4.13 AIR QUALITY

This section presents the environmental setting and impact analysis for air quality that would be affected by the Proposed Project and its alternatives. This section addresses the current air quality conditions in the Proposed Project area and region, applicable regulations, environmental impacts, and mitigation measures to reduce or avoid significant impacts. Appendix J presents emission calculations and assumptions spreadsheets supporting the air quality analysis in this section.

4.13.1 Approach to Data Collection

Air quality data in the Proposed Project area and vicinity were obtained from the following data sources:

- California Air Resources Board's (CARB) 2013 Area Designations for State Ambient Air Quality Standards for the following (CARB 2013a through 2013j):
  - Carbon Monoxide (CO)
  - Hydrogen Sulfide (H_2S)
  - Lead (Pb)
  - Nitrogen Dioxide (NO_2)
  - Ozone (O_3)
  - Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM_{10})
  - Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$)
  - Sulfates
  - Sulfur Dioxide (SO_2)
  - Visibility Reducing Particles
- EPA Green Book: Current Nonattainment Counties for All Criteria Pollutants (EPA 2015)
- South Coast Air Quality Management District's (SCAQMD) Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning: A Reference for Local Governments within the South Coast Air Quality Management District (SCAQMD 2005)
- San Diego Air Pollution Control District's (SDAPCD) Regional Air Quality Strategy Revision (SDAPCD 2009)
- SDAPCD's Eight-Hour Ozone Attainment Plan for San Diego County (SDAPCD 2007)
- SDAPCD's Air Quality in San Diego 2013 Annual Report (SDAPCD 2013)
- SDG&E Proponent's Environmental Assessment and Responses to Data Requests (SDG&E 2015a, 2015b, and 2015c)

Data was generally obtained from the nearest air quality monitoring station to the Proposed Project to illustrate the baseline air quality conditions in the Proposed Project area. The nearest monitoring stations were chosen because emissions sources and quantities are comparable to those in the Proposed Project area. The closest monitoring station to the Proposed Project is the Rancho Carmel station located approximately 2.25 miles east of the Proposed Project area. This station was installed in 2014 and currently only operates NO_x and CO instrumentation;

therefore, annual data for National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) criteria pollutants are not currently available from the Rancho Carmel station. Ambient O_3, PM_{10}, $PM_{2.5}$, and NO_2 concentration data were obtained from the Kearny Villa station, located approximately 6.5 miles south of the Proposed Project. Ambient CO and SO_2 concentrations were obtained from monitoring data recorded at the El Cajon station located approximately 10 miles southeast of the Proposed Project.

4.13.2 Environmental Setting

4.13.2.1 Air Basin

The Proposed Project is in the San Diego Air Basin (SDAB). The SDAB is located in southwest California. The basin covers roughly 4,200 square miles and encompasses all of San Diego County.

4.13.2.2 Climate and Meteorology

Meteorological and climatological conditions influence ambient air quality. The climate of San Diego County is characterized by warm, dry summers and mild winters and is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. It also drives the dominant onshore circulation and helps create two types of temperature inversions (subsidence and radiation) that contribute to local air quality degradation.

Subsidence inversions occur during warmer months as descending air associated with the Pacific Ocean high-pressure cell comes into contact with cool marine air. The boundary between the two layers of air is a temperature inversion that traps pollutants below it. Radiation inversions typically develop on winter nights with low wind speeds, when air near the ground cools by radiation and the air aloft remains warm. A shallow inversion layer that can trap pollutants is formed between the two layers.

Climatological data is recorded in Poway Valley located approximately 6 miles northeast of the Proposed Project site (WRCC 2015). According to the WRCC Climate Data Summary, the average maximum temperature is 86.4 degrees Fahrenheit (°F) in August, and the average minimum temperature is 38.6°F in December (WRCC 2015). The average precipitation is 13.24 inches annually, occurring primarily from November through March. Climatological data recorded in Poway Valley are summarized in Table 4.13-1.

4.13.2.3 Existing Air Quality Conditions

Air Pollutants

The EPA and CARB designate air basins according to federal and state air quality standards for criteria air pollutants and TACs (refer to Section 4.13.2 for discussion of the regulations). EPA standards are set to protect public health. EPA has set NAAQS for seven criteria pollutants:

1. O_3
2. SO_2
3. CO
4. NO_2
5. Pb
6. PM_{10}
7. $PM_{2.5}$

Table 4.13-1 Climatological Data Summary in Poway Valley

Month	Temperature (°F)			Average Monthly Precipitation (inches)
	Average Maximum	Average Minimum	Average	
January	66.6	40.6	53.6	2.80
February	66.0	42.9	54.5	2.70
March	67.4	43.7	55.6	2.30
April	72.1	48.3	60.2	0.95
May	74.2	54.4	64.3	0.37
June	80.9	56.2	68.6	0.08
July	85.6	60.1	72.9	0.04
August	86.4	62.2	74.3	0.07
September	84.4	58.1	71.3	0.19
October	79.2	50.2	64.7	0.52
November	71.7	43.2	57.5	1.36
December	67.3	38.6	53.0	1.87
Annual	**75.1**	**38.6**	**62.5**	**13.24**

Source: WRCC 2015

CARB has set CAAQS for three pollutants in addition to the seven NAAQS criteria pollutants:

1. Sulfates
2. H_2S
3. Visibility reducing particles

Table 4.13-2 presents the NAAQS and CAAQS for the criteria air pollutants at different averaging periods.

A discussion of each CAAQS and NAAQS criteria pollutant is provided below, including their sources, health effects, and concerns particular to the SDAB.

Ozone

O_3 is found in the upper atmosphere (as the ozone layer) as well as at ground level. At ground level, ozone is considered a pollutant. O_3 forms when ozone precursors (VOCs, CO, nitrogen oxides [NO_X]) undergo chemical reactions. Sources of these precursors include fuel combustion in vehicles and industrial processes, gasoline vapors, and chemical solvents. Health effects of O_3 include respiratory problems (i.e., chest pain, coughing, throat irritation) as well as exacerbation of existing respiratory problems, such as asthma and bronchitis.

Table 4.13-2 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	National Standards[2]	
			Primary	Secondary
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hours	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)[3]	0.075 ppm (147 µg/m^3)[3]
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	–
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	–
	3 Hours	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hours	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)	–
	Annual Arithmetic Mean	–	0.030 ppm (for certain areas)	–
PM_{10}	24 Hours	50 µg/m^3	150 µg/m^3[4]	150 µg/m^3[4]
	Annual Arithmetic Mean	20 µg/m^3	–	–
$PM_{2.5}$	24 Hours	–[5]	35 µg/m^3	35 µg/m^3
	Annual Arithmetic Mean	12 µg/m^3	12.0 µg/m^3	15 µg/m^3
Pb	30-Day Average	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3 (for certain areas)	1.5 µg/m^3 (for certain areas)
	Rolling 3-Month Average	–	0.15 µg/m^3	0.15 µg/m^3

Pollutant	Averaging Time	California Standards[1]	National Standards[2]	
			Primary	Secondary
Sulfates	24 Hours	25 µg/m^3	–	–
H_2S	1 Hour	0.03 ppm (42 µg/m^3)	–	–
Vinyl Chloride (C_2H_3Cl)	24 Hours	0.01 ppm (26 µg/m^3)	–	–
Visibility Reducing Particles	8 Hours	Extinction coefficient of 0.23 per kilometer; visibility of 10 miles or more due to particles when the relative humidity is less than 70 percent.	–	–

Notes:

1 Pollutant concentrations should not exceed California standards for O_3, CO, SO_2 (1- and 24-hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles). Pollutant concentrations shall not equal or exceed any other concentrations.

2 Pollutant concentrations should not exceed national standards (other than O_3, particulate matter, and those based on annual arithmetic mean) more than once per year. The annual standards should never be exceeded.

3 An area achieves the O_3 standard when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard.

4 An area achieves the PM_{10} 24-hour standard when the expected number of days per calendar year with a 24-hour average concentration greater than 150 µg/m^3 is equal to or less than one.

5 An area achieves the $PM_{2.5}$ 24-hour standard when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

mg/m^3: Milligrams per cubic meter

ppb: Parts per billion

Source: CARB 2013

Temperature inversions and atmosphere oscillation, explained above, increase O_3 levels in the SDAB. Pollutants trapped by temperature inversions undergo photochemical reactions that produce O_3. Atmospheric oscillation that results in transport of air pollutants from the Los Angeles region to San Diego County contributes to O_3 concentrations in the SDAB. In 2013, San Diego County exceeded the state 1-hour ozone standard on only 2 days compared to 160 days in 1988 (SDAPCD 2013). However, ozone is currently the only pollutant not in attainment of NAAQS in the SDAB (SDAPCD 2013).

Sulfur Dioxide

Most SO_2 released into the atmosphere is created during fossil fuel combustion. Health effects of SO_2 exposure include respiratory effects such as exacerbation of asthma and bronchitis. SO_2 is also necessary to form acid rain. SO_2 is not a pollutant of concern in the SDAB because low-sulfur fuels are used and there has never been a violation of federal or state standards (SDAPCD 2007b).

Carbon Monoxide

CO is created from incomplete combustion of fossil fuels from vehicles and industrial processes. CO displaces oxygen in the human body and can cause damage to organs and tissues, eventually resulting in death at high enough levels. CO is not usually a concern in the SDAB because the federal and state standards have only been violated once since 1990 and the violation occurred during a firestorm (SDAPCD 2007b).

Nitrogen Dioxide

NO_2 is formed during combustion of fossil fuels from vehicles and industrial processes. NO_2 is an ozone precursor and can also cause health effects itself. Health effects of NO_2 include airway inflammation and exacerbation of preexisting asthma. Nitrogen oxides are one of the pollutants of greatest concern in San Diego County (SDAPCD 2013).

Lead

Lead air emissions were initially problematic when leaded gasoline was commonplace. Today, leaded gasoline is uncommon, and the main sources of lead emissions are lead smelters and aircraft that use leaded gasoline. Lead affects the health of the nervous system, kidneys, immune system, reproductive system, and cardiovascular system. Because leaded gasoline is no longer used in vehicles, lead air emissions have decreased precipitously. There has been no violation of federal and state standards since 1980 and 1987, respectively (SDAPCD 2007b).

Respirable Particulate Matter (PM_{10})

Particulate matter is a combination of liquid globules and very small solid particles formed in a variety of ways. PM_{10} particles are smaller than 10 micrometers in diameter—typically dust, pollen, and mold. These particles are a threat to health because they can enter the lungs and exacerbate asthma and bronchitis and potentially contribute to premature death. PM_{10} is a concern in the SDAB due to noncompliance with the state standard (CARB 2013f).

Fine Particulate Matter ($PM_{2.5}$)

Particulate matter is a combination of liquid globules and very small solid particles formed in a variety of ways. $PM_{2.5}$ particles are smaller than 2.5 micrometers in diameter—typically combustion particles, organic compounds, and metal particles. $PM_{2.5}$ is considered more hazardous to human health than PM_{10} because it can contain a larger variety of dangerous components than PM_{10} and can travel farther into the lungs, potentially causing scarring of lung tissue and reduced lung capacity. $PM_{2.5}$ is one of the pollutants of greatest concern in the SDAB due to noncompliance with the state standard (SDAPCD 2013).

Sulfates

Sulfates are a form of sulfur. Most sulfate emissions come from burning of fossil fuels. Health effects of sulfate exposure include exacerbation of asthma, increased risk of cardio-pulmonary disease and lung irritation. Most sulfates in the air are formed through oxidation of SO_2 from fuel combustion; SO_2 is not a pollutant of concern in the SDAB because low-sulfur fuels are used, and there has never been a violation of federal or state standards.

Hydrogen Sulfide

H_2S is released principally in natural gas purification and oil refinement and is also produced during geothermal energy production. Health effects of H_2S exposure include respiratory irritation, headaches, and, at higher levels, adverse effects to organ systems.

Visibility-Reducing Particles

Visibility-reducing particles include solid particles, liquid globules, and solid particles with liquid coatings. The composition of the particles varies widely. The effect of these particles is regional haze and limitation of long-distance visibility.

Toxic Air Contaminants

TACs (also referred to as hazardous air pollutants or air toxics) are air pollutants that may cause adverse health effects, including but not limited to cancer. TACs are substances that are listed in Section 112 of the Clean Air Act (CAA) or identified pursuant to the AB 1807 Program.

EPA regulates hazardous air pollutant emissions for mobile sources through Section 202(l) of the CAA and the Control of Hazardous Air Pollutants from Mobile Sources (Final Rule). The rule regulates fuel, reducing mobile source air toxics emissions (EPA 2013). CARB has also promulgated regulations, as Airborne Toxic Control Measures (ATCMs), to reduce airborne toxics emissions, including measures that apply to mobile sources (CARB 2013k). Since 1989, the SDAB has reduced TAC emissions by 89.2 percent (SDAPCD 2013).

