4.2 Air Quality

This section describes the environmental and regulatory settings and discusses impacts associated with the construction and operation of the Mesa 500-kilovolt (kV) Substation Project (proposed project) proposed by Southern California Edison Company (SCE, or the applicant) with respect to air quality resources. The South Coast Air Quality Management District (SCAQMD) submitted a letter during the scoping period requesting that the Environmental Impact Report (EIR) include an analysis based on the California Emission Estimator Model (CalEEMod); discuss the potential air quality impacts associated with construction and operation; analyze regional and local air quality impacts in comparison with SCAQMD thresholds of significance; include dispersion modeling, if necessary, as an alternative to the use of localized significance thresholds; include a mobile source health risk assessment; and include an analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants.

The SCAQMD also recommended the use of specific guidance and handbooks for the air quality analysis and for identifying possible mitigation measures.

4.2.1 Environmental Setting

Air quality is dependent on the quantities of air pollutants emitted from human-made and natural sources, as well as surface topography and prevailing meteorological conditions. California is divided into 15 air basins. The proposed project would be located in portions of Los Angeles County and Orange County under the jurisdiction of the South Coast Air Basin (SCAB).

4.2.1.1 Climate

South Coast Air Basin

The distinctive climate of the SCAB is determined by its terrain and geographical location. The basin is made up of a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant. High mountains form the remainder of the perimeter of the basin. The general region lies in the semi-permanent high pressure zone of the eastern Pacific Ocean. As a result, the climate is mild, tempered by cool sea breezes. This usually mild climate is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. Summer wind speeds average slightly higher than winter wind speeds. Coastal wind speeds average about 2 miles per hour higher than other parts of the basin (SCAQMD 1993).

4.2.1.2 Ambient Air Quality

The topography and climate of Southern California combine to make the SCAB an area of high air pollution potential. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. Light winds during the summer can also further limit ventilation. Additionally, abundant sunlight triggers the photochemical reactions that produce ozone and most particulate matter (SCAQMD 2013).

Air Pollutants

The United States Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards (NAAQS) for widespread pollutants from numerous and diverse sources considered harmful to public health and the environment. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against visibility impairment and damage to animals, crops, vegetation, and buildings. The EPA periodically reviews the standards, as well as the science upon which they are based. The EPA has set NAAQS for seven principal pollutants, which are called "criteria" pollutants:

- Carbon monoxide (CO)
- Lead
- Nitrogen dioxide (NO_2)
- Ozone
- Particulate matter less than or equal to 10 microns in diameter (PM_{10})
- Particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$)
- Sulfur dioxide (SO_2)

Ozone is not emitted directly from emission sources; rather, it is created near ground level by a chemical reaction between oxides of nitrogen (NO_X) and reactive organic gases (ROGs) in the presence of sunlight. As a result, NO_X and ROGs are often referred to as ozone precursors and are regulated as a means to prevent ground-level ozone formation. ROGs are sometimes also referred to as volatile organic compounds (VOCs).

The State of California has established California Ambient Air Quality Standards (CAAQS) for these criteria pollutants, as well as ambient air quality standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles (VRPs). NAAQS and CAAQS are summarized in Table 4.2-1.

Table 4.2-1 Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS[1]		CAAQS[2]
		Primary	Secondary	
CO	8-hour	9 ppm	–	9 ppm
	1-hour	35 ppm	–	20 ppm
Lead	3-month (rolling average)	0.15 µg/m³	0.15 µg/m³	–
	Quarterly	–	–	–
	30-day	–	–	1.5 µg/m³
NO_2	Annual	0.053 ppm	0.053 ppm	0.030 ppm
	1-hour	0.100 ppm[3]	–	0.18 ppm
Ozone	8-hour	0.075 ppm[4]	0.075 ppm[4]	0.070 ppm
	1-hour	–	–	0.09 ppm
PM_{10}	Annual	–	–	20 µg/m³
	24-hour	150 µg/m³	150 µg/m³	50 µg/m³
$PM_{2.5}$	Annual	12.0 µg/m³	15.0 µg/m³	12 µg/m³
	24-hour	35 µg/m³	35 µg/m³	–

Table 4.2-1 Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS[1]		CAAQS[2]
		Primary	Secondary	
SO_2	Annual	–	–	–
	24-hour	–	–	0.04 ppm
	3-hour	–	0.5 ppm	–
	1-hour	0.075 ppm[5]	–	0.25 ppm
Sulfates	24-hour	–	–	25 µg/m^3
H_2S	1-hour	–	–	0.03 ppm
Vinyl chloride	24-hour	–	–	0.01 ppm
VRP	8-hour	–	–	See note below[6]

Sources: EPA 2014; CARB 2014

Notes:

[1] NAAQS (other than ozone, PM_{10} and $PM_{2.5}$, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is not to be exceeded more than once per year on average over 3 years. The 24-hour standard is attained when the 3-year average of the weighted annual mean at each monitor within an area does not exceed 150 µg/m3. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, do not exceed 35 µg/m^3. The annual standard is attained when the 3-year average of the weighted annual mean at single or multiple community-oriented monitors does not exceed 12 µg/m^3.

[2] Standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded.

[3] The 3-year average of the 98th percentile of the daily maximum 1-hour average must not exceed 0.100 ppm.

[4] 2008 standard. The 3-year average of the 4th highest daily maximum 8-hour average concentration over each year must not exceed 0.075 ppm.

[5] The 3-year average of the 99th percentile of the daily maximum 1-hour average must not exceed 0.075 ppm.

[6] Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.

Key:

µg/m^3	micrograms per cubic meter
CAAQS	California Ambient Air Quality Standards
CO	carbon monoxide
H_2S	hydrogen sulfide
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
ppm	parts per million
SO_2	sulfur dioxide
VRP	visibility-reducing particles

SCAQMD is the local air pollution control agency for the SCAB. The SCAQMD operates 38 permanent multi-pollutant monitoring stations, and four single pollutant source impact air monitoring within its jurisdiction (SCAQMD 2014a).

