-2 construction and associated impacts to sensitive receptors. Alternative SE-PLR-2's operating emissions would be negligible and would not have the potential to impact sensitive receptors. The same potential risks of exposure to Valley Fever spores would exist at this location compared to the Proposed Project and implementation of **Mitigation Measure AQ-2** would lower this risk, but not necessarily below the level of significance. Therefore, Alternative SE-PLR-2's impacts under significance criterion C would be ~~**less than significant with mitigation**~~**significant and unavoidable**.

Some objectionable odors may be temporarily created during construction-related activities for Alternative SE-PLR-2, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time, and would not affect a substantial number of people in the Alternative SE-PLR-2 site area. Therefore, any impacts under significance criterion D would be **less than significant**.

Alternative BS-2: Battery Storage to Address Distribution Need

It is assumed that Alternative BS-2 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative BS-2's emissions sources, which are primarily construction off-road equipment and on-road vehicle emissions sources that are not regulated by SLOCAPCD. Alternative BS-2 is not anticipated to conflict with any General Plan air quality goals or policies.

Alternative BS-2 has the potential to reduce criteria pollutant and TAC emissions as compared to the Proposed Project as it would involve substantially lower construction emissions. Any construction emissions associated with battery storage will involve minimal use of fossil fueled equipment during installations. Furthermore, the use of battery stored power during high demand periods will reduce the need for criteria pollutant emitting sources of electricity generation throughout the electricity grid, such as the use of peaker plants, which are fossil-fueled based. The impact of this alternative would depend on construction schedule overlap of the remaining construction phases, therefore it is unknown if this alternative would reduce the significant impact of construction emissions as compared to the Proposed Project.

The construction activities for this alternative would likely cause a slight decrease in the amount of DPM emissions as well as fugitive dust. Implementation of standard measures would also provide a reduction in the DPM emissions that occur on the project site during construction. Compliance with the SLOCAPCD rules and regulations would reduce the fugitive dust emissions during Alternative BS-2 construction and associated impacts to sensitive receptors. Alternative BS-2's operating emissions would likely be negligible and would not have the potential to impact sensitive receptors.

Some objectionable odors may be temporarily created during construction-related activities for Alternative BS-2, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time.

Overall, because example FTM battery energy storage system (BESS) sites were selected for illustrative purposes only, BESS installations have not yet been designed and technologies have not been selected. Thus, the specifics of Alternative BS-2 are unknown, and project-level determinations cannot be made as impacts are speculative. Therefore, consistent with CEQA Guidelines Section 15145, no significance conclusion is provided for any of the significance criteria.

Alternative BS-3: Third-Party, Behind-the-Meter Solar and Battery Storage

It is assumed that Alternative BS-3 would be built and operated in compliance with all SLOCAPCD rules and regulations developed to help implement the applicable air quality plans, and would also comply with all applicable State and federal air quality regulations. The SLOCAPCD plans for PM_{10} do not call for any additional future emission reduction regulations that would affect Alternative BS-3's emissions sources. Alternative BS-3 would not be anticipated to conflict with any General Plan air quality goals or policies.

Construction activities under Alternative BS-3 would include deliveries of individual BESS units to customers' properties, installation of the units on-site, and wiring work to connect the BESS to existing electrical systems. BESS units for larger commercial properties could be heavy and may require larger/specialized trucks for delivery, and may require use of a small crane for installation. Depending on the size of solar power and storage installations, it is unknown precisely how the construction emissions would compare to the Proposed Project; however, emissions would likely be substantially reduced due in part to the fact that helicopters would not be required for construction of behind-the-meter (BTM) facilities under Alternative BS-3 and ground disturbance would likely be less.

Once installed, BESS facilities under Alternative BS-3 would require minimal operation and maintenance. The use of BESS facilities may decrease the criteria pollutants emitted from electricity generation in the area by decreasing use of peaker plants and making more efficient use of renewable energy sources.

The impact of this alternative would depend on construction schedule overlap of the remaining construction phases. However, it is not possible to know the scope, scale, or timing of BTM procurements, and the third-party provider may select other types of distributed energy resources (DERs) (e.g., energy efficiency or demand response). It is assumed that all local codes and requirements would be followed for the permitting, siting, and installation of third-party BTM installations that may result from procurement via the Distribution Infrastructure Deferral Framework (DIDF).[1]

The construction activities for this alternative would cause an unknown change in the amount of DPM emissions as well as fugitive dust compared to the Proposed Project. The potential for DPM emissions to exceed SLOCAPCD's significance thresholds is speculative at this time. Compliance with the SLOAPCD rules and regulations and all local requirements would be

[1] See Chapter 3, Alternatives Description, Section 3.3.8 for further details about the DIDF.

required. Alternative BS-3's operating emissions would likely be negligible and would not have the potential to impact sensitive receptors.

Some objectionable odors may be temporarily created during construction-related activities for Alternative BS-3, such as from diesel exhaust. However, these odors would dissipate quickly, would only occur proximate to the work areas for a short time.

Overall, due to the fact that specific locations and characteristics of BTM resources procured under Alternative BS-3 are unknown at this time, project-level impact determinations are not possible as the impacts are speculative. Therefore, consistent with CEQA Guidelines Section 15145, no significance conclusion is reached under any of the significance criteria.