Odors

Land use around the Proposed Project is primarily residential and commercial (i.e., business space and retail). There are no stationary odor-producing land uses (e.g., landfills, refineries, confined animal feeding operations) in the Proposed Project vicinity.

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" (SCAQMD 2005). Sensitive receptors include (SCAQMD 2005):

- Schools, playgrounds, and childcare centers
- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences

The area around and including the Proposed Project is a mix of residential, developed, and undeveloped natural habitats. Sensitive receptors in the Proposed Project vicinity include residences, schools, parks, childcare facilities, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors within 1,000 feet of the Proposed Project, the distance within which Project-related emissions could affect sensitive receptors, are provided in Table 4.13-3. Open spaces and preserves located within 1,000 feet of the Proposed Project area are also considered sensitive receptors, and are listed in Section 4.10: Recreation.

Table 4.13-3 Sensitive Receptors within 1,000 Feet of the Proposed Project

Type of Receptor by Project Component	Name	Minimum Distance from Project Area (feet)
Transmission Line Segment A		
Residential	Communities include Rancho Encantada, Scripps Ranch, Miramar Ranch North, Sabre Springs, and Rancho Peñasquitos	37
Schools	Dingeman Elementary School	~~700~~ 151
	Ellen Browning Scripps Elementary School	~~995~~ 733
	Innovations Academy Public Charter School	~~370~~ 200
	La Petite Academy	413
	Mount Carmel High School~~s~~ – Mount Carmel Center (Palomar College) Complex	310[1] ~~86 feet from property boundary~~ ~~1,280 feet from closest classroom~~
	Rancho Peñasquitos KinderCare	~~655~~ 522
	U.S. Art Education Center	~~769~~ 735
Parks	Black Mountain Open Space Park	Project located in park
	Butterfly Gardens Mini Park	200

Type of Receptor by Project Component	Name	Minimum Distance from Project Area (feet)
	Black Mountain Ranch Community Park	Project located in park
	Cypress Canyon Neighborhood Park	850
	Hilltop Community Park	130
	Rancho Peñasquitos Skate Park	259
	Spring Canyon Neighborhood Park	230
	Sycamore Canyon Park	Project located overhead
Medical Centers	MD Today Urgent Care	442
	The Sharp Rees-Stealy Scripps Ranch Medical Center	56
~~Places of Worship~~	~~Carmel Mountain Church~~	~~504~~
	~~Mount Carmel Church of the Nazarene~~	~~226~~
Transmission Line Segment B		
Residential	Communities include Rancho Peñasquitos, Black Mountain Ranch, Torrey Highlands, Pacific Highlands Ranch, and Carmel Valley	35
School	The Kids Bay Learning Center	111
Parks	Black Mountain Open Space Park	Project located in park
	Black Mountain Ranch Community Park	Project located overhead
	Torrey Del Mar Neighborhood Park	775
~~Place of Worship~~	~~Church of Jesus Christ of Latter-day Saints~~	~~33~~
Transmission Line Segment C		
Residential	Communities include Del Mar Mesa and Carmel Valley	106
School	Kids Bay Learning Center	990
Park	Del Mar Mesa Preserve	Project located in park
Transmission Line Segment D		
Residential	Carmel Valley Community	39
~~School~~	~~Torrey Hills School~~	~~950~~
Parks	Los Peñasquitos Canyon Preserve	Project located overhead
	Torrey Hills Dog Park	200
	~~Torrey Hills Neighborhood Park~~	~~400~~
Chicarita Substation		
Residential	Rancho Peñasquitos Community	375

Type of Receptor by Project Component	Name	Minimum Distance from Project Area (feet)
~~Place of Worship~~	~~Taiwanese Lutheran Church of San Diego~~	~~85~~
Mission Substation		
Residential	Mission Valley Community	435
Peñasquitos Substation		
Residential	Torrey Hills Community	335
Park	Torrey Hills Neighborhood-Park	~~340~~ 420
San Luis Rey Substation		
Residential	San Luis Rey Community	580
Encina Hub Modifications		
Park	The Crossings at Carlsbad	20
Mission—San Luis Rey Phase Transposition		
Residential	Kearny Mesa Community	600
School	Bridgepoint Education	Work area located in parking lot 50 feet from nearest building
Medical Center	Kaiser Permanente Garfield Specialty Center	260
~~Place of Worship~~	~~Holy Angels Church~~	~~910~~
Carmel Valley Road Staging Yard		
Residential	Torrey Highlands Community	570
~~Places of Worship~~	~~Church of Jesus Christ of Latter-day Saints~~	~~150~~
Camino Del Sur Staging Yard		
Residential	Torrey Highlands Community	770
~~Place of Worship~~	~~Church of Jesus Christ of Latter-day Saints~~	~~240~~
Evergreen Nursery Staging Yard		
Residential	Carmel Valley Community	10
School	The Kids Bay Learning Center	685
SR-56 Staging Yard		
Residential	Carmel Valley Community	800
School	Canyon Crest Academy	25[1] ~~318 feet from parking lot~~ ~~906 feet from closest classroom~~

Type of Receptor by Project Component	Name	Minimum Distance from Project Area (feet)
Stonebridge Staging Yard		
Residential	Rancho Encantada Community	760
~~Park~~	~~Sportsplex USA~~	~~950~~
Stowe Staging Yard		
Park	Sportsplex USA	950

Note:

[1] Distance is to the campus boundary at the baseball field. The distance to the nearest instructional or administration building is over 1,000 feet.

[Places of Worship and indoor sports centers have been removed from the list of sensitive receptors as these are not air quality sensitive receptors and air quality impacts on Places of Worship and sports centers were not analyzed.]

Air Quality Attainment Status

Table 4.13-4 presents a summary of the air quality attainment designations by EPA and CARB for SDAB. An attainment area is a geographic area identified to have air quality as good as or better than the NAAQS/CAAQS. When an area violates a health-based standard, the CAA requires that the area be designated as nonattainment for that pollutant by EPA. Nonattainment means that an area does not meet the national or state ambient air quality standards. Once a nonattainment area meets the standards and additional redesignation requirements in the CAA, the area will be designated as a maintenance area. An unclassifiable area is an area that cannot be classified based on available information as meeting or not meeting the national or state ambient air quality standards.

Table 4.13-4 San Diego Air Basin Air Quality Attainment Designations

Pollutant	Federal Designation	State Designation
O_3	Marginal Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Pb	Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
Sulfates	No federal standard	Attainment
H_2S	No federal standard	Unclassified
Visibility Reducing Particles	No federal standard	Unclassified

Sources: EPA 2015; CARB 2013a, 2013b, 2013c, 2013d, 2013e, 2013f, 2013g, 2013h, 2013i, 2013j

Baseline Air Quality

The SDAPCD has several monitoring stations that monitor ambient air pollutant concentrations in San Diego County. Each monitoring station collects data on different pollutant concentrations. Ambient O_3, PM_{10}, $PM_{2.5}$, and NO_2 concentrations were obtained from the Kearny Villa station. Ambient CO and SO_2 concentrations are based on monitoring data recorded at the El Cajon station located approximately 10 miles southeast of the Proposed Project. Table 4.13-5 presents summaries of the highest air pollutant concentrations monitored at these stations during the three most recent years (2011 through 2013) for which SDAPCD has reported data. The corresponding CAAQS and NAAQS are also presented in Table 4.13-5.

Table 4.13-5 Ambient Air Quality Summary from Nearby Monitoring Stations

Pollutant	Average Time	State Standard (CAAQS)	National Standard (NAAQS)	Maximum Concentrations[1, 2]			Number of Exceedances					
							2011		2012		2013	
				2011	2012	2013	CAAQS	NAAQS	CAAQS	NAAQS	CAAQS	NAAQS
O_3	1 hour	0.09	–	0.10	0.10	0.08	1	–	1	–	0	–
	8 hour	0.070	0.075	0.09	0.08	0.07	3	1	3	1	1	0
CO	1 hour	20	35	1.8	2.3	1.9	0	0	0	0	0	0
	8 hour	9.0	9	1.3	1.9	1.2	0	0	0	0	0	0
NO_2	1 hour	0.18	0.100	0.073	0.057	0.067	0	0	0	0	0	0
	Annual	0.030	0.053	0.012	0.011	0.010	0	0	0	0	0	0
SO_2	1 hour	0.25	0.075	0.001	0.002	0.007	0	0	0	0	0	0
	24 hour	0.04	0.14	0.000	0.000	0.000	0	0	0	0	0	0
	Annual	–	0.030	0.000	0.000	0.000	–	0	–	0	–	0
PM_{10}	24 hour	50	150	47	35	39	0	0	0	0	0	0
	Annual	20	–	20.2	16.0	19.9	1	–	0	–	0	–
$PM_{2.5}$	24 hour	–	35	30	20	22	–	0	–	0	–	0
	Annual	12	12.0	8.9	8.7	8.3	0	0	0	0	0	0

Notes:

1 The unit for O_3, CO, NO_2, and SO_2 is parts per million (ppm).

2 The unit for PM_{10} and $PM_{2.5}$ is micrograms per cubic meter ($\mu g/m^3$).

Sources: CARB 2013l, SDAPCD 2009-2013

4.13.3 Applicable Regulations, Plans, and Standards

4.13.3.1 Federal

The NAAQS were established by the federal CAA of 1970 and amended in 1977 and 1990. National primary standards are "the levels of air quality necessary, with an adequate margin of safety, to protect the public health" (CARB 2013l). National secondary standards are "the levels

of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant" (CARB 2013l). Table 4.13-2 presents the NAAQS for the criteria air pollutants at different averaging periods.

4.13.3.2 State

CARB is responsible for setting CAAQS under California Health and Safety Code Section 39606. The CAAQS, listed in Table 4.13-2, are intended to protect public health, safety, and welfare. CARB is also responsible for establishing and reviewing state standards, compiling the California State Implementation Plan (SIP) and securing approval of the SIP from EPA, conducting research and planning, and identifying TACs. CARB regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air quality management districts, which are organized at the county or regional level.

4.13.3.3 Local

County and regional air quality management districts and air pollution control districts are responsible primarily for regulating stationary sources at industrial and commercial facilities within their geographic areas. These districts are also responsible for preparing the air quality plans that are required under the federal CAA and the California Clean Air Act (CCAA).

SDAPCD has jurisdiction over air quality programs in San Diego County. It regulates most air pollution sources in the county, except for motor vehicles, marine vessels, aircraft, agricultural equipment, and other sources regulated by CARB or EPA.

San Diego Regional Air Quality Strategy

SDAPCD adopted the San Diego County Regional Air Quality Strategy (RAQS) in 1991, pursuant to the CCAA. SDAPCD issued its most recent RAQS update in 2009 (SDAPCD 2009). The RAQS outlines how SDAPCD will make progress toward attainment of the California O_3 air quality standards by addressing emissions of the two O_3 precursors – VOCs and NO_X. SDAPCD regulates stationary emission sources and some area-wide emission sources (e.g., water heaters and architectural coatings). SDAPCD notes that, "while legal authority to control various pollution sources is divided among agencies, the District is responsible for reflecting federal, state, and local measures in a single plan to achieve state ozone standards in San Diego County." A significant portion of VOC and NO_X emissions come from sources regulated at the state and federal levels (e.g., on-road vehicles, off-road vehicles, and off-road equipment). California Health and Safety Code Section 40914 requires the RAQS to reduce ozone precursor emissions by 5 percent annually or, if that is not feasible, to have a schedule for adopting every feasible control measure within its jurisdiction.

The RAQS measure relevant to the Proposed Project would amend District Rule 67.0 to incorporate CARB's Suggested Control Measure (SDAPCD 2009). SDAPCD has not yet incorporated CARB's Suggested Control Measure into Rule 67.0, as the most recent version of the Rule was adopted and effective in December 2001, before issuance of the revised RAQS in 2009 (SDAPCD 2001).

Eight-Hour Ozone Attainment Plan for San Diego County
The Eight-Hour Ozone Attainment Plan for San Diego County serves as the SIP for SDAPCD for the eight-hour O_3 NAAQS. Sources of O_3 are regulated at the federal, state, and local levels; projections are based on "socio-economic projections, industrial and travel activity levels, emission factors, and mission speciation profiles" (SDAPCD 2007). The local control measures, enforced by SDAPCD, include rules to reduce NO_X and VOC emissions. The plan includes one new local control measure for low-VOC solvent cleaning. The attainment plan outlines the state and federal control measures that EPA and CARB have adopted to reduce O_3 (SDAPCD 2007).

According to SDAPCD (2012), SDAB was an attainment/maintenance area for the 1997 federal O_3 standard; however, it is now designated and classified as a marginal nonattainment area for the more stringent 2008 federal O_3 standard, which became effective July 20, 2012. Therefore, SDAB remains a nonattainment area for the federal O_3 standard. The most recent planning document for the federal O_3 standard developed by SDAPCD is the *Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County* (SDAPCD 2012). SDAB remains a maintenance area for the federal CO standard until 2018, which is 20 years after EPA approved the CO maintenance plan.