The closest air monitoring stations to the proposed project are the Pico Rivera, Los Angeles-North Main Street, Compton, Pasadena, and Azusa monitoring stations. The Pico Rivera monitoring station is located approximately 2.7 miles south of the proposed Mesa Substation site, east of the single transmission line tower replacement in Commerce, and southeast of the proposed streetlight conversion in Bell Gardens. The Los Angeles-North Main Street monitoring station is located approximately 6.9 miles northwest of the Mesa Substation. The Compton monitoring station is located approximately 4.6 miles south of the South Area. The Pasadena monitoring station is located approximately 2.7 miles west of the Goodrich substation. The Azusa monitoring station is

1 located approximately 9.5 miles east of the Goodrich Substation (SCAQMD 2014a). Historical air
2 pollutant measurements at these air quality monitoring stations are presented in Table 4.2-2.
3

Table 4.2-2 Pollutant Measurements at Air Quality Monitoring Stations in the Proposed Project Area

Station	Year	Gas Air Pollutant Measurements[1] (ppm)								Particulate Air Pollutant Measurements[2] (µg/m³)			
		CO		NO_2		Ozone		SO_2		PM_{10}		$PM_{2.5}$	
		1-hr	8-hr	1-hr	Ann	1-hr	8-hr	1-hr	24-hr	24-hr	Ann	24-hr	Ann
Pico Rivera	2013	3.6	2	0.061	-	0.101	0.063	-	-	-	-	29	-
	2012	2.7	2.2	0.055	-	0.106	0.071	-	-	-	-	29	-
	2011	2.7	2.4	0.073	-	0.096	0.061	-	-	-	-	27	-
Los Angeles-North Main Street	2013	2.5	1.8	0.063	-	0.081	0.06	0.006	0.002	57.0	-	12	-
	2012	2.2	1.9	0.069	-	0.093	0.068	0.005	0.002	80.0	-	36.4	-
	2011	2.8	2.4	0.067	-	0.087	0.06	0.009	0.002	53.0	-	30	-
Compton	2013	5.8	3.5	0.062	-	0.090	0.063	-	-	-	-	24	-
	2012	5.2	4	0.063	-	0.086	0.064	-	-	-	-	30	-
	2011	5.8	4.7	0.065	-	0.082	0.061	-	-	-	-	13	-
Pasadena	2013	2.5	1.7	0.060	-	0.099	0.07	-	-	-	-	21	-
	2012	2.4	1.6	0.056	-	0.111	0.08	-	-	-	-	26	-
	2011	2.9	2.2	0.073	-	0.107	0.077	-	-	-	-	30	-
Azusa	2013	3.1	1.7	0.057	-	0.115	0.08	-	-	65.0	-	26	-
	2012	1.8	1.2	0.062	-	0.134	0.079	-	-	78.0	-	25	-
	2011	2.4	1.4	0.065	-	0.111	0.082	-	-	76.0	-	27	-

Sources: EPA 2015b, SCAQMD 2014b.
Notes:
[1] 1-hour CO, 8-hour CO, 1-hour NO_2, and 1-hour ozone reported as maximum concentrations. 8-hour ozone reported as fourth-highest concentration.
[2] 24-hour PM_{10} reported as maximum concentration. 24-hour $PM_{2.5}$ reported as 98th percentile concentration.
Key:
µg/m³ micrograms per cubic meter
ann annual
CO carbon monoxide
hr hour
NO_2 Nitrogen dioxide
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.}$ particulate matter less than or equal to 2.5 microns in diameter
Ppm parts per million
SO_2 sulfur dioxide

4

The EPA compares ambient air criteria pollutant measurements to NAAQS to assess the status of the air quality of regions within the United States. Similarly, the California Air Resources Board (CARB) compares air pollutant measurements in California to CAAQS. Based on these comparisons, regions are designated as being in one of the following categories for the criteria air pollutants:

- **Attainment.** A region is designated as in "attainment" if monitoring shows that ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. An attainment area for an NAAQS that has been redesignated from nonattainment is classified as a "maintenance area" for a 10-year period to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, then the region is designated as in "nonattainment" for that pollutant. Nonattainment areas can be further classified based on the severity of the exceedance of the relevant standard.
- **Unclassifiable.** An area is designated as "unclassifiable" if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

The attainment status for Los Angeles County under both the NAAQS and CAAQS is summarized in Table 4.2-3. Due to the process involved with assigning designations, a county may be designated as in nonattainment even if there are no exceedances of ambient standards as shown in Table 4.2-1.

Table 4.2-3 Attainment Status in Los Angeles County

	Attainment Status	
	NAAQS	CAAQS
Pollutant	Los Angeles County	Los Angeles County
CO	Attainment	Attainment
Lead	Nonattainment	Attainment
NO_2	Attainment	Attainment
Ozone	Nonattainment (Extreme)	Nonattainment
PM_{10}	Attainment/Maintenance	Nonattainment
$PM_{2.5}$	Nonattainment (Moderate)	Nonattainment
SO_2	Attainment	Attainment
Sulfates	–	Attainment
H_2S	–	Unclassified
VRP	–	Unclassified

Sources: EPA 2015a, CARB 2015.
Key:
CAAQS California Ambient Air Quality Standards
CO Carbon monoxide
H_2S hydrogen sulfide
NAAQS National Ambient Air Quality Standards
NO_2 nitrogen dioxide
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns in diameter
SO_2 sulfur dioxide
VRP visibility-reducing particles

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants suspected or known to cause cancer, birth defects, neurological damage, or death. With the exception of lead, no ambient air quality standards have

been established for TACs. Instead, the compounds are managed on a case-by-case basis, depending on the quantity and type of emissions and proximity of potential receptors. Currently, the SCAQMD does not require a health risk assessment for TACs for construction projects with duration of less than five years (Wong 2015).

4.2.1.3 Sensitive Receptors

The SCAQMD defines a sensitive receptor as "a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant." Sensitive receptors are usually found in the following places (SCAQMD 2005):

- Schools
- Playgrounds
- Childcare centers
- Long-term health care facilities
- Residences
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes

Table 4.2-4 summarizes the sensitive receptors located within 100 meters of the proposed project, which is consistent with SCAQMD determinations.

Table 4.2-4 Receptors Located within the Vicinity of the Proposed Project

Receptor	Jurisdiction(s)	Distance and Direction from Nearest Component
Occupied residences	Monterey Park	280 feet from the proposed Mesa Substation site area
Occupied residences	Monterey Park and Montebello	Adjacent to 220-kV transmission and 66-kV subtransmission line ROWs and Staging Yard 1 near the proposed Mesa Substation
Best Western Plus Markland Hotel(1)	Monterey Park	Adjacent to Mesa Substation site
Schurr High School	Montebello	Adjacent to the 220-kV transmission line ROW, Staging Yard 2, and Telecommunications Route 2A southwest of the Mesa Substation site
Occupied residences	Montebello	Adjacent to Telecommunications Route 3
La Merced Intermediate School	Montebello	Adjacent to Telecommunications Route 3
Occupied residences	Montebello	Adjacent to Telecommunications Routes 2A and 2B
Occupied residences	Monterey Park, unincorporated Los Angeles County, and Rosemead	Adjacent to Telecommunications Route 1
Whittier Narrows Recreation Area	unincorporated Los Angeles County	Crossed by Telecommunications Route 1; about 100 feet from Staging Yard 7
Bosque del Rio Hondo (Park)	unincorporated Los Angeles County	Adjacent to Telecommunications Route 1
Triangle Park	Rosemead	100 feet from Telecommunications Route 1
Don Bosco Technical Institute	Rosemead	Adjacent to Telecommunications Route 1