SDAPCD Rules and Regulations
The following SDAPCD rules would apply to the Proposed Project:

- **Regulation IV, Rule 51, Nuisance:** Rule 51 prohibits discharging "quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property."
- **Regulation IV, Rule 55, Fugitive Dust Control:** Rule 55, in relation to the Proposed Project, regulates construction and demolition activities that could generate fugitive dust. It does not apply to permanent, unpaved roads unless undergoing construction or resurfacing. Rule 55 contains guidelines for airborne dust and track-out.
- **Regulation IV, Rule 67.0, Architectural Coatings:** Rule 67.0 limits VOC content in architectural coatings applied in San Diego County.
- **Regulation IV, Rule 68, Fuel-Burning Equipment—Oxides of Nitrogen:** Rule 68 regulates NO_X emissions from non-vehicular, fuel-burning equipment with a maximum heat rating of 50 million British Thermal Units or more.

4.13.4 Applicant Proposed Measures

SDG&E has proposed measures to reduce environmental impacts. The significance of the impact is first considered prior to application of the APMs and a significance determination is made. The implementation of APMs is then considered as part of the Proposed Project when determining whether impacts would be significant and thus would require mitigation. These APMs would be incorporated as part of any CPUC project approval, and SDG&E would be

required to adhere to the APMs as well as any identified mitigation measures. The APMs are included in the MMRP for the Proposed Project (refer to Chapter 9 of this EIR), and the implementation of the measures would be monitored and documented in the same manner as mitigation measures. The APMs that are applicable to the air quality analysis are provided in Table 4.13-6.

Table 4.13-6 Applicant Proposed Measures for Air Quality Impacts

APM Number	Requirements
APM AIR-1: Fugitive Dust Control	All unpaved demolition and construction areas shall be wet/ watered at least three times daily during construction, and temporary dust covers shall be used to reduce dust emissions and meet SDAPCD Rule 55 requirements. All construction areas shall be sufficiently dampened to control dust caused by construction and hauling, and at all times provide reasonable dust control of areas subject to windblown erosion. All loads shall be secured by covering or use of at least 2 feet of freeboard to avoid carryover. All materials transported off-site shall be either sufficiently watered or securely covered. All earthmoving or excavation activities shall be discontinued during periods of winds greater than 25 miles per hour (mph) to prevent excessive amounts of fugitive dust generation.
APM AIR-2: Vehicle and Equipment Exhaust Controls	All equipment shall be properly tuned and maintained in accordance with manufacturer specifications. An Idling Restrictions Program shall be implemented. SDG&E or its contractor shall maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall have their engines turned off after 5 minutes when not in use. Construction activities shall be phased and scheduled to avoid emissions peaks, and equipment use shall be curtailed during second-stage smog alerts. This will also result in a significant decrease in impacts from Diesel Particulate Matter. All areas where construction vehicles are typically parked, staged, or operating shall be visibly posted with signs stating "No idling in excess of 5 minutes." Catalytic converters shall be installed on all heavy construction equipment, where feasible. To the extent possible, power shall be obtained from power or distribution poles (i.e., from the electrical grid) rather than through the use of large generators on-site. Deliveries shall be scheduled during off-peak traffic periods to reduce trips during the most congested periods of the day, where feasible. SDG&E would encourage carpooling to reduce worker trips where feasible. Construction sites shall be posted with signs providing a contact number for complaints. All complaints shall be addressed in a timely and effective manner.
APM AIR-3: Low- and Non-VOC Architectural Coatings	Low- and non-VOC containing coatings, sealants, adhesives, solvents, asphalt, and architectural coatings shall be used to reduce VOC emissions.
APM AIR-4: Equipment Emissions Standards	All equipment will meet a minimum of USEPA Tier 2 emission standards. For the purpose of this evaluation, equipment would be comprised of a mix of 70 percent Tier 2 equipment and 30 percent Tier 3 equipment. All on-road heavy-duty vehicles, off-road construction vehicles, and portable equipment used in the project will comply with CARB's Airborne Diesel Air Toxic Measures (ATCMs).

4.13.5 CEQA Significance Criteria

Appendix G of CEQA Guidelines (14 CCR 15000 *et seq.*) provides guidance on assessing whether a project would have significant impacts on the environment. Consistent with Appendix G, the Proposed Project would have significant impacts 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 in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
d. Expose sensitive receptors to substantial pollutant concentrations
e. Create objectionable odors affecting a substantial number of people

4.13.6 Approach to Impact Analysis

This impact analysis considers whether implementation of the Proposed Project or alternatives would result in significant impacts to air quality. The analysis focuses on reasonably foreseeable effects of the Proposed Project and alternatives as compared with baseline conditions. The analysis uses significance criteria based on the CEQA Appendix G Guidelines. The potential direct and indirect effects of the Proposed Project and alternatives are addressed; cumulative effects are addressed in Chapter 5: Cumulative Impacts. Effects that would result from operation and maintenance of the Proposed Project and alternatives are also addressed. Applicable APMs are identified and mitigation is defined to avoid or reduce significant impacts to air quality.

4.13.6.1 Thresholds

Project-Specific Emissions Thresholds

CPUC uses local air quality district thresholds for evaluating air quality impacts under CEQA. SDAPCD has not developed air quality significance thresholds for construction projects or for explicit use in CEQA analyses. The CPUC has determined that SDAPCD's New Source Review rule (Rule 20.2(d)(2)) thresholds are appropriate to evaluate the significance of air quality emission impacts related to CAAQS and NAAQS for projects within the SDAB. The SDAPCD's New Source Review rule reflects air quality in the SDAB because the thresholds are based on emission levels that would:

1. Cause a violation of a state or national ambient air quality standard anywhere that does not already exceed such standard;
2. Cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded;
3. Cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as allowed for PM_{10} waiver; or
4. Prevent or interfere with the attainment or maintenance of any state or national ambient air quality standard.

SDAPCD's New Source Review rule thresholds are also frequently used as a basis for evaluating air quality impacts under CEQA for projects in San Diego County.

The CPUC has determined that SCAQMD's thresholds for VOCs and $PM_{2.5}$ are appropriate because SDAPCD has no numeric triggers or thresholds for VOCs and $PM_{2.5}$. Because the South Coast Air Basin (SCAB) is currently in nonattainment for the $PM_{2.5}$ NAAQS, and the SDAB is not in nonattainment of the standard, SCAQMD's threshold is set to control and reduce $PM_{2.5}$ to achieve the standard. Likewise, because the SCAB is currently in extreme O_3 nonattainment and the SDAB is designated as marginal nonattainment, the SCAQMD's VOC threshold (VOC is an ozone precursor) was established to reduce VOCs in a more aggressive manner than would be required in the SDAB because the SDAB has a lower degree of nonattainment for O_3. Use of the SCAQMD threshold for VOCs and $PM_{2.5}$ errs on the side of caution because the SDAB would not need to adhere to such low thresholds to achieve attainment for O_3 or to maintain attainment for $PM_{2.5}$.

Cumulative Impacts Thresholds

Cumulative impacts to air quality are evaluated under two sets of thresholds: CEQA and SCAQMD.

According to CEQA Guidelines Sections 15064(h)(3):

> A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to…air quality attainment or maintenance plan…) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.

If the Proposed Project would comply with the requirements in the applicable air quality attainment plan, the Proposed Project's incremental contribution to a cumulative effect would not be cumulatively considerable. The applicable air quality attainment plans are the RAQS and Eight-Hour Ozone Attainment Plan.

SCAQMD has additional requirements for assessing cumulative air quality impacts. In response to direction from the SCAQMD Governing Board, SCAQMD developed a white paper outlining the Cumulative Impacts Reduction Strategy that identifies and further addresses cumulative air pollution impacts in the SCAB (SCAQMD 2003). The SCAQMD guidance on addressing cumulative impacts is contained in the Cumulative Impacts Reduction Strategy as follows: "Projects that exceed the project-specific significance threshold are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significant thresholds are the same. Conversely, projects that do not exceed the project-specific threshold are generally not considered to be cumulatively considerable" (SCAQMD 2003).

This approach to analyzing the significance of cumulative air quality impacts was upheld by the court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011)

197 Cal. App. 4th 327, 334. The court determined that the City of Chula Vista appropriately concluded that the project would not result in a cumulatively considerable impact to air quality:

> Although the project will contribute additional air pollutants to an existing nonattainment area, these increases are below the significance criteria…Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact.

The approach was also upheld in *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. Here, the court determined that utilizing the established project-specific emissions thresholds was adequate to determine whether the project would have a cumulatively considerable air quality impact.

Furthermore, the SCAQMD emissions thresholds for VOC (ozone precursor) and $PM_{2.5}$ hold projects to a tougher standard than would be necessary to achieve attainment in the SDAB because the thresholds were designed with consideration of worse existing air quality conditions than the SDAB (e.g., the SCAB is in extreme nonattainment of NAAQS for O_3 while the SDAB is in marginal nonattainment for O_3). Emissions inventories and projections used to define control strategies and emissions thresholds in the SCAQMD Ozone Plan consider current and future emissions from all sources including transportation and utilities within the SCAB (SCAQMD 1999); therefore, the emissions thresholds consider impacts from all cumulative projects in the air basin. If the Proposed Project produced emissions below the SCAQMD project-specific emissions thresholds, the Proposed Project would not cause cumulative air quality impacts in the SDAB because emissions would be below thresholds that are more stringent than those necessary to achieve attainment in the SDAB.

4.13.6.2 Air Quality Modeling

This analysis of air quality impacts used air quality modeling to estimate air quality emissions resulting from construction of the Proposed Project. The Proposed Project does not include development of new homes or businesses and would not directly or indirectly induce population growth in the SDAB. The Proposed Project would increase reliability of electric service and improve deliverability of renewable energy (refer to Section 7.3: Growth-Inducing Effects). Thus, emissions from the Proposed Project during the operation and maintenance period include only the emissions associated with the inspection and maintenance of the Proposed Project and operation and maintenance of the Proposed Project would not create a new source of emissions.

Construction emissions were modeled using the emissions factors and equipment assumptions shown in Table 4.13-7.

Equipment Use and Assumptions

The analysis of air quality emissions is based on the construction schedule for each Proposed Project segment provided by SDG&E. Construction emissions were calculated daily based on the construction schedule for each project segment Construction emission calculations include

combustion emissions from heavy construction equipment, construction truck trips, and worker commutes (SDG&E 2015a).

Table 4.13-7 Emissions Factors and Equipment Assumptions Used in Emissions Modeling

Emission Source	Emissions Factors and Equipment Assumptions
Off-road heavy construction equipment	• CARB OFFROAD Model emissions factors • Based on SCAQMD composite off-road emission factors for year in which construction would occur • CalEEMod User's Guide Appendix D, which assumes mix of 70 percent Tier 2 and 30 percent Tier 3 equipment • Horsepower rating and load factor based on CalEEMod default ratings
On-road vehicles	• CARB EMFAC2011 Model emissions factors[1]
Helicopters	• Fuel usage rates and emissions factors from FAA's Emission and Dispersion Modeling System • Fuel density from Air BP Handbook of Products • Emission index for particulate matter is for military rotary wing aircraft, as measured by the U.S. Navy's Aircraft Environmental Support Office (AESO), for the UH-1, AH-1, and H-60 aircraft of 4.20 lbs PM/1000 lbs fuel. It was assumed that $PM_{2.5}$ would be essentially equal to PM_{10}. • 3 hours per day over a 10-month period at 25 days per month for 2 years (500 total days of operation)
Fugitive dust	• SCAQMD methodologies for earthmoving activities • Considered maximum amount of earthwork that would occur in a day

Note:

[1] CARB recently submitted EMFAC2014, the most recent version of model emission factors in California, to the EPA for its review. The most recently approved version is EMFAC2011; CARB anticipates EPA approval by the end of 2015. Prior to approval of EMFAC2014, the EPA has provided a transition period in which either version may be used (CARB 2015); therefore, EMFAC2011 model emission factors are appropriate for use for the Proposed Project.

Source: SDG&E 2015a

4.13.7 Proposed Project Impacts and Mitigation Measures

Table 4.13-8 provides a summary of the significance of potential impacts to air quality prior to application of APMs, after application of APMs and before implementation of mitigation measures, and after the implementation of mitigation measures.

Table 4.13-8 Summary of Proposed Project Impacts to Air Quality

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plan	Construction	Significant	Significant APM AIR-3	Less than significant MM Air-1
	Operation and Maintenance	Less than significant	Less than significant	Less than significant

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	Construction	Significant	Significant APM AIR-1 APM AIR-4	Less than significant MM Air-2 MM Air-3
	Operation and Maintenance	Less than significant	---	---
Impact Air-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	Construction	Significant	Less than significant APM AIR-1	---
	Operation and Maintenance	Less than significant	---	---
Impact Air-4: Expose sensitive receptors to substantial pollutant concentrations	Construction	Significant	Significant APM AIR-1	Less than significant MM Air-3
	Operation and Maintenance	Less than significant	---	---
Impact Air-5: Create objectionable odors affecting a substantial number of people	Construction	Significant	Less than significant APM AIR-2 APM AIR-4	---
	Operation and Maintenance	Less than significant	---	---

Impact Air-1: Would the Proposed Project conflict with or obstruct implementation of the applicable air quality plan? (*Less than significant with mitigation*)

Construction

The applicable air quality plans for San Diego County are the RAQS and the Eight-Hour Ozone Attainment Plan.

RAQS

The RAQS emission inventories and projections include all sources of VOCs and NOx. Projections in the RAQS include current control measures and projected population growth. The RAQS is based on San Diego Association of Governments (SANDAG) growth forecasts for the region, and incorporates measures to meet state and federal requirements. Significance of air quality impacts is based, in part, on the degree to which the project is consistent with

SANDAG's growth forecasts. Project construction would not induce population growth (refer to Section 7.3: Growth-Inducing Effects).

The Proposed Project would also involve implementation of the applicable current control measures in the RAQS. A new control measure related to VOCs is to be implemented under the RAQS. Non-adherence to the planned control measure would be a significant impact.

SDG&E would implement APM AIR-3 as part of the Proposed Project. Per APM AIR-3, SDG&E would use low- and non-VOC containing architectural coatings; however, APM AIR-3 does not specify adherence to the planned future architectural coating standard in the RAQS. Implementation of Mitigation Measure Air-1 would ensure architectural coatings follow standards in the RAQS. Project construction would therefore not conflict with the RAQS after implementation of Mitigation Measure Air-1, and impacts would be less than significant with mitigation.

Eight-Hour Ozone Attainment Plan

The Eight-Hour Ozone Attainment Plan considers that sources of O_3 are regulated at the federal, state, and local levels. Projections in the Eight-Hour Ozone Attainment Plan are based on "socio-economic projections, industrial and travel activity levels, emission factors, and mission speciation profiles" (SDAPCD 2007). The project does not include development of new homes or businesses and would not induce population growth in the SDAB. The Proposed Project would increase reliability of electric transmission and deliverability of renewable energy (refer to Section 7.3: Growth-Inducing Effects).

Construction of the Proposed Project could conflict with the reasonably available control measures (RACMs) to restrict vehicle idling, which would constitute a significant impact. SDG&E would implement APM AIR-2 as part of the Proposed Project. APM AIR-2 requires SDG&E to restrict vehicle and equipment idling to a maximum of five minutes. Impacts from conflicts with the RACM would be less than significant with implementation of APM AIR-2. No mitigation is required.

The types and quantities of construction equipment that would be used for the Proposed Project would be typical of the industry and would not be of sufficient magnitude or quantity to exceed those assumptions used in the analysis of construction equipment emissions in the Eight-Hour Ozone Attainment Plan. Because the Eight-Hour Ozone Attainment Plan has accounted for construction-related emissions, construction emissions generated by the Proposed Project would be consistent with those included in the emissions inventory of the Plan. Construction of the Proposed Project would therefore not conflict with the projections or the emissions control measures in the Eight-Hour Ozone Attainment Plan. There would be no impact.

Operation and Maintenance

RAQS

Projects that include development that is consistent with the growth anticipated by local plans would be consistent with the RAQS. Operation and maintenance of the Proposed Project would not involve new development or induce population growth because the Proposed Project

involves increasing reliability of electric transmission (refer to Section 7.3: Growth-Inducing Effects). The Proposed Project would therefore not conflict with or obstruct implementation of the RAQS because no new growth would occur as a result of the Proposed Project. Therefore, there would be no impact.

Eight-Hour Ozone Attainment Plan

The Proposed Project does not include development of new homes or businesses and would not induce population growth in the SDAB. Annual inspections and routine maintenance of the Proposed Project are expected to occur with the same intensity, frequency, and duration as existing inspection and maintenance activities along Segments A, C, and D. Maintenance requirements may be slightly reduced under the Proposed Project compared to existing requirements because the number of poles/structures in the SDG&E ROW would be slightly fewer in Segments A and D and there would be no new structures in Segment C. In areas with no vehicle access or rough terrain, SDG&E would continue to use helicopters for annual inspection of transmission lines. Visual inspections would occur ~~annually~~ approximately every three years at the ten new vaults along Segment B and would require the use of a single vehicle. Most vehicles used during operation and maintenance would be crew trucks and would not produce sufficient emissions to exceed those assumptions used in the analysis of equipment emissions in the Eight-Hour Ozone Attainment Plan. The Eight-Hour Ozone Attainment Plan has accounted for emissions related to operation and maintenance through consideration of industrial and travel activity levels, and vehicle use would be typical of the industry. Therefore, operation and maintenance would not conflict with the Eight-Hour Ozone Attainment Plan, and impacts would be less than significant. No mitigation is required.

Mitigation Measure: Air-1

> **Mitigation Measure Air-1: RAQS Architectural Coating Standards.** All coatings, sealants, adhesives, solvents, asphalt, and architectural coatings shall be in conformance with CARB's Suggested Control Measure for Architectural Coatings, and with SDAPCD's VOC Rules 61, 66.1, 67.0, and 67.17.

Significance after mitigation: Less than significant.

Impact Air-2: Would the Proposed Project violate any air quality standard or contribute substantially to an existing or projected air quality violation? (*Less than significant with mitigation*)

Construction

On-road vehicles, off-road vehicles, heavy equipment, and helicopters would generate air pollutant emissions during Proposed Project construction. Emissions-generating activities would include:

- Vegetation clearing
- Grading
- Excavating

- Pole and facility installation
- Vehicle traffic to and from site
- Equipment and material transport
- Helicopter use for conductor stringing

Air pollutant emissions would include fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions (NO_X, sulfur oxides [SO_X], CO, VOCs, PM_{10}, and $PM_{2.5}$).

State and National Ambient Air Quality Standards

Table 4.13-9 provides a summary of estimated uncontrolled (without APM AIR-1) and controlled (with APM AIR-1) maximum daily air pollutant emissions for each year of construction. Assumptions and values used for uncontrolled emissions are provided in Table 4.13-7. The use of 70 percent Tier 2 (i.e., passenger vehicles) equipment and 30 percent Tier 3 (i.e., light-duty trucks and some heavy-duty vehicles) equipment as noted in APM AIR-4 was used as a modeling assumption in both the uncontrolled and controlled project emissions.

Table 4.13-9 Estimated Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016						
Uncontrolled Project Emissions[1]	34.17	214.54	161.13	1.42	157.37	46.77
Controlled Project Emissions	34.17	214.54	161.13	1.42	76.68	29.82
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**No**	**No**	**No**	**No**
2017						
Uncontrolled Project Emissions[1]	19.15	118.65	160.78	0.55	10.37	8.76
Controlled Project Emissions	19.15	118.65	160.78	0.55	10.37	8.76
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

1 Uncontrolled project emissions were estimated using assumptions included in APM AIR-4.

2 The controlled project emissions are used to evaluate whether the Proposed Project would exceed the emissions thresholds.

Source: SDG&E 2015b

The emission modeling results shown in Table 4.13-9 indicate that uncontrolled project construction emissions would be below emissions thresholds for all pollutants except PM_{10}. Emissions of VOC, CO, NO_x, SO_x, and $PM_{2.5}$ would not contribute to an ongoing violation or cause a violation of the NAAQS or CAAQS because emissions would not exceed the air quality thresholds and impacts would be less than significant. Uncontrolled PM_{10} emissions would exceed the emissions threshold in 2016, which would be a significant impact. SDG&E would implement APM AIR-1 as part of the Proposed Project. APM AIR-1 would reduce fugitive dust through regular watering of construction areas. APM AIR-1 would reduce PM_{10} emissions below the emissions threshold through regular watering of disturbed areas and covering of soils; impacts would be less than significant with ~~mitigation~~ APM AIR-1.

The use of vehicles and equipment during construction that differ from assumptions used in the air quality modeling could result in a significant impact if the vehicles and equipment were to emit greater quantities of pollutants than those estimated in the air quality modeling such that emissions would contribute to an ongoing violation or cause a violation of the NAAQS or CAAQS. SDG&E would implement APM AIR-4 as part of the Proposed Project, which requires that all equipment used during construction would meet a minimum of EPA's Tier 2 exhaust emission standards and that all equipment would comply with CARB's ATCMs. However, impacts would remain significant because APM AIR-4 does not require SDG&E to use a mix of 70 percent Tier 2 and 30 percent Tier 3 equipment, as assumed in the air quality model. Mitigation Measure Air-2 would ensure that emissions from construction of the Proposed Project would reflect emissions estimated in the air quality modeling by requiring SDG&E to use a minimum of 30 percent Tier 2 equipment. Impacts from violation of CAAQS or NAAQS would be less than significant with mitigation.

SDAPCD Rule 55

The Proposed Project would involve earthmoving activities that could produce PM_{10} and $PM_{2.5}$ in violation of SDAPCD Rule 55 by resulting in visible dust beyond the property line or in track-out. Violation of Rule 55 would be a significant impact. APM AIR-1 includes some measures aimed at meeting the standards of Rule 55; however, it does not address emissions discharge restrictions, use of blowers, or other actions needed to comply with Rule 55, and impacts would remain significant. Mitigation Measure Air-3 requires preparation of a Dust Control Management Plan, which would include measures to meet the standards of Rule 55. Impacts from violation of air quality standards would be less than significant with implementation of Mitigation Measure Air-3.

Operation and Maintenance

Operation and maintenance activities for the Proposed Project are expected to have the same intensity, frequency, and duration as existing operation and maintenance activities along Segments A, C, and D. Routine maintenance requirements may be slightly reduced compared to existing requirements because there would be a slightly smaller number of poles/structures in the SDG&E ROW along Segments A and D with construction of the Proposed Project and the number of structures in Segment C would not change. SDG&E would continue to use helicopters for annual inspections of transmission lines in areas with no vehicle access or rough

terrain. Visual inspections would occur ~~annually~~ approximately every three years at the ten new vaults along Segment B and would a very low level of activity from the use a single vehicle for inspections. The operation and maintenance activity level would not be an ongoing source of emissions because vehicle and equipment activity would not occur on most days during operation and maintenance of the Proposed Project. Emissions during operation and maintenance would therefore be minimal and would not violate any air quality standard or substantially contribute to an existing or projected air quality violation. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-2 and Air-3

Mitigation Measure Air-2: Tier 3 Exhaust Emission Standards. A minimum of 30 percent of all vehicles and equipment used during construction shall meet a minimum of EPA's Tier 3 exhaust emission standards.

Mitigation Measure Air-3: Dust Control Management Plan. SDG&E shall submit a Dust Control Management Plan to the CPUC for review and approval no less than 30 days prior to construction. The Dust Control Management Plan shall contain measures that provide for conformance to SDAPCD Rule 55 requirements including:

1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period; and
2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:
   i. Be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation: track-out gates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and
   ii. Be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry out, only PM_{10}-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

Measures to comply with visible dust emissions restrictions could include:

- Watering or applying soil stabilizers to areas with loose dust

- Ceasing earthmoving activities when sustained (i.e., a period or periods of time aggregating more than 3 minutes in any 60 minute period) wind speed exceeds 20 miles per hour
- Covering soil stockpiles

Significance after mitigation: Less than significant.

Impact Air-3: Would the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? (*Less than significant; no mitigation required*)

Construction

Construction activities would result in emissions of O_3 precursors and fugitive dust as shown in Table 4.13-9. The significance thresholds given in Impact Air-2 are designed to ensure that a project does not exacerbate ongoing violations; these thresholds consider cumulative impacts as described above. As discussed for Impact Air-2, uncontrolled emissions of PM_{10} would exceed the emissions threshold prior to implementation of APM AIR-1, which would be a significant cumulative impact.

SDG&E would implement APMs AIR-1 and AIR-2 as part of the Proposed Project. APM AIR-1 would require SDG&E to water disturbed soils, which would reduce PM_{10} emissions below the significance threshold and would further reduce the less than significant $PM_{2.5}$ emissions. Impacts would be less than significant with implementation of APM AIR-1, and the project would not cause a cumulatively considerable contribution to pollutants for which the area is in nonattainment. While less than significant, APM AIR-2 would reduce running time of construction equipment and further reduce emissions of fugitive dust from vehicle exhaust.

Emissions of CO, VOC, and NO_X would be below the emissions thresholds (refer to Table 4.13-5). The Proposed Project would not exceed the significance thresholds for O_3 precursors and would therefore not contribute considerably to a significant cumulative impact to O_3. The cumulative impact from project emissions of CO, VOC, and NO_X would be less than significant. While less than significant, APM AIR-2 would reduce running time of construction equipment and further reduce emissions of O_3 precursors from vehicle exhaust.