Table 4.2-4 Receptors Located within the Vicinity of the Proposed Project

Receptor	Jurisdiction(s)	Distance and Direction from Nearest Component
Three convalescent homes	Rosemead	Approximately 150, 180, and 270 feet from Telecommunications Route 1
Occupied residences	Rosemead	About 220 feet from Staging Yard 6
Occupied residences	Commerce	Approximately 1,000 feet from Staging Yard 5
Occupied residences	Bell Gardens	75 feet from the street light source line conversion from overhead to underground configuration within Loveland Street
Occupied residences	Pasadena	Approximately 350 feet from construction areas at Goodrich Substation; about 140 feet from Staging Yard 4
Pasadena City College Community Education Center	Pasadena	Approximately 300 feet east of the edge of Goodrich Substation
Vina Vieja Park and Alice Frost Kennedy Off-Leash Dog Area	Pasadena	1,200 feet north of Goodrich Substation
Occupied residences	South El Monte	About 220 feet from Staging Yard 7

Note:
(1) A hotel is considered a sensitive receptor because it is in effect a temporary residence.
Key:
kV kilovolt
ROW right-of-way

4.2.2 Regulatory Setting

Ambient air quality and air pollutant emissions from stationary and mobile sources are managed under a framework of federal, state, and local rules and regulations.

4.2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA; United States Code Title 42, Chapter 85) is the law that defines the EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The last major change in the law, the CAA Amendments of 1990, was enacted by Congress in 1990. Legislation passed since then has resulted in several minor changes. Under the CAA, the EPA oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources. The sections of the CAA that are most applicable to the proposed project are Title I (Air Pollution Prevention and Control), Title II (Emission Standards for Mobile Sources), and Title V (Permits).

Title I of the CAA requires establishment of NAAQS, air quality designations, and plan requirements for nonattainment areas. States are required to submit a state implementation plan (SIP) to the EPA for areas in nonattainment with NAAQS. The SIP, which is reviewed and approved by the EPA, must demonstrate how state and local regulatory agencies will institute rules, regulations, and/or other programs to achieve attainment with NAAQS.

Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty vehicles, and a program for cleaner fleet vehicles.

Title V of the CAA requires an operating permit program for larger industrial and commercial sources that release pollutants into the air. Operating permits include information on which pollutants are being released, how much may be released, and what steps the source's owner or operator is required to take to reduce the pollutants. Permits must include plans to measure and report the air pollutants emitted.

4.2.2.2 State

California Clean Air Act

The California Clean Air Act outlines a statewide air pollution control program in California. CARB is the primary administrator of the California Clean Air Act, while local air quality districts administer air rules and regulations at the regional level. CARB is responsible for establishing the CAAQS, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and preparing the SIP.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. Assembly Bill 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely emit.

4.2.2.3 Regional and Local

SCAQMD

Air Quality Management Plan

The SCAQMD, along with the Southern California Association of Governments (SCAG), develops regional air quality plans for the SCAB to ensure attainment of national and state ambient air quality standards. The Final 2012 Air Quality Management Plan (AQMP) was adopted by the AQMD Governing Board in February 2013. The plan outlines policies and practices intended to achieve attainment levels for the federal 24-hour $PM_{2.5}$ standard and the federal 8-hour ozone standard (SCAQMD 2013). Mobile sources are identified as the chief source of NO_X, an ozone precursor. Measures in the plan to reduce mobile source emissions are not directly relevant to the proposed project but instead are used in a more general way to inform the SCAQMD's incentive programs for, e.g., repowering old equipment with lower-emitting engines. The AQMP also contains regional transportation control measures such as reduction in NO_X emissions from cargo handling equipment and locomotives. Short-term control measures for $PM_{2.5}$ are not related to activities associated with the proposed project but do include measures such as reducing emissions from residential wood burning, open burning, and ports.

The following measures from the AQMP are relevant to the proposed project:

- **CTS-01 – Further VOC Reductions from Architectural Coatings:** This measure would regulate VOC emissions from architectural coatings, including by removing an exemption related to coatings that come in small containers and by requiring the use of application

techniques that have a higher transfer efficiency. SCAQMD Rule 1113 regulates this area; compliance with CTS-01 would occur through amending Rule 1113.

- **CTS-02 – Further VOC Reductions from Miscellaneous Coatings, Adhesives, Solvents, and Lubricants:** This measure would regulate VOC emissions from coatings, adhesive, solvent, and lubricants. SCAQMD Rule 1144 regulates VOCs in metalworking fluids and direct-contact lubricants; Rule 1168 regulates VOCs in adhesive and sealant applications; Rule 1171 regulates VOCs used in insolvent cleaning operations. Compliance with CTS-02 would occur through amending the SCAQMD rules.
- **FUG-01 – VOC Reductions form Vacuum Trucks:** This measure seeks to reduce emissions from vacuum trucks (which are often used to transport gasoline). The only current regulation of vacuum truck emissions is related to use of vacuum trucks for tank and pipeline degassing control devices. Compliance would occur through establishing a new rule or regulation related to use of control technology.

Rule 403: Fugitive Dust Regulations

The purpose of Rule 403 is to reduce the amount of particulate matter entrained in the ambient air as a result of human-caused fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The rule also requires construction activities to use applicable best available control measures to minimize fugitive dust emissions from a wide variety of construction activities, including backfilling, clearing, earth-moving activities, stockpiling, and vehicle traffic.

County of Los Angeles General Plan

The Air Quality Element of the County of Los Angeles General Plan contains the following goal and policy relevant to the proposed project (County of Los Angeles 2015):

- ***Goal AQ 1:*** *Protection from exposure to harmful air pollutants.*
- ***Policy AQ 1.3:*** *Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.*

Other General Plans

General Plans for the following jurisdictions were also reviewed, but none of the goals and policies related to air quality contained in these documents were found to be applicable to the proposed project:

- City of Bell Gardens (1995) General Plan
- City of Commerce (2008) General Plan
- City of Industry (2014) General Plan
- City of Monterey Park (2000) General Plan
- City of Montebello (1973) General Plan
- City of Pasadena (2004) General Plan
- City of Rosemead (2010) General Plan
- City of Santa Clarita (2011) General Plan
- City of South El Monte (2000) General Plan

4.2.3 Impact Analysis

4.2.3.1 Methodology and Significance Criteria

Methodology

The existing air quality in the proposed project area was evaluated using data obtained from the SCAQMD's network of air quality monitoring stations. Relevant monitoring data are presented in Table 4.2-2, above. Recent regulations and guidance from the EPA, CARB, and SCAQMD were also reviewed.