The RAQS and Eight-Hour Ozone Attainment Plan for San Diego County are designed to reach attainment status for state and federal O_3 standards given all projected activities in the SDAB. The RAQS outlines how SDAPCD will reach attainment of California O_3 standards. The Eight-Hour Ozone Attainment Plan for San Diego County outlines how the SDAPCD will reach attainment for federal O_3 standards. As discussed for Impact Air-1, the Proposed Project would be consistent with the plans to reach attainment in the basin. The project would not cause a cumulatively considerable contribution to O_3 attainment status; there would be no impact.

Operation and Maintenance

The emissions thresholds given in Impact Air-2 are designed to ensure that a project does not exacerbate ongoing violations and contribute to a cumulatively considerable impact as described above. As discussed for Impact Air-2, operation and maintenance activities for Segments A, C, and D would occur with the same intensity, frequency, and duration as existing operation and maintenance activities. Operation and maintenance of the Proposed Project would result in minor emissions associated with limited vehicle usage (i.e., ~~annual~~ inspections of vaults along Segment B approximately every three years). Ozone precursor and fugitive dust emissions from operation and maintenance would be far below the emissions thresholds in the SDAB and would not contribute to a cumulatively considerable net increase in emissions of pollutants for which the SDAB is in nonattainment because operation and maintenance would require a very low level of activity. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: None required.

Impact Air-4: Would the Proposed Project expose sensitive receptors to substantial pollutant concentrations? (*Less than significant with mitigation*)

Construction

Transmission Line Segments A, C, and D

Diesel and jet fuel exhaust contain TACs and particulate matter that is considered carcinogenic. Diesel exhaust would be emitted from heavy equipment during pole installation (i.e., grading work pads, constructing foundations, and installing new poles) and transport of equipment and personnel, and jet fuel exhaust would be emitted from light-and heavy-duty helicopters during pole installation, transport of equipment and personnel, and conductor stringing. Residential uses are located as close as 37 feet and schools are located as close as ~~86~~ 151 feet from the Proposed Project work area. Short-term or long-term exposure to diesel and jet fuel exhaust emissions could cause negative health effects to nearby sensitive receptors.

The limited duration and limited quantities of equipment at any one work area (e.g., during pole installation, approximately 5 pieces of equipment at a time would be required over approximately 4 days) would ensure that pollutant exposure of any individual receptor would be limited, which would limit the potential for short-term and long-term health effects. Construction emissions from equipment and helicopters would not cause excessive pollutant concentrations at any one location because work would be conducted in multiple areas simultaneous and equipment and helicopters would be dispersed throughout the 13.9 miles of transmission corridor. Equipment and helicopters would continuously move throughout the corridor so that no single sensitive receptor would experience persistent exposure to pollutants. Impacts would be less than significant. No mitigation is required.

Earthmoving activities and helicopter work associated with pole removal and installation along Segments A, C, and D could produce fugitive dust emissions in sufficient concentrations to be a nuisance or potentially temporarily affect breathing for sensitive receptors near the transmission line and result in a significant impact.

SDG&E would implement APM AIR-1 as part of the Proposed Project. APM AIR-1 would reduce fugitive dust emissions by watering construction areas with loose soil and restricting construction activities during high winds; however, impacts would remain significant given the close proximity of sensitive receptors in parks and residences as close as 37 feet from the transmission line. Implementation of Mitigation Measure Air-3, which requires additional measures to reduce fugitive dust emissions, would reduce impacts to less than significant.

Transmission Line Segment B

Diesel exhaust particulate matter would be emitted from heavy equipment during trenching and underground duct bank construction. Residential uses are located as close as 35 feet and there is one school approximately 111 feet from the underground work area. Diesel-powered equipment would move along the underground duct bank throughout the duration of construction, and exhaust levels from the equipment would be similar to exhaust from trucks traveling along the road. The equipment would not produce substantial concentrations of pollutants, so the impact would be less than significant. No mitigation is required.

SDG&E would install the majority of the duct bank using open-cut trenching techniques, which could produce small amounts of fugitive dust emissions near sensitive receptors along Segment B. The trench would be constructed within the roadway and the trench would only be exposed to the air for a short period of time during open trenching (a few days in any one area). The soils within the open trench would likely be moist and the soils would not be exposed to wind for a sufficient duration of time to produce substantial pollutant concentrations near any sensitive receptor. Therefore, impacts from fugitive dust concentrations would be less than significant.

Staging Yards

The nearest sensitive receptors to a staging yard are residences adjacent to Evergreen Nursery staging yard, which are as close as 10 feet. Diesel and jet fuel exhaust would be emitted from heavy equipment and helicopters at staging yards during loading and unloading of materials and personnel. Staging yards could be used for up to 12 months during construction of the Proposed Project. Equipment would not be operated at the staging yard 24-hours a day. Rather, equipment would enter and leave the yard at the beginning and end of the work day and during equipment deliveries, limiting exposure to pollutants. Substantial concentrations of TACs and particulate matter from diesel and jet fuel exhaust would not occur at staging yards because equipment and helicopters would be constantly moving and only spend brief periods of time at staging yards. There would be no residual TAC emissions once construction ceases. This level of exposure would not measurably increase. Impacts would be less than significant. No mitigation is required.

Movement of equipment and helicopters in and out of staging yards could produce substantial concentrations of fugitive dust during loading and unloading of materials and personnel. A significant impact on sensitive receptors could occur given the close proximity and constant exposure to fugitive dust emissions over a period of up to 12 months. APM AIR-1 would

require watering of construction areas, including staging yards, as well as reducing construction activities during high winds. However, impacts would remain significant.

Mitigation Measure Air-3 requires preparation of a Dust Control Management Plan, which would specify additional dust control measures such as restrictions on visible dust emissions, use of soil stabilizers, and prohibiting the use of blowers to remove visible dust. Impacts would be less than significant with implementation of Mitigation Measure Air-3.

Substations, Encina Hub, and Mission—San Luis Rey Phase Transposition Work Areas
Sensitive receptors near substations, Encina Hub, and Mission—San Luis Rey phase transposition work areas are as close as 20 feet (refer to Table 4.13-2). Diesel exhaust would be emitted during stringing, transferring of transmission lines, capacitor voltage transformer installation, and pole installation activities at Sycamore Canyon and Peñasquitos Substations and during the phase transposition at the Mission—San Luis Rey phase transposition north work areas. Both diesel and jet fuel exhaust would be emitted during installation of jumpers and new conductor at Encina Hub. While sensitive receptors would be exposed to pollutants during these activities, very few pieces of diesel-emitting equipment would be used and construction would only occur for up to a week at these work areas, limiting exposure to pollutants. Emissions from construction equipment would be similar to emissions from vehicles and trucks that travel on roadways near these work areas. Receptors would not be exposed to substantial pollutant concentrations due to the limited amount of equipment and time to conduct construction activities at substations, Encina Hub, and Mission—San Luis Rey phase transposition work areas. Impacts would be less than significant. No mitigation is required.

Operation and Maintenance
Sensitive receptors near the Proposed Project would not be exposed to substantial pollutant concentrations caused by Proposed Project operation and maintenance. Annual inspections and routine maintenance are expected to have the same intensity, frequency, and duration as existing inspection and maintenance activities along Segments A, C, and D; maintenance requirements may be slightly reduced because the number of poles/structures in SDG&E's ROW would be the slightly less in Segments A and D after construction of the Proposed Project. SDG&E would continue to use helicopters for annual inspections of transmission lines in areas with no vehicle access or rough terrain. Visual inspections would occur ~~annually~~ approximately every three years at the ten new vaults along Segment B. Most vehicles used along the entire alignment would be crew trucks and would not utilize diesel engines. Operation and maintenance activities would not expose sensitive receptors to substantial concentrations of pollutants that result in adverse health impacts because the operation and maintenance activities would not result in additional emissions relative to the current on-going maintenance of SDG&E facilities. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-3 (refer to Impact Air-2)

Significance after mitigation: Less than significant.

Impact Air-5: Would the Proposed Project create objectionable odors affecting a substantial number of people? (*Less than significant; no mitigation required)*

Construction

Transmission Line

Construction of the transmission line would generate some site-specific odors from diesel exhaust emissions. Residential uses are located as close as 35 feet from construction work areas along the transmission line corridor. Colucci and Barnes (1970) found that threshold distances for diesel exhaust emission perception were an average of 29 feet for an idling bus and 36 feet for an accelerating bus; these distances are conservative due to advances in diesel engines and emission reduction technology since 1970. Buses with diesel engines would create comparable odors to construction equipment. The concentration of several vehicles in one area only 35 feet from a residence could result in minimally perceptible odors. These odors would be temporary because (1) construction at any one pole location would not last more than approximately 4 days, and (2) only a few homes in the vicinity would perceive the odors. A substantial number of people would not be affected, and those that would perceive odors would only be affected temporarily. Impacts would be less than significant. No mitigation is required.

Staging Yards

The nearest sensitive receptors to a staging yard are residences adjacent to Evergreen Nursery staging yard, which are as close as 10 feet. Objectionable odors would be emitted from heavy equipment and helicopters at staging yards during loading and unloading of materials and personnel. Staging yards could be used for up to 12 months during construction of the Proposed Project. Emissions of odors for up to 12 months in close proximity to sensitive receptors would constitute a significant impact.

Vehicles and equipment would not be permitted to idle for longer than 5 minutes with implementation of APM AIR-2. All on- and off-road vehicles and equipment would comply with CARB's ATCMs in accordance with APM AIR-4. Implementation of APMs AIR-2 and AIR-4 would reduce odors emitted at staging yards to less than significant. No mitigation is required.

Substations and Mission—San Luis Rey Phase Transposition North Work Areas

Construction activities at substations and the Mission—San Luis Rey Phase Transposition north work areas may generate some site-specific odors associated with vehicle and equipment exhaust emissions. The closest sensitive receptor would be located at least 85 feet away from these construction areas. Construction odors generated from work at substations and the Mission—San Luis Rey Phase Transposition north work areas would not affect sensitive receptors because sensitive receptors are all well beyond 29 feet from these construction areas, and odors would not be detectable. There would be no impact.

Encina Hub and Mission—San Luis Rey Phase Transposition South Work Areas

The closest sensitive receptor to Encina Hub (The Crossings at Carlsbad) would be located approximately 20 feet from construction work areas. The closest sensitive receptor to Mission—San Luis Rey Phase Transposition south work areas (Bridgepoint Education) would be

immediately adjacent to the work area partially located on Bridgepoint Education's parking lot. Construction activities at these locations may generate some site-specific odors associated with vehicle and equipment exhaust emissions. Sensitive receptors at these locations would be able to perceive construction odors because receptors would be located within 29 feet of construction activities. However, sensitive receptors would only perceive the odors temporarily because construction activities at these locations would last up to 1 week. Receptors at The Crossings at Carlsbad would be limited to patrons that use the tee location located approximately 20 feet from Encina Hub, and flaggers would direct students and faculty at Bridgepoint Education to park in areas not immediately adjacent to construction activities. Impacts would be less than significant because only a limited number of sensitive receptors would perceive the odors temporarily. No mitigation is required.

Operation and Maintenance

Operation and maintenance work would intermittently generate negligible, undetectable levels of odors associated with vehicle and equipment exhaust emissions. Odors would be generated from annual inspections and routine maintenance, which are expected to have the same intensity, frequency, and duration as existing inspection and maintenance activities along Segments A, C, and D because the Proposed Project would not increase the number of structures in the ROW. SDG&E would continue to use helicopters for annual inspections of transmission lines in areas with no vehicle access or rough terrain. Visual inspections would occur ~~annually~~ approximately every three years at the ten new vaults along Segment B. Most vehicles used along the entire alignment would be crew trucks and would not utilize diesel engines, which would not emit odors. Operation and maintenance activities would not subject a substantial number of sensitive receptors to objectionable odors because the operation and maintenance activities would not result in additional odors relative to the current on-going maintenance of SDG&E facilities. There would be no impact.

Mitigation Measures: None required.

4.13.8 Alternative 1: Eastern Cable Pole at Carmel Valley Road (Avoids Cable Pole in Black Mountain Ranch Community Park)

Alternative 1 would involve installation of a new cable pole immediately south of and adjoining Carmel Valley Road within existing SDG&E ROW, transitioning the Segment A overhead transmission line directly into the proposed Carmel Valley Road Segment B underground alignment. Alternative 1 would avoid installation of a cable pole and underground duct bank within the Black Mountain Ranch Community Park. This alternative is described in more detail in Chapter 3: Alternatives.

4.13.8.1 Alternative 1 Environmental Setting

The air quality conditions for the Proposed Project described in Section 4.13.2 would apply to Alternative 1.

4.13.8.2 Alternative 1 Impacts and Mitigation Measures

Table 4.13-10 summarizes the impacts to air quality from Alternative 1.

Table 4.13-10 Summary of Alternative 1 Impacts to Air Quality

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plan	Construction	Significant	Significant APM AIR-2 APM AIR-3	Less than significant MM Air-1
	Operation and Maintenance	Less than significant	---	---
Impact Air-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	Construction	Significant	Significant APM AIR-4	Less than significant MM Air-2 MM Air-3
	Operation and Maintenance	Less than significant	---	---
Impact Air-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	Construction	Less than significant	---	---
	Operation and Maintenance	Less than significant	---	---
Impact Air-4: Expose sensitive receptors to substantial pollutant concentrations	Construction	Significant	Significant APM AIR-1	Less than significant MM Air-3
	Operation and Maintenance	Less than significant	---	---
Impact Air-5: Create objectionable odors affecting a substantial number of people	Construction	No impact	---	---
	Operation and Maintenance	No impact	---	---

Alternative 1 would have no impact on one CEQA significance criterion for air quality: Impact Air-5, as indicated in Table 4.13-6 above. Alternative 1 would have no impact on this criterion because the alternative would not be located near a substantial number of people that could be affected by objectionable odors created from construction or operation and maintenance of Alternative 1.

Impact Air-1: Would Alternative 1 conflict with or obstruct implementation of the applicable air quality plan? (*Less than significant with mitigation*)

Construction

RAQS

Significance of air quality impacts is based, in part, on the degree to which a project is consistent with SANDAG's growth forecasts. Alternative 1 would not directly or indirectly induce

population growth and would therefore have no impact related to population growth. Alternative 1 would conflict with the RAQS if Alternative 1 construction activities did not adhere to a planned future VOC measure. This conflict with the RAQS would be a significant impact. SDG&E would implement APM AIR-3 (RAQS architectural coasting standards); however, this measure does not specify adherence to the planned future VOC standards. Implementation of Mitigation Measure Air-1 would avoid conflict with the RAQS by requiring adherence to RAQS architectural coating standards. Impacts would be less than significant with mitigation.

Eight-Hour Ozone Attainment Plan

Alternative 1 would not directly or indirectly induce population growth in the SDAB and would not conflict with socio-economic projections used in the Eight-Hour Ozone Attainment Plan.

Construction of Alternative 1 would conflict with the RACM to restrict vehicle idling, which would constitute a significant impact. Implementation of APM AIR-2 (vehicle and equipment exhaust controls) would avoid conflict with the RACM. Impacts from conflicts with the RACM would be less than significant. No mitigation is required.

Construction of the cable pole in a different location would not substantially alter peak daily construction emissions; therefore, maximum daily emissions from Alternative 1 would be comparable to maximum daily emissions from the Proposed Project cable pole in Black Mountain Ranch Community Park. Construction emissions generated by Alternative 1 would be consistent with those included in the emissions inventory of the Eight-Hour Ozone Attainment Plan, and construction of Alternative 1 would therefore not conflict with the Eight-Hour Ozone Attainment Plan. There would be no impact.

Operation and Maintenance

RAQS

Operation and maintenance of Alternative 1 would not induce population growth and would therefore not conflict with or obstruct implementation of the RAQS. There would be no impact.

Eight-Hour Ozone Attainment Plan

Vehicles and equipment used during operation and maintenance would not produce sufficient emissions to exceed those assumptions used in the analysis of equipment emissions or conflict with any of the RACMs in the Eight-Hour Ozone Attainment Plan (refer to Section 4.13.7 above for further details). Impacts would be less than significant. No mitigation is required.

Mitigation Measure: Air-1 (refer to Section 4.13.7)

Significance after mitigation: Less than significant.

Impact Air-2: Would Alternative 1 violate any air quality standard or contribute substantially to an existing or projected air quality violation? (*Less than significant with mitigation*)

Construction

State and National Ambient Air Quality Standards

Relocation of the cable pole south of Carmel Valley Road would not measurably change daily maximum construction emissions because construction of the cable pole would produce commensurate emissions regardless of its location. Peak daily emissions from construction of Alternative 1 would be comparable to emissions from construction of the Proposed Project cable pole, which would not exceed emissions thresholds. Impacts would be less than significant. No mitigation is required.

The use of vehicles and equipment during construction that differ from assumptions used in the air quality modeling could violate the NAAQS or CAAQS, resulting in a significant impact. APM AIR-4 (equipment emissions standards) requires use of at least Tier 2 construction equipment; however, impacts would remain significant because the emissions model assumed use of at least 30 percent Tier 3 equipment. Mitigation Measure Air-2 requires SDG&E to use a minimum of 30 percent Tier 3 equipment. Impacts from violation of CAAQS or NAAQS would be less than significant with mitigation.

SDAPCD Rule 55

Alternative 1 could violate SDAPCD Rule 55 if visible dust beyond the property line or track-out were to occur as a result of earthmoving construction activities. APM AIR-1 (fugitive dust control) would address some of the Rule 55 standards, but impacts would remain significant. Mitigation Measure Air-3 would reduce impacts by requiring a Dust Control Management Plan and implementation of the Rule 55 standards. Impacts would be less than significant with mitigation.

Operation and Maintenance

Operation and maintenance would require similar inspection and maintenance with the same frequency as existing conditions and would therefore not result in additional emissions. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-2 and Air-3 (refer to Section 4.13.7)

Significance after mitigation: Less than significant.

Impact Air-3: Would Alternative 1 result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? (*Less than significant; no mitigation required*)

Construction

Emissions would be cumulatively considerable if they would exceed project-level emissions thresholds set by the SDAPCD and SCAQMD to achieve attainment of air quality standards.

Alternative 1 would be consistent with modeled O_3 emissions projections used in the Eight-Hour Ozone Attainment Plan (refer to Section 4.13.7) and would not exceed any emissions thresholds, as discussed for Impact Air-2. Impacts would be less than significant. No mitigation is required.

Operation and Maintenance

Operation and maintenance activities would require the same inspection and maintenance activities with the same frequency as existing conditions and would therefore not result in additional emissions. Emissions from operation and maintenance of Alternative 1 would not contribute to a cumulatively considerable net increase in emissions of pollutants for which the SDAB is in nonattainment. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: None required.

Impact Air-4: Would Alternative 1 expose sensitive receptors to substantial pollutant concentrations? (*Less than significant with mitigation*)

Construction

Receptors would not be exposed to substantial pollutant concentrations from construction of Alternative 1 because pollutant concentrations from construction equipment would be similar to existing pollutant levels generated from diesel-powered trucks and buses traveling through the area. Impacts would be less than significant. No mitigation is required.

Alternative 1 would produce fugitive dust emissions from earthmoving activities required to construct the cable pole. A significant impact would occur if dust were a nuisance or temporarily affected breathing for sensitive receptors near Alternative 1. SDG&E would implement APM AIR-1 (fugitive dust control); however, impacts would remain significant. Mitigation Measure Air-3 would reduce impacts by requiring additional dust control measures to reduce visible dust. Impacts would be less than significant with mitigation.

Operation and Maintenance

Alternative 1 operation and maintenance activities would not subject a substantial number of sensitive receptors to substantial pollutant concentrations because the activities would not result in additional diesel-equipment use in proximity to sensitive receptors relative to the current on-going maintenance of SDG&E facilities. There would be no impact.

Mitigation Measures: Air-3 (refer to Section 4.13.7)

Significance after mitigation: Less than significant.

4.13.9 Alternatives 2a and 2b: Eastern Cable Pole at Pole P40 and Underground Alignment through City Open Space or City Water Utility Service Road (Avoids Cable Pole in Black Mountain Ranch Community Park)

Alternative 2 would involve installation of a new cable pole in the same location for both Alternatives 2a and 2b, approximately 300 feet south of Carmel Valley Road within existing SDG&E ROW, transitioning the Segment A overhead transmission line into the proposed Carmel Valley Road Segment B underground alignment via one of two underground alignment options. Alternative 2a would locate the underground duct bank west of SDG&E ROW through City of San Diego open space and into Carmel Valley Road. Alternative 2b would locate the underground duct bank east of SDG&E ROW through a City of San Diego water utility service road and into Carmel Valley Road. Both Alternative 2a and 2b would avoid installation of a cable pole and underground duct bank within the Black Mountain Ranch Community Park. This alternative is described in more detail in Chapter 3: Alternatives.

4.13.9.1 Alternative 2 Environmental Setting

The air quality conditions for the Proposed Project described in Section 4.13.2 would apply to Alternative 2.

4.13.9.2 Alternative 2 Impacts and Mitigation Measures

Table 4.13-11 summarizes the impacts to air quality from Alternative 2.

Table 4.13-11 Summary of Alternative 2 Impacts to Air Quality

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plan	Construction	Significant	Significant APM AIR-2 APM AIR-3	Less than significant MM Air-1
	Operation and Maintenance	Less than significant	---	---
Impact Air-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	Construction	Significant	Significant APM AIR-4	Less than significant MM Air-2 MM Air-3
	Operation and Maintenance	Less than significant	---	---
Impact Air-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	Construction	Less than significant	---	---
	Operation and Maintenance	Less than significant	---	---

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-4: Expose sensitive receptors to substantial pollutant concentrations	Construction	Significant	Significant APM AIR-1	Less than significant MM Air-3
	Operation and Maintenance	Less than significant	---	---
Impact Air-5: Create objectionable odors affecting a substantial number of people	Construction	No impact	---	---
	Operation and Maintenance	No impact	---	---

Alternative 2 would have no impact on one CEQA significance criterion for air quality: Impact Air-5, as indicated in Table 4.13-6 above. Alternative 2 would have no impact on this criterion because the alternatives would not be located near a substantial number of people that could be affected by objectionable odors created from construction or operation and maintenance of Alternative 2.

Impact Air-1: Would Alternative 2 conflict with or obstruct implementation of the applicable air quality plan? (*Less than significant with mitigation*)

Construction

RAQS

Significance of air quality impacts is based, in part, on the degree to which a project is consistent with SANDAG's growth forecasts. Alternative 2 would not directly or indirectly induce population growth and would therefore have no impact related to population growth. Alternative 2 would conflict with the RAQS if Alternative 2 construction activities did not adhere to a planned future VOC measure. This conflict with the RAQS would be a significant impact. SDG&E would implement APM AIR-3 (RAQS architectural coating standards); however, this measure does not specify adherence to the planned future VOC standards. Implementation of Mitigation Measure Air-1 would avoid conflict with the RAQS by requiring adherence to RAQS architectural coating standards. Impacts would be less than significant with mitigation.

Eight-Hour Ozone Attainment Plan

Alternative 2 would not directly or indirectly induce population growth in the SDAB and would not conflict with socio-economic projections used in the Eight-Hour Ozone Attainment Plan.

Construction of Alternative 2 has the potential to conflict with the RACM to restrict vehicle idling, which would constitute a significant impact. Implementation of APM AIR-2 (vehicle and equipment exhaust controls) would avoid conflict with the RACM. Impacts would be less than significant. No mitigation is required.

Construction of the cable pole in a different location would not substantially alter maximum daily construction emissions; therefore, emissions from Alternative 2a or 2b would be comparable to emissions from the Proposed Project cable pole in Black Mountain Ranch Community Park, which are negligible. Construction emissions generated by Alternatives 2a or 2b would be consistent with those included in the emissions inventory of the Eight-Hour Ozone Attainment Plan, and construction of Alternative 2a or 2b would therefore not conflict with the Eight-Hour Ozone Attainment Plan. There would be no impact.

Operation and Maintenance

RAQS

Operation and maintenance of Alternative 2 would not induce population growth and would therefore not conflict with or obstruct implementation of the RAQS. There would be no impact.

Eight-Hour Ozone Attainment Plan

Operation and maintenance activities for Alternative 2 would be the same as activities for the Proposed Project. Vehicles and equipment used during operation and maintenance would not produce sufficient emissions to exceed those assumptions used in the analysis of equipment emissions or conflict with any of the RACMs in the Eight-Hour Ozone Attainment Plan (refer to Section 4.13.7 for further details). Impacts would be less than significant. No mitigation is required.

Mitigation Measure: Air-1 (refer to Section 4.13.7)

Significance after mitigation: Less than significant.

Impact Air-2: Would Alternative 2 violate any air quality standard or contribute substantially to an existing or projected air quality violation? (*Less than significant with mitigation*)

Construction

State and National Ambient Air Quality Standards

Relocation of the cable pole would not measurably change daily maximum construction emissions because construction of the cable pole would produce commensurate emissions regardless of its location. Construction of either the Alternative 2a or 2b underground transmission line connection between Proposed Project Segments A and B would not affect daily peak emissions relative to the Proposed Project because construction would occur in the same manner as Proposed Project. Peak daily emissions from construction of either Alternative 2a or Alternative 2b would therefore be comparable to emissions from construction of the Proposed Project cable pole and underground connection, which are negligible and would not exceed emissions thresholds. Total emissions from Alternative 2a or 2b would be less than the Proposed Project; Alternative 2a would decrease the length of underground transmission line construction by approximately 900 feet, while Alternative 2b would decrease it by approximately 200 feet. Impacts would be less than significant. No mitigation is required.