Sensitive receptors were determined based on information provided by the applicant and desktop review of nearby land uses. A sensitive receptor, as defined by SCAQMD, means any residence including private homes, condominiums, apartments, and living quarters; schools; preschools; daycare centers; health facilities such as hospitals or retirement and nursing homes; long term care hospitals; hospices; prisons; and dormitories or similar live-in housing. Sensitive receptors within 100 meters of the proposed project are included in the analysis.

Construction emissions were estimated with CalEEMod using project-specific information (e.g., the project's anticipated size, schedule, land use, and construction methods) to simulate the anticipated PM_{10}, $PM_{2.5}$, CO, NO_X, ROGs, and oxides of sulfur (SO_X) emissions. Using these data, CalEEMod calculated the peak daily emissions for a range of pollutants within each year of construction.

Significance Criteria

The significance criteria were defined based on the checklist items presented in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The proposed project would cause a significant impact on air quality if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

The SCAQMD has adopted significance thresholds in its SCAQMD CEQA Air Quality Handbook for air quality. The SCAQMD's regional significance thresholds present quantitative emissions thresholds by which to evaluate whether a project would have a significant impact on air quality. To determine significance, the quantitative emission thresholds presented in Table 4.2-5 were compared to daily maximum emissions.

Table 4.2-5 South Coast Air Quality Management District CEQA Air Quality Significance Thresholds

Threshold Category	Pollutant	Construction	Operations
Mass Daily Thresholds	NO_X	100 lbs/day	55 lbs/day
	VOC	75 lbs/day	55 lbs/day
	CO	550 lbs/day	550 lbs/day
	PM_{10}	150 lbs/day	150 lbs/day
	$PM_{2.5}$	55 lbs/day	55 lbs/day
	Lead	3 lbs/day	3 lbs/day
	SO_X	150 lbs/day	150 lbs/day
TAC and Odor Thresholds	TACs (including carcinogens and non-carcinogens)	**Maximum Incremental Cancer Risk** ≥ 10 in 1 million **Cancer Burden** > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) **Hazard Index** ≥ 1.0 (project increment)	
	Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards	NO_2[(1)]	**1-hour average:** 0.18 ppm (State) **Annual average:** 0.03 ppm (State) and 0.0534 ppm (Federal)	
	PM_{10}	**24-hour average:** 10.4 µg/m³ **Annual average:** 1 µg/m³	**24-hour average:** 2.5 µg/m³ **Annual average:** 1 µg/m³
	$PM_{2.5}$	**24-hour average:** 10.4 µg/m³	**24-hour average:** 2.5 µg/m³
	SO_2	**1-hour averages:** 0.25 ppm (State) and 0.075 ppm (Federal – 99th percentile) **24-hour average:** 0.04 ppm (State)	
	Sulfates	**24-hour average:** 1 µg/m³ (State)	
	CO[(1)]	**1-hour averages:** 20 ppm (State) and 35 ppm (Federal) **8-hour average:** 9.0 ppm (State/Federal)	
	Lead	**30-day average:** 1.5 µg/m³ (State) **Rolling 3-month average:** 0.15 µg/m³ (Federal) **Quarterly average:** 1.5 µg/m³ (Federal)	

Source: SCAQMD 1993
Note:
(1) SCAQMD is in attainment; a project is significant if it causes or contributes to an exceedance of significance thresholds.
Key:
µg/m³ micrograms per cubic meter
CO carbon monoxide
H_2S hydrogen sulfide
Lbs pounds
NO_2 nitrogen dioxide
NO_X oxides of nitrogen
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns in diameter
ppm parts per million
SCAQMD South Coast Air Quality Management District
SO_2 sulfur dioxide
SO_X oxides of sulfur
TAC toxic air contaminant
VOC volatile organic compounds

To further evaluate air quality impacts associated with the construction phase, this analysis assesses the project's localized emissions using the SCAQMD's Final Localized Significance Threshold (LST) Methodology (SCAQMD 2008). The LST Methodology applies to on-site emissions and impacts from NO_X, CO, PM_{10}, and $PM_{2.5}$ concentrations. The LST Methodology does not apply to

emissions from on-road vehicles. Additionally, the LST Methodology states that "screening procedures are by design conservative, that is, the predicted impacts tend to overestimate the actual impacts." Therefore, the determination made from the LST Methodology provides a means of conducting a screening analysis to assess whether a significant impact to local air quality would result from project construction activities.

LSTs are determined by geographical zone and distance to sensitive receptors. The proposed project would be located within Source Receptor Area Zone 11 South San Gabriel Valley. Sensitive receptors have been identified within approximately 280 feet of the proposed substation. Sensitive receptors have been identified within approximately 100 feet from transmission ROWs. The LSTs for the Zone 11-South San Gabriel Valley are shown in Table 4.2-6.

Table 4.2-6 Localized Significance Thresholds for Zone 11—South San Gabriel Valley

Distance to Nearest Receptor (meters)	Pollutant (pounds per day)					
	NO_X	CO	PM_{10}— Construction	PM_{10}— Operation	$PM_{2.5}$— Construction	$PM_{2.5}$— Operation
5 acre						
100	184	2,549	59	15	19	5
5 acre						
280	213	5,442	116	28	53	13

Source: SCAQMD 2009
Key:
CO carbon monoxide
NO_X oxides of nitrogen
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns in diameter

4.2.3.2 Applicant Proposed Measures

To reduce air pollutant emissions during construction activities, the applicant has committed to the following applicant proposed measures (APMs) as part of the design of the proposed project:

- **APM-AIR-01: Fugitive Dust.** During construction, surfaces disturbed by construction activities would be covered or treated with a dust suppressant until completion of activities at each site of disturbance. On-site unpaved roads and off-site unpaved access roads utilized during construction within the proposed project area would be effectively stabilized to control dust emissions (e.g., using water or chemical stabilizer/suppressant). On-road vehicle speeds on unpaved roadways would be restricted to 15 miles per hour.
- **APM-AIR-02: Tier 3 Engines.** Off-road diesel construction equipment with a rating between 100 and 750 horsepower (hp) would be required to use engines compliant with EPA Tier 3 non-road engine standards. In the event that a Tier 3 engine is not available, the equipment would be equipped with a Tier 2 engine, and documentation would be provided from a local rental company stating that the rental company does not currently have the required diesel-fueled off-road construction equipment or that the vehicle is specialized and is not available to rent. Similarly, if a Tier 2 engine is not available, that equipment would be equipped with a Tier 1 engine and documentation of unavailability would be provided.