The use of vehicles and equipment during construction that differ from assumptions used in the air quality modeling could violate the NAAQS or CAAQS, resulting in a significant impact. Implementation of APM AIR-4 (equipment emissions standards) requires use of at least Tier 2 construction equipment and would reduce impacts; however, impacts would remain significant because the emissions model assumed use of at least 30 percent Tier 3 equipment. Mitigation Measure Air-2 requires SDG&E to use a minimum of 30 percent Tier 3 equipment. Impacts from violation of CAAQS or NAAQS would be less than significant with mitigation.

SDAPCD Rule 55

Alternative 2 could violate SDAPCD Rule 55 if visible dust beyond the property line or track-out were to occur as a result of earthmoving construction activities. APM AIR-1 (fugitive dust control) would address some of the Rule 55 standards, but impacts would remain significant. Mitigation Measure Air-2 (Dust Control Management Plan) would reduce impacts. Impacts would be less than significant with mitigation.

Operation and Maintenance

Operation and maintenance would require similar inspection and maintenance activities with the same frequency as existing conditions and would therefore not result in additional emissions. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-2 and Air-3 (refer to Section 4.13.7)

Significance after mitigation: Less than significant.

Impact Air-3: Would Alternative 2 result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? (*Less than significant; no mitigation required*)

Construction

Emissions would be cumulatively considerable if they would exceed emissions thresholds set by the SDAPCD to achieve attainment of air quality standards. Alternative 2 would be consistent with modeled O_3 emissions projections used in the Eight-Hour Ozone Attainment Plan (refer to Section 4.13.7) and would not exceed any emissions thresholds, as discussed for Impact Air-2. Impacts would be less than significant. No mitigation is required.

Operation and Maintenance

Operation and maintenance activities would require the same inspection and maintenance activities with the same frequency as existing conditions and would therefore not result in additional emissions. Emissions from operation and maintenance of Alternative 2 would not contribute to a cumulatively considerable net increase in emissions of pollutants for which the SDAB is in nonattainment. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: None required.

Impact Air-4: Would Alternative 2 expose sensitive receptors to substantial pollutant concentrations? (*Less than significant with mitigation*)

Construction

Receptors would not be exposed to substantial pollutant concentrations from construction of Alternative 2a or 2b because pollutant concentrations from construction equipment would be similar to existing pollutant levels generated from diesel-powered trucks and buses traveling through the area. Impacts would be less than significant. No mitigation is required.

Alternative 2 would produce fugitive dust emissions from earthmoving activities required to construct the cable pole and underground transmission line connection. A significant impact would occur if dust were a nuisance or temporarily affected breathing for sensitive receptors near Alternative 2. Implementation of APM AIR-1 (fugitive dust control) would reduce fugitive dust impacts; however, impacts would remain significant. Mitigation Measure Air-3 would reduce impacts by requiring addition dust control measures to reduce visible dust. Impacts would be less than significant with mitigation.

Operation and Maintenance

Alternative 2 operation and maintenance activities would not subject a substantial number of sensitive receptors to substantial pollutant concentrations because the activities would not result in additional diesel-equipment use in proximity to sensitive receptors relative to the current on-going maintenance of SDG&E facilities. There would be no impact.

Mitigation Measures: Air-2 and Air-3 (refer to Section 4.13.7)

Significance after mitigation: Less than significant.

4.13.10 Alternative 3: Los Peñasquitos Canyon Preserve-Mercy Road Underground (Avoids Overhead in Northern Half of Segment A, Underground in Segment B, and Overhead in Segment C)

Alternative 3 would include installing an underground alignment starting at a new cable pole where the existing SDG&E ROW crosses Ivy Hill Road and ending at a new cable pole approximately 550 feet west of the Peñasquitos Junction (i.e., where Proposed Project Segments C and D meet). The underground alignment would follow Scripps Poway Parkway, Mercy Road, Black Mountain Road, and finally Park Village Road. Alternative 3 would bypass the northern half of Proposed Project Segment A and all of Proposed Project Segments B and C. This alternative is described in more detail in Chapter 3: Alternatives.

4.13.10.1 Alternative 3 Environmental Setting

The air quality conditions described for the Proposed Project in Section 4.13.2, with the exception of sensitive receptors, would apply to Alternative 3 because this alternative would be constructed in the same air basin as the Proposed Project.

Sensitive receptors near Alternative 3 are listed in Table 4.13-12.

Table 4.13-12 Sensitive Receptors within 1,000 Feet of Alternative 3

Type of Receptor by Project Component	Name	Minimum Distance from Project Area (feet)
Residential	Communities include Miramar Ranch North, Mira Mesa, Rancho Peñasquitos, and Carmel Valley	~~0 feet from~~ Adjacent to property line 30 feet from nearest house
Schools	Canyon View Elementary School	40 feet from property line 90 feet from nearest building
	Park Village Elementary School	20 feet to property 50 feet to nearest building 140 feet to playground
	Innovations Academy	215 feet to property 340 feet to nearest building
Parks	Canyonside Community Park and Recreation Facility	175
	Los Peñasquitos Canyon Preserve	Located in park
	Peñasquitos Creek Park	~~70~~ 45
	Basketball Courts near intersection of Scripps Poway Parkway and Scripps Summit Drive	180
	Canyon Hills Private Recreation Complex	45
	Montierra Apartments Private Recreation Complex	775
	Ridgewood Park	800
	Woodridge Hills Private Recreation Complex	555
	West Chase Homeowners Association Private Park	25
	Canyonside Stables	40
~~Medical Centers~~	~~San Diego Cosmetic Dentist~~	~~470~~
	~~Scripps Poway Dental Care~~	~~580~~
	~~Scripps Poway Eyecare~~	~~580~~
	~~Smile Art Dentistry~~	~~60~~

[Medical centers that do not house sensitive or long-term care patients have been removed as these are not air quality sensitive receptors and were not analyzed.]

4.13.10.2 Alternative 3 Impacts and Mitigation Measures

Table 4.13-13 summarizes the impacts to air quality from Alternative 3.

Table 4.13-13 Summary of Alternative 3 Impacts to Air Quality

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plan	Construction	Significant	Significant APM AIR-2 APM AIR-3	Significant and unavoidable MM Air-1 MM Air-4
	Operation and Maintenance	Less than significant	---	---
Impact Air-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	Construction	Significant	Significant APM AIR-4	Significant and unavoidable MM Air-4
	Operation and Maintenance	Less than significant	---	---
Impact Air-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	Construction	Significant	Significant	Significant and unavoidable MM Air-4
	Operation and Maintenance	Less than significant	---	---
Impact Air-4: Expose sensitive receptors to substantial pollutant concentrations	Construction	Less than significant	---	---
	Operation and Maintenance	Less than significant	---	---
Impact Air-5: Create objectionable odors affecting a substantial number of people	Construction	Less than significant	---	---
	Operation and Maintenance	No impact	---	---

Impact Air-1: Would Alternative 3 conflict with or obstruct implementation of the applicable air quality plan? (*Significant and unavoidable*)

Construction

RAQS

Significance of air quality impacts is based, in part, on the degree to which a project is consistent with SANDAG's growth forecasts. Alternative 3 would not directly or indirectly induce population growth and would therefore have no impact related to population growth. Alternative 3 would conflict with the RAQS if Alternative 3 construction activities did not

adhere to a planned future VOC measure. This conflict with the RAQS would be a significant impact. SDG&E would implement APM AIR-3 (RAQS architectural coating standards); however, this measure does not specify adherence to the planned future VOC standards. Implementation of Mitigation Measure Air-1 would avoid conflict with the RAQS by requiring adherence to RAQS architectural coating standards. Impacts would be less than significant with mitigation.

Eight-Hour Ozone Attainment Plan

Alternative 3 would not directly or indirectly induce population growth in the SDAB and would not conflict with socio-economic projections used in the Eight-Hour Ozone Attainment Plan.

Construction of Alternative 3 has the potential to conflict with the RACM to restrict vehicle idling, which would constitute a significant impact. Implementation of APM AIR-2 (vehicle and equipment exhaust controls) would avoid conflict with the RACM. Impacts would be less than significant. No mitigation is required.

Construction of Alternative 3 would utilize the same types of construction equipment as Proposed Project Segment B. Emissions from construction equipment would exceed the modeling assumptions used in the Eight-Hour Ozone Attainment Plan because construction of Alternative 3 would exceed the NO_x emissions threshold (see Impact Air-2 below). Although the Eight-Hour Ozone Attainment Plan has accounted for construction-related emissions, it has only accounted for emissions that would not exceed thresholds; therefore, construction emissions generated by Alternative 3 would conflict with those included in the emissions inventory of the Plan, which would be a significant impact. Mitigation Measure Air-4 requires SDG&E to use 2007 or newer diesel-powered equipment and use construction equipment that meet a minimum of Tier 3 emission standards, which would reduce NO_x emissions. However, impacts would remain significant because NO_x emissions could remain above the threshold. Impacts would be significant and unavoidable.

Operation and Maintenance

RAQS

Operation and maintenance of Alternative 3 would not directly or indirectly induce population growth and would therefore not conflict with or obstruct implementation of the RAQS. There would be no impact.

Eight-Hour Ozone Attainment Plan

Operation and maintenance activities for Alternative 3 would be the same as activities for Proposed Project Segment B. Vehicles and equipment used during operation and maintenance would not produce sufficient emissions to exceed those assumptions used in the analysis of equipment emissions or conflict with any of the RACMs in the Eight-Hour Ozone Attainment Plan (refer to Section 4.13.7 for further details). Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-1 (refer to Section 4.13.7) and Air-4

Mitigation Measure Air-4: ~~Exhaust Emissions Control Plan~~ Use of Tier 3 Equipment. SDG&E shall use 2007 and newer diesel-powered equipment and use available construction equipment that meet a minimum of EPA Tier 3 emission standards. Equipment with an engine not compliant with the Tier 3 standard will be allowed only when the applicant (SDG&E) has performed and documented a good faith effort (due diligence) to locate Tier 3 or newer equipment in the Project vicinity (defined as within 200 miles of the Project site). Use of older equipment would be allowable following due diligence and associated documentation that no Tier 3 or newer equipment (or emissions equivalent retrofit equipment) is available for a particular equipment type. Each case shall be documented with written correspondence (or signed statement and electronic mail) by the appropriate construction contractor, along with documented correspondence from at least two construction equipment rental firms providing equipment within the defined project vicinity (200 miles). Documentation of due diligence shall be submitted to CPUC staff before the non-Tier 3 compliant equipment is used on the project. The applicant shall submit as part of the weekly CPUC compliance report a log of all construction equipment used on the project including engine identification number and certified tier specification. The applicant shall provide information to CPUC on any equipment that may be used on the project prior to its use. ~~An Exhaust Emissions Control Plan that identifies each off-road unit's certified tier specification, Best Available Control Technology, as well as the model year of all diesel-powered equipment used during construction shall be submitted to the CPUC for review and approval at least 30 days prior to construction. Construction may not commence until the Exhaust Emissions Control Plan has been approved.~~

Significance after mitigation: Significant and unavoidable.

Impact Air-2: Would Alternative 3 violate any air quality standard or contribute substantially to an existing or projected air quality violation? (*Significant and unavoidable*)

Construction

State and National Ambient Air Quality Standards

Alternative 3 would exceed the NO_x would exceed the emissions threshold as shown in Table 4.13-14, which would constitute a significant impact. Alternative 3 would require additional diesel-powered equipment relative to the Proposed Project in order to construct a longer underground transmission line. APM AIR-4 (equipment emissions standards) requires use of construction equipment that meet a minimum of Tier 2 emissions standards. APM AIR-4 was considered in both the uncontrolled and controlled emissions and would not reduce emissions below the NO_x threshold. Mitigation Measure Air-4 would reduce NO_x emissions by requiring use of at least Tier 3 construction equipment. Even with implementation of Mitigation

Table 4.13-14 Alternative 3 Estimated Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016						
Uncontrolled Project Emissions[1]	42.01	254.00	327.15	0.51	41.01	18.92
Controlled Project Emissions	42.01	254.00	327.15	0.51	31.80	16.98
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**Yes**	**No**	**No**	**No**
2017						
Uncontrolled Project Emissions[1]	13.89	94.31	125.11	0.18	6.92	5.05
Controlled Project Emissions	13.89	94.31	125.11	0.18	6.92	5.05
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

1 Uncontrolled project emissions were estimated using assumptions noted in APM AIR-4.

2 The controlled project emissions are used to evaluate whether Alternative 3 would exceed the emissions thresholds.

Source: SDG&E 2015c

Measure Air-4, NO_x emissions would exceed the emissions threshold. Construction of Alternative 3 would result in a significant and unavoidable impact from NO_x emissions.

Operation and Maintenance

Operation and maintenance of Alternative 3 would require annual inspections of the cable poles and inspection approximately every three years of the underground vaults (approximately 1 day per vault ~~each year~~). The ~~annual~~ maintenance inspections would result in negligible pollutant emissions. Impacts from operation and maintenance of Alternative 3 would be less than significant. No mitigation is required.