4.2.3.3 Environmental Impacts

Impact AQ-1: Conflict with or obstruct implementation of the SCAQMD Air Quality Management Plan.
NO IMPACT

Construction

The South Coast AQMP outlines the SCAQMD's long-term strategies for reaching attainment status for the federal 24-hour $PM_{2.5}$ standard and the federal 8-hour ozone standard. Most control measures relate either to control of stationary sources or to actions the SCAQMD or other agencies will take to incentivize emissions reductions. Three VOC-reducing policies in the AQMP would relate to construction of the Mesa Substation Project, since the project would involve architectural coatings, adhesives, solvents, and vacuum trucks (for fuel transport). Any of the three relevant AQMD control measures (CTS-01, CTS-02, FUG-01) would be developed into SCAQMD rules or regulations. SCE would be required to comply with all relevant SCAQMD rules and regulations as they become enforceable. Construction of the proposed project would not conflict with or obstruct implementation of the AQMP. There would be no impact.

Operation and Maintenance

Operation and maintenance of the Mesa Substation Project would not create permanent full-time or part-time employment positions that would result in an increase in population or require new housing that would result in a new emissions source. Emissions from vehicles used during operation and maintenance would therefore be within the AQMP's projections. Operation and maintenance of the proposed project would not conflict with or obstruct implementation of the AQMP. There would be no impact.

Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
SIGNIFICANT WITH MITIGATION

Construction

Criteria air pollutants would be emitted from the engine exhaust of diesel- and gasoline-fueled on-site construction equipment and on-road vehicles (i.e., delivery trucks and crew vehicles). On-site earth-moving activities (e.g., grading or trenching) and vehicle travel in unpaved areas would also generate fugitive dust. Heavy-duty diesel- and gasoline-powered equipment and vehicles at the work sites would include equipment such as loaders, graders, backhoes, cranes, and trucks. Worker vehicles would include those used by the construction crews to commute to and from proposed project work and staging areas.

The peak daily emissions represent the highest estimated emissions on a given day from all concurrent construction activities. The peak daily emissions anticipated for each year of construction are compared to the SCAQMD daily significance thresholds as summarized in Table 4.2-7. Detailed emission calculations are presented in Appendix C, "Air Calculations."

Table 4.2-7 Proposed Project Regional Peak Daily Construction Emissions (lbs/day)

Year	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016	104.78	667.04	1,154.28	1.25	157.93	55.91
2017	91.47	626.22	1,029.54	1.38	180.10	60.74
2018	57.13	335.25	497.91	0.72	52.28	24.73
2019	45.31	358.68	501.94	0.86	94.15	28.48
2020	30.56	162.27	198.01	0.32	34.58	9.90
2021	3.70	35.79	35.61	0.10	24.18	4.05
SCAQMD Significance Threshold	75	550	100	150	150	55
Exceed Significance Thresholds?	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**

Key:
CO carbon monoxide
lbs pounds
NO_X oxides of nitrogen
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns in diameter
ROG reactive organic gases
SCAQMD South Coast Air Management District
SO_X oxides of sulfur

The result of the pollutant criteria analysis indicates that SO_X emissions would not exceed the SCAQMD daily significance threshold. However, ROG, CO, PM_{10}, and $PM_{2.5}$ emissions during the first two years of construction (2016 and 2017) would exceed the applicable thresholds and would be significant. In addition, peak daily NO_X emissions would exceed the applicable thresholds in construction years 2016, 2017, 2018, 2019, and 2020 and would be significant.

To reduce emissions of ROGs, CO, NO_X, PM_{10}, and $PM_{2.5}$, SCE would implement APM-AIR-01 and APM-AIR-02. APM-AIR-01 would result in a reduction of PM_{10} and $PM_{2.5}$ emissions. The intent of APM-AIR-02 is to reduce ROG, CO, SO_X, NO_X, PM_{10}, and $PM_{2.5}$ emissions. APM-AIR-01 would result in emission reductions of these criteria pollutants; however, implementation of APM-AIR-02 would not necessarily result in emission reduction because it allows, in cases where higher-tier engines are unavailable, the use of lower-tier engines. As the use of higher-tier engines is phased in, the availability of engines differs by geographic region. The applicant has not indicated, nor are there known reliable statistics of, what type of equipment is available with a higher-tier engine. The results of applying these APMs were evaluated using CalEEMod and the resulting emissions for the proposed project are presented in Table 4.2-8. CalEEMod assumptions in Table 4.2-8 include that Tier III engines are available for all engines as required by APM-AIR-02.

PM_{10} and $PM_{2.5}$

The SCAQMD requires compliance with Rule 403. Implementation of Rule 403 requirements, which include several best management practices to reduce PM_{10} and $PM_{2.5}$ emissions, would further reduce fugitive dust emissions. Furthermore, APM-AIR-01 would on its own reduce fugitive PM_{10} and $PM_{2.5}$ emissions by 55 percent, which would be sufficient to drop emissions below significance thresholds. PM_{10} and $PM_{2.5}$ emissions would be less than significant with implementation of APM-AIR-01. Impacts would be less than significant after APMs.

Table 4.2-8 Proposed Project Regional Peak Daily Construction Emissions (lbs/day) with Implementation of APM-AIR-01 and APM-AIR-02

Year	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016	38.15	725.86	899.55	1.25	58.18	29.37
2017	30.98	689.56	574.66	1.38	74.36	32.91
2018	29.00	406.72	320.63	0.72	27.26	16.54
2019	19.45	437.86	366.85	0.86	41.85	19.71
2020	19.39	195.67	140.31	0.32	16.46	8.18
2021	2.35	43.39	29.89	0.10	9.37	2.69
SCAQMD Significance Threshold	75	550	100	150	150	55
Exceed Significance Thresholds?	No	**Yes**	**Yes**	No	No	No

Note: Calculations assume Tier III engines are available for all equipment under APM-AIR-02.
Key:
APM applicant proposed measure
CO carbon monoxide
lbs pounds
NO_X oxides of nitrogen
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns in diameter
ROG reactive organic gases
SCAQMD South Coast Air Management District
SO_X oxides of sulfur

Reactive Organic Gases

As previously stated, there is a chance that not all equipment would be Tier III and also a chance that no equipment would be Tier III, depending on availability of the equipment. As shown in Table 4.2-8, with implementation of APM-AIR-02 for all equipment, emissions from ROGs would be less than significant. In the worst-case scenario that Tier III equipment is not available, Tier II engines would be used, peak daily ROG emissions would remain significant. Implementation of Mitigation Measure (MM) AQ-1 would further reduce ROG emissions from project construction activities by requiring that all construction equipment greater than 100 hp be compliant with Tier 4 standards and that all construction equipment greater than 50 hp be complaint with Tier 3 off-road emission standards. However, like APM-AQ-02, MM AQ-1 does not guarantee emission reduction due to the ability to utilize lower tier engines in the event that the required higher tier engines are not available. Therefore, emissions from ROGs would be less than significant if engine selection meets the highest tier requirement in APM-AIR-02 and MM AQ-1. However, as previously described, the impact would remain significant if Tier 3 and Tier 4 engines were not available. If sufficient numbers of Tier 3 and Tier 4 engines are not available, MM AQ-2 would be implemented to offset additional ROG emissions above the significance threshold. ROG emissions would be less than significant with implementation of MM AQ-2 if APM AQ-02 and MM AQ-1 do not result in reductions of ROG to less than significant levels. Impacts would be less than significant after mitigation.

Carbon Monoxide

Peak daily CO emissions after implementation of APM-AIR-02, assuming Tier III engines were available as per APM-AIR-02, would still be approximately 726 pounds per day and 690 pounds per day for the years 2016 and 2017, respectively; an increase over emissions prior to implementation of APM AIR-02. The technology utilized in higher tier engines increases generation of CO. For both years, peak daily CO emissions would exceed the SCAQMD significance threshold of 550 pounds per day, the same as for the proposed project prior to implementation of APM-AIR-02. Therefore, the greater the implementation of APM-AIR-02, the higher the CO emissions. Impacts would still be

significant after implementation of APM-AIR-02. Given that a decrease of NO_X emissions would increase CO emissions, CO cannot feasibly be reduced. CO impacts would be significant and unavoidable.

Nitrogen Oxides

Peak daily NO_X emissions after full implementation of APM-AIR-02 would reduce NO_X emissions but not to below significance, as shown in Table 4.2-8. If Tier III engines are not available, as previously described, emissions may also still be as shown in Table 4.2-7. Under either scenario, emissions would still be significant after any degree of implementation of APM-AIR-02. Implementation of MM AQ-1 would further reduce NO_X and CO emissions from project construction activities by requiring that all construction equipment greater than 100 hp be compliant with Tier 4 standards and that all construction equipment greater than 50 hp be compliant with Tier 3 off-road emissions standards. However, as previously described, MM AQ-1 does not guarantee emission reduction due to the ability to utilize lower tier engines in the event that the required higher tier engines are not available. Emission estimates presented in Table 4.2-9 assume that Tier III and Tier IV engines are available for all engines as required by MM AQ-1. A summary of the estimates of the construction emissions after the full application of this mitigation measure is presented in Table 4.2-9. With the implementation of MM AQ-1, NO_X emissions during construction would be reduced, but under any level of higher tier engine implementation they would still be significant in construction years 2016 and 2017.

Table 4.2-9 Proposed Project Regional Peak Daily Construction Emissions (lbs/day) with Implementation of APM-AIR-01, APM-AIR-02, and MM AQ-1

Year	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016	29.28	725.86	380.87	1.25	58.18	29.37
2017	23.78	689.56	243.31	1.38	74.36	32.91
2018	22.26	406.72	135.75	0.72	27.26	16.54
2019	14.93	437.86	155.32	0.86	41.85	19.71
2020	14.88	195.67	59.41	0.32	16.46	8.18
2021	1.80	43.39	12.66	0.10	9.37	2.69
SCAQMD Significance Threshold	75	550	100	150	150	55
Exceed Significance Thresholds?	No	**Yes**	**Yes**	No	No	No

Note: Calculations assume Tier III and Tier IV engines are available for all equipment.
Key:
APM applicant proposed measure
CO carbon monoxide
lbs pounds
NO_X oxides of nitrogen
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns in diameter
ROG reactive organic gases
SCAQMD South Coast Air Management District
SO_X oxides of sulfur

MM AQ-3 would require that additional measures be implemented to reduce daily emissions of NO_X, which may include the use of 2010 and newer haul trucks or trucks that meet EPA 2007 model year NO_X emissions requirements and/or that all construction equipment be outfitted with BACT devices certified by CARB and that achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emission emissions control strategy for a similarly sized engine as defined by CARB regulations.

MM AQ-4 would require the applicant and SCE to calculate estimated emissions of NO_X that would still exceed the SCAQMD daily threshold after implementation of MM AQ-2 and to submit these calculations to California Public Utilities (CPUC) staff for review prior to construction. Due to the ability to utilize lower tier engines under APM-02 and MM AQ-1, it is anticipated that construction-related emissions of NO_X would still exceed SCAQMD daily emission thresholds for NO_X. Therefore, the MM AQ-4 would offset NO_X emissions from project construction activities and reduce impacts to less than significant levels.[1] With the implementation of MM AQ-1, MM AQ-3 and MM AQ-4, the short-term impacts of NO_X emissions associated with project construction would be less than significant under this criterion.

A summary of potential impacts is provided in Table 4.2-10 by criteria pollutant.

Table 4.2-10 Summary of Significance Conclusions and Mitigation Measures

Criteria Pollutant	Significance	APM	Significance after APM	MM	Significance after MM
ROG	Significant	APM-AIR-02	Less than significant with full implementation of APM-AIR-02 Significant with no implementation of APM-AIR-02	MM AQ-1 MM AQ-2	**Less than significant with mitigation**
CO	Significant	N/A	N/A	N/A	**Significant and unavoidable**
NO_X	Significant	APM-AIR-02	Significant with any level of implementation of APM-AIR-02	MM AQ-1, MM AQ-3, MM AQ-4	**Less than significant with mitigation**
SO_X	**Less than significant**	N/A	N/A	N/A	N/A
PM_{10}	Significant	APM-AIR-01	**Less than significant**	N/A	N/A
$PM_{2.5}$	Significant	APM-AIR-01	**Less than significant**	N/A	N/A

Note: Bold text indicates final impact determination.
Key:
APM applicant proposed measure
CO carbon monoxide
MM mitigation measure
N/A not applicable
NO_X oxides of nitrogen
PM_{10} particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns in diameter
ROG reactive organic gases
SCAQMD South Coast Air Management District
SO_X oxides of sulfur

[1] With regard to MM AQ-3, the SCAQMD has indicated that the purchase of either Regional Clean Air Incentive Market Trading Credits (RTCs) or Mobile Source Emission Reduction Credits (MSERCs) would constitute appropriate mitigation for construction-related impacts associated with emissions of NO_X over the threshold established by the SCAQMD.

Operation and Maintenance

Operation and maintenance (O&M) of the proposed project would continue to be conducted at the same frequency and intensity as for the existing facilities in the proposed project area. Therefore, emissions from operations and maintenance activities would be similar to baseline conditions in the project area and would be less than significant.

Impact AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment.

LESS THAN SIGNIFICANT WITH MITIGATION

Construction

Emissions generated by the proposed project from construction activities would cause temporary increases in ambient air pollutant concentrations for which the project region is nonattainment. Impacts would be significant.

As shown in Table 4.2-3, the SCAQMD is currently in nonattainment for ozone, PM_{10}, and $PM_{2.5}$. As discussed under Impact AQ-2 and shown in Table 4.2-7, maximum daily construction emissions would exceed the regional significance thresholds for NO_X and ROG, which are ozone precursors. Implementation of APM-AIR-02 and MM AQ-1 to control NO_X emissions from vehicles and heavy equipment would reduce regional NO_X emissions; however, emission reduction is not guaranteed due to the ability to utilize lower tier engine in the event that the required higher tier engine are unavailable. MM AQ-3 requires additional measures to reduce NO_X emissions. MM AQ-4 would require that the applicant purchase NO_X credits to reduce construction-related impacts associated with NO_X emissions over the daily threshold established by the SCAQMD. With implementation of MM AQ-1, MM AQ-3, and MM AQ-4, the temporary impacts from emissions of NO_X, an ozone precursor, would be reduced to less than significant. Similarly, implementation of APM-AIR-02 and MM AQ-1 to control ROG emissions from vehicles and heavy equipment would reduce regional ROG emissions; however, emission reduction is not guaranteed due to the ability to utilize lower tier engine in the event that the required higher tier engine are unavailable. MM AQ-2 would require purchase of ROG emissions credits to reduce construction-related impacts associated with ROG emissions over the daily threshold established by the SCAQMD. With implementation of MM AQ-1 and MM AQ-2, the temporary impacts from emissions of ROG, an ozone precursor, would be reduced to less than significant. Therefore, construction impacts under this criterion would be less than significant with mitigation.

Operation and Maintenance

Operations and maintenance of the proposed project would continue to be conducted at the same frequency and intensity as for the existing facilities in the proposed project area. Ozone, PM_{10}, and $PM_{2.5}$ emissions from O&M activities would therefore be similar to baseline conditions in the project area and would not result in a cumulatively considerable increase in any of these three criteria pollutants for which the project region is in nonattainment. Therefore, impacts under this criterion during operations would be less than significant.

Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations.
SIGNIFICANT AFTER MITIGATION

Construction

Sensitive receptors in the vicinity of the proposed project would be exposed to emissions of TACs as a result of construction activities. The main TAC that would be released during construction would be diesel particulate matter from construction equipment and heavy-duty vehicles traveling to construction areas. Minor amounts of other TACs would be emitted from such sources as gasoline-powered worker vehicles and construction equipment.

The CARB and Office of Environmental Health Hazard Assessment have identified diesel PM as a carcinogenic substance and has also defined a reference exposure level based on chronic exposure. According to the Office of Environmental Health Hazard Assessment, chronic exposure is defined as human exposures greater than eight years. Under the Office of Environmental Health Hazard Assessment guidelines for carcinogenic exposure, cancer risk should be evaluated over a 70-year lifetime.

Construction of the proposed project is short term relative to the exposure periods for carcinogenic and chronic risks. The duration of work occurring in the North Area and South Area, at satellite substations, along transmission corridors, and along the telecommunications routes would be very short term, occurring for less than 5 years at any given location. Activities at the proposed Mesa Substation site would occur over a longer 55-month period in comparison with other components. However, work would still occur in different locations and at different intensity levels across the site over the 55-month period, which is far below the 8-year (96-month) threshold for chronic exposure. Therefore, sensitive receptors within the vicinity of the project area would not be continuously exposed to diesel particulate matter for the entire 55-month duration of construction. Furthermore, the SCAQMD currently does not require a health risk assessment for TACs for construction projects with duration of less than five years (Wong 2015). Given the SCAQMD's typical requirements for when a health risk assessment is appropriate, and given the duration of work at given location, a health risk assessment was not prepared for the proposed project. Sensitive receptors would not be exposed to substantial concentrations of TACs.

The SCAQMD has also identified LSTs for CO, NO_X, PM_{10}, and $PM_{2.5}$. Using the SCAQMD methodology, an LST analysis was performed for construction activities expected to result in the highest level of emissions. Daily construction emissions for the substation, transmission/subtransmission, and street light conversion were compared to SCAQMD LST significance thresholds. Table 4.2-11 presents a summary of the significance determinations using the LST methodology.

As shown in Table 4.2-11, CO, PM_{10}, and $PM_{2.5}$ emissions would not exceed the SCAQMD LST and would be less than significant. However, emissions of NO_X during substation phases would exceed the LST significance thresholds and would have a short-term, significant impact on air quality during construction. The implementation of MM AQ-1 and MM AQ-3 would reduce NO_X emissions, as shown in Table 4.2-8. However, NO_X emissions would still exceed the localized significance thresholds. The implementation of MM AQ-4 would only address NO_X emissions on a regional level, given that it requires purchasing credits rather than implementing measures to reduce project related emissions, and no additional feasible mitigation is available. Therefore, impacts under this criterion for construction emissions would be significant and unavoidable.

Table 4.2-11 Comparison of Emissions (lbs/day) by Construction Activity to South Coast Air Quality Management District Localized Significance Thresholds [1]

	CO	NO_X	PM_{10}	$PM_{2.5}$
Mesa Substation[2]	318.27	425.03	14.59	14.17
LST for Mesa Substation	5442	213	116	53
Exceed Threshold?	No	**Yes**	No	No
Transmission/Subtransmission[3]				
Lattice Steel Tower Foundations	35.57	40.29	1.49	1.47
Tubular Steel Pole Foundations	25.52	31.62	1.17	1.17
Lattice Steel Tower Erection	32.29	36.49	1.44	1.43
Tubular Steel Pole Erection	15.69	17.64	0.69	0.69
Tubular Steel Pole Foundation Removal	19.78	25.70	1.07	1.07
Duct Bank Installation	18.87	23.58	1.07	1.07
LST for Transmission/Subtransmission	2549	184	59	19
Exceed Threshold?	No	No	No	No

Sources: SCE 2015

Notes:

[1] Thresholds for South San Gabriel Valley receptor areas.

[2] LST thresholds based on 5-acre site and distance of 280 meters to receptor (as a linear interpolation between 200 and 500 meters).

[3] LST thresholds based on 5-acre site and distance of 30 meters to receptor (as a linear interpolation to take into account various distances to transmission structures).

Key:

CO	carbon monoxide
lbs/day	pounds per day
LST	Localized Significance Threshold
NO_X	oxides of nitrogen
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter

Operation and Maintenance

Operations and maintenance of the proposed project would continue to be conducted at the same frequency and intensity as for the existing facilities in the proposed project area. Therefore, emissions from O&M activities would be similar to baseline conditions in the project area and would be less than significant.

Impact AQ-5: Creation of objectionable odors affecting a substantial number of people.

LESS THAN SIGNIFICANT

Construction

Exhaust from construction equipment and vehicles would create odors from the combustion of fuel during construction. These emissions would be temporary in nature, would disperse quickly, and would be limited by the relatively small number of vehicles on site. In addition, most sensitive receptors would be located far enough away from the proposed project to be affected by any odors caused by construction from the site. The geographic extent for odor impacts is 36 feet, given that is the maximum distance at which perception of diesel exhaust emissions can be perceived (Colucci and Barnes 1970). The Best Western Markland hotel is located adjacent to the western boundary of the proposed Mesa Substation site. However, work would occur in various locations across the site throughout construction. Construction within 35 feet of the Best Western Markland Hotel would be limited to grading and transmission structure installation activities. Therefore, the amount of odor perceptible to people at the rear of the Best Western Markland Hotel would not affect a substantial

number of people. Construction of the proposed project would have a less than significant impact under this criterion.

Operation and Maintenance

Operations and maintenance of the proposed project would continue to be conducted at the same frequency and intensity as for the existing facilities in the proposed project area. Therefore, emissions from O&M activities would be similar to baseline conditions in the project area and would be less than significant.

4.2.4 Mitigation Measures

MM AQ-1: Construction Emission Reduction Measures. SCE shall implement the following emission reduction measures for all construction activities:

1. All off-road diesel-powered construction equipment with engines greater than 100 horsepower (hp) shall be compliant with Tier 4 off-road emissions standards where available. In the event that equipment with a Tier 4 engine is not available for any off-road engine larger than 100 hp, that engine shall be operated with tailpipe retrofit controls that reduce exhaust emissions of NO_X to no more than Tier 4 emission levels.
2. All off-road diesel-powered construction equipment with engines greater than 50 hp shall be compliant with Tier 3 off-road emissions standards where available. In the event that equipment with a Tier 3 engine is not available for any off-road engine larger than 50 hp, that engine shall be operated with tailpipe retrofit controls that reduce exhaust emissions of NO_X to no more than Tier 3 emission levels.
3. Equipment with an engine not compliant with the Tier 3 or Tier 4 standards, as applicable, will be allowed on a case-by-case basis only when the applicant has documented that no Tier 3 or Tier 4 equipment (or emissions equivalent retrofit equipment) is available for a particular equipment type. Each case shall be documented with signed written correspondence by the appropriate construction contractor, along with documented correspondence from at least two construction equipment rental firms representing a good faith effort to locate engines that meet Tier 3 or Tier 4 requirements, as applicable. Documentation will be submitted to CPUC staff for review before equipment is used on the project.
4. Submit to CPUC staff and/or construction monitors a copy of each piece of construction equipment's certified tier specification, best available control technology (BACT) documentation, and/or CARB or SCAQMD operating permit, as applicable, at least 15 days prior to mobilization of each applicable unit of equipment.

MM AQ-2: Volatile Organic Compounds Credits. The remaining emissions of VOC/ROG resulting from construction of the proposed Mesa Substation Project shall be mitigated through the purchase of Emissions Trading Credits (ETCs) for every pound of VOC/ROG in excess of the SCAQMD regional significance threshold of 100 pounds per day, as measured. The total amount of VOC/ROG ETCs to be purchased shall be calculated once the construction schedule is finalized. The applicant shall purchase and submit documentation of purchase of the required ETC to the SCAQMD prior to the start of construction. The applicant shall also track actual daily ROG emissions during construction according to a monitoring plan that includes records of equipment and vehicle usage and submit the results of this tracking to CPUC staff on a monthly basis. If monthly reports indicate that too few credits have been purchased to compensate for ROG emissions after implementation of all

applicable mitigation measures, the applicant shall purchase additional ROG credits within 6 months of the end of construction. The applicant shall submit proof of the purchase of credits within 7 months of the end of construction.

MM AQ-3: Measures to Reduce NO_X Emissions. Prior to construction, the applicant and SCE will submit proposed additional measures to reduce daily emissions of NO_X to CPUC staff for review and approval, with the measures implemented depending on the amount of Tier III and Tier IV engines available at the time of construction. Measures may include the following:

1. The use of 2010 and newer haul trucks (e.g., material delivery trucks and soil import/export) or the use of trucks that meet EPA 2007 model year NO_X emissions requirements if 2010 model year or newer diesel trucks cannot be obtained.
2. A requirement that, during project construction, all construction equipment shall be outfitted with BACT devices certified by CARB and that achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
3. Other measures as determined appropriate by the applicant and SCE in consultation with the SCAQMD.

MM AQ-4: Mitigation Agreement for Purchase of Oxides of Nitrogen (NO_X) Credits. Twenty days prior to the start of project construction, the applicant shall provide CPUC staff with an estimate of the total construction -related NO_X emissions after implementation of all applicable mitigation measures, broken down by individual construction day. All NO_X emissions that would exceed the daily threshold of 100 pounds per day shall be offset through the purchase of either Regional Clean Air Incentive Market Trading Credits (RTCs), Mobile Source Emission Reduction Credits (MSERCs), or a combination of RTCs and MSERCs. For each day that estimated NO_X emissions are less than 100 pounds per day, the purchase of NO_X offset credits is not required.

The total amount of NO_X RTCs and/or MSERCs to be purchased shall be determined by the CPUC after the construction schedule and operating conditions are finalized, based on estimates provided by the applicant as described above. The NO_X emission credits shall be purchased and submitted to the CPUC prior to the start of project construction. Credits must be current for the time the project takes place. The applicant shall also track actual daily NO_X emissions during construction according to a monitoring plan that includes records of equipment and vehicle usage and submit the results of this tracking to CPUC staff on a monthly basis. If monthly reports indicate that too few credits have been purchased to compensate for NO_X emissions after implementation of all applicable mitigation measures, the applicant shall purchase additional NO_X credits within 6 months of the end of construction. The applicant shall submit proof of the purchase of credits within 7 months of the end of construction.