Mitigation Measure: Air-4 (refer to Impact Air-2)

Significance after mitigation: Significant and unavoidable.

Impact Air-3: Would Alternative 3 result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? (*Significant and unavoidable*)

Construction

The SDAB is in nonattainment for O_3, PM_{10}, and $PM_{2.5}$ standards. Impacts from fugitive dust (PM_{10} and $PM_{2.5}$) would be less than significant because emissions would not exceed the emissions thresholds. No mitigation is required to reduce fugitive dust emissions.

Alternative 3 construction emissions would exceed air quality thresholds for NO_x, an O_3 precursor, and contribute considerably to a significant cumulative impact. APM AIR-4 (equipment emissions standards) requires use of at least Tier 2 construction equipment. APM AIR-4 was considered in both the uncontrolled and controlled emissions and would not reduce emissions below the NO_x threshold. Mitigation Measure Air-4, which requires use of at least Tier 3 construction equipment, would reduce NO_x emissions; however, emission levels would still result in a cumulatively considerable net increase in O_3. Impacts would be significant and unavoidable.

Operation and Maintenance

Operation and maintenance of Alternative 3 would require annual inspections of the cable poles and inspection approximately every three years of the underground vaults (approximately 1 day per vault ~~each year~~). Operation and maintenance emissions would not exceed thresholds due to the very low levels of equipment and vehicle activity. Impacts would be less than significant. No mitigation is required.

Mitigation Measure: Air-4 (refer to Impact Air-2)

Significance after mitigation: Significant and unavoidable.

Impact Air-4: Would Alternative 3 expose sensitive receptors to substantial pollutant concentrations? (*Less than significant with mitigation*)

Construction

Alternative 3 would emit diesel exhaust particulate matter from bulldozers, jackhammers, pavers, and other construction equipment during trenching, which produce carcinogenic TACs and particulate matter. Residential uses and schools are located as close as 30 feet and 20 feet from the Alternative 3 alignment, respectively. Exhaust from construction equipment would be similar to exhaust from other trucks traveling along the road along the Alternative 3 alignment. Construction of the underground transmission line would not expose sensitive receptors to substantial pollutant concentrations along the transmission alignment because pollutants would not be concentrated in any one area as work would be conducted in multiple areas simultaneously and vehicles and equipment would be dispersed throughout the transmission corridor. The potential for exposure to pollutants in any area would be very brief and similar to

exposure from existing pollutant sources (e.g., trucks and buses). Impacts would be less than significant. No mitigation is required.

Trenching along Alternative 3 would produce fugitive dust emissions similar to the Proposed Project. Impacts from fugitive dust concentrations would be less than significant because soils within the open trench would likely be moist and would not be exposed to wind for a sufficient duration of time to produce substantial pollutant concentrations near any sensitive receptor.

Operation and Maintenance
Operation and maintenance of Alternative 3 would require annual inspections of ~~vaults and~~ cable poles and inspection approximately every three years of underground vaults. Operation and maintenance activities for Alternative 3 would not expose sensitive receptors to substantial concentrations of pollutants that would result in adverse health impacts because activities would not result in additional emissions relative to current emissions in the area. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: None required.

Impact Air-5: Would Alternative 3 create objectionable odors affecting a substantial number of people? (*Less than significant; no mitigation required)*

Construction
Alternative 3 would create odors from diesel exhaust emissions. The property line of one school, Park Village Elementary, is located as close as 20 feet from construction work areas along the transmission line corridor; parks are located as close as 25 feet. The concentration of several vehicles in one area only 20 feet from a sensitive receptor could result in perceptible odors. Receptors at Park Village Elementary School would likely not perceive odors during recess, lunch, and other outdoor activities; the outdoor recreation areas are located a minimum of 140 feet from the Alternative 3 transmission alignment, which is outside the odor detection radius of 29 feet (Colucci and Barnes 1971). Consistent with the odor detection distances found by Colucci and Barnes (1971), patrons of the West Chase Homeowners' Association Park, which is located 25 feet from Alternative 3 works areas, would only be able to perceive odors if they were located very near (i.e., within 5 feet) the edge of the park closest to the street. A substantial number of people would not be affected by odors from construction activities, and those that would perceive odors would only be affected temporarily because construction at any one location would not last more than a few days. Impacts would be less than significant. No mitigation is required.

Operation and Maintenance
The Alternative 3 ~~underground transmission line and~~ cable poles would be inspected once annually. The underground transmission line would be inspected every three years and would involve a vehicle traveling on existing roads to inspect vaults. Vehicles traveling on existing roads to inspect vaults would not subject sensitive receptors to objectionable odors because the

operation and maintenance activities would not result in additional odors relative to existing conditions. There would be no impact.

Mitigation Measures: None required.

4.13.11 Alternative 4: Segment D 69-kV Partial Underground Alignment (Reduces New TSPs in Segment D)

Alternative 4 would include the installation of a double 69-kV underground alignment starting at two new cable poles (P48AA and P48BB) in Proposed Project Segment D near existing lattice tower E17. The underground alignment would follow Carmel Mountain Road and East Ocean Air Drive, ending at the Peñasquitos Substation. Within Proposed Project Segment D, an existing 69-kV line would be removed from the existing steel lattice towers, and a second 69-kV power line on existing H-frame structures would be de-energized and left in place. Construction within Proposed Project Segment D would be reduced under Alternative 4. The 230-kV transmission line would be installed on the existing steel lattice towers similar to the Proposed Project; however, the H-frame structures would not be removed, and no new TSPs would be installed between lattice tower E17 and the Peñasquitos Substation. This alternative is described in more detail in Chapter 3: Alternatives.

4.13.11.1 Alternative 4 Environmental Setting

The air quality conditions for the Proposed Project described in Section 4.13.2, with the exception of sensitive receptors, would apply to Alternative 4 because Alternative 4 would be constructed in the same air basin as the Proposed Project.

Sensitive receptors within 1,000 feet of Proposed Project Segment D would apply to Alternative 4 and are listed in Table 4.13-3. Alternative 4 would also be located near additional sensitive receptors along Carmel Mountain Road and East Ocean Air Drive. These receptors are summarized in Table 4.13-15.

Table 4.13-15 Sensitive Receptors within 1,000 Feet of Underground Portion of Alternative 4 within Carmel Mountain Road and East Ocean Air Drive

Type of Receptor by Project Component	Name	Minimum Distance from Project Area (feet)
Residential	Carmel Valley Community	45
Schools	Sage Canyon School	25 feet from property 220 feet from nearest building
Parks	Sage Canyon Park	25
	Carmel Country Highlands Mini Park	420
~~Medical Centers~~	~~Activo Physical Therapy~~	~~65~~
[Medical centers that do not house sensitive or long-term care patients have been removed as these are not air quality sensitive receptors and were not analyzed.]		

4.13.11.2 Alternative 4 Impacts and Mitigation Measures

Table 4.13-16 summarizes the impacts to air quality from Alternative 4.

Table 4.13-16 Summary of Alternative 4 Impacts to Air Quality

Significance Criteria	Project Phase	Significance prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plan	Construction	Significant	Significant APM AIR-2 APM AIR-3	Less than significant MM Air-1 MM Air-4 MM Air-5
	Operation and Maintenance	Less than significant	---	---
Impact Air-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	Construction	Significant	Significant APM AIR-1 APM AIR-4	Less than significant MM Air-3 MM Air-4 MM Air-5
	Operation and Maintenance	Less than significant	---	---
Impact Air-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	Construction	Significant	Significant APM AIR-1 APM AIR-4	Less than significant MM Air-4 MM Air-5
	Operation and Maintenance	Less than significant	---	---
Impact Air-4: Expose sensitive receptors to substantial pollutant concentrations	Construction	Less than significant	---	---
	Operation and Maintenance	Less than significant	---	---
Impact Air-5: Create objectionable odors affecting a substantial number of people	Construction	Less than significant	Less than significant APM AIR-2 APM AIR-4	---
	Operation and Maintenance	No impact	---	---

Impact Air-1: Would Alternative 4 conflict with or obstruct implementation of the applicable air quality plan? (*Less than significant with mitigation*)

RAQS

Significance of air quality impacts is based, in part, on the degree to which a project is consistent with SANDAG's growth forecasts. Alternative 4 would not directly or indirectly induce population growth and would therefore have no impact related to population growth. Alternative 4 would conflict with the RAQS if Alternative 4 construction activities did not adhere to a planned future VOC measure. This conflict with the RAQS would be a significant impact. SDG&E would implement APM AIR-3 (RAQS architectural coating standards); however, this measure does not specify adherence to the planned future VOC standards. Implementation of Mitigation Measure Air-1 would avoid conflict with the RAQS by requiring adherence with RAQS architectural coating standards. Impacts would be less than significant with mitigation.

Eight-Hour Ozone Attainment Plan

Alternative 4 would not directly or indirectly induce population growth in the SDAB and would not conflict with socio-economic projections used in the Eight-Hour Ozone Attainment Plan.

Construction of Alternative 4 would conflict with the RACM to restrict vehicle idling, which would constitute a significant impact. Implementation of APM AIR-2 (vehicle and equipment exhaust controls) would avoid conflict with the RACM. Impacts would be less than significant. No mitigation is required.

Construction of Alternative 4 would utilize the same types of construction equipment as the Proposed Project. Emissions from construction activity would be of sufficient magnitude to exceed the assumptions used in the analysis of construction equipment emissions in the Eight-Hour Ozone Attainment Plan. Alternative 4, simultaneously constructed with

Segments A, B, and C of the Proposed Project[1], would exceed the NO_x emissions threshold as discussed in Impact Air-2 below. While the Eight-Hour Ozone Attainment Plan has accounted for construction-related emissions, it has only accounted for emissions that would not exceed thresholds; therefore, emissions generated by simultaneous construction of Alternative 4 and Proposed Project Segments A, B, and C would conflict with the emissions included in the emissions inventory of the Eight-Hour Ozone Attainment Plan, which would be a significant impact.

[1] SDG&E calculated maximum daily emissions on the day of maximum construction activity. On this day, construction would occur in Proposed Project Segments A, B, and C; no construction would occur in Proposed Project Segment D (SDG&E 2015c).

Mitigation Measure Air-4 would reduce NO_x emissions by requiring use of at least Tier 3 construction equipment. Mitigation Measure Air-5 requires SDG&E to phase construction activities such that duct bank construction would not occur simultaneously along the Alternative 4 underground alignment and another underground segment (Proposed Project Segment B). Implementation of Mitigation Measures Air-4 and Air-5 would reduce NO_x emissions below the threshold, and construction of Alternative 4 would be consistent with the Eight-Hour Ozone Attainment Plan. Impacts would be less than significant with mitigation.

As discussed in Chapter 6: Comparison of Alternatives, Alternative 4 could be approved in conjunction with Alternative 3. In this scenario, underground construction would occur along both alternatives; as a result, NO_x emissions would exceed the emissions threshold and result in a significant impact. Mitigation Measure Air-4 requires the use of construction equipment that meet a minimum of Tier 3 emission standards. Mitigation Measure Air-5 requires SDG&E to phase construction activities such that duct bank construction would not occur simultaneously along the Alternative 4 underground alignment and another underground segment, which in this scenario would be Alternative 3. While phasing construction would reduce maximum daily emissions, NO_x emissions would still exceed the threshold because NO_x emissions from construction of Alternative 3 would exceed the emissions threshold independent of construction of Alternative 4 (refer to the discussion in Section 4.13.10, Impact Air-2). Construction of Alternative 4 in conjunction with Alternative 3 would not be consistent with the Eight-Hour Ozone Attainment Plan, and impacts would be significant and unavoidable in this scenario.

Operation and Maintenance

RAQS

Operation and maintenance of Alternative 4 would not induce population growth and would therefore not conflict with or obstruct implementation of the RAQS. There would be no impact.

Eight-Hour Ozone Attainment Plan

Operation and maintenance activities for Alternative 4 would be the same as activities for the Proposed Project. Vehicles and equipment used during operation and maintenance would not produce sufficient emissions to exceed those assumptions used in the analysis of equipment emissions or conflict with any of the RACMs in the Eight-Hour Ozone Attainment Plan (refer to Section 4.13.7 for further details). Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-1 (refer to Section 4.13.7), Air-4 (refer to Section 4.13.10), and Air-5

> **Mitigation Measure Air-5: Avoid Simultaneous Underground Construction.** SDG&E shall phase construction such that 230-kV underground duct bank construction in another underground segment (i.e., Proposed Project Segment B or the Alternative 3 underground alignment) does not occur simultaneously with the 69-kV underground duct bank construction in Carmel Mountain Road and East Ocean Air Drive of Alternative 4 unless a construction phasing plan demonstrates that simultaneous underground construction will not result in an

exceedance of emissions thresholds. SDG&E shall submit a construction phasing plan to the CPUC for review and approval at least 30 days prior to the start of construction in either alignment. The construction phasing plan shall document when SDG&E intends to construct the Alternative 4 underground alignment. The construction phasing plan shall include air quality emissions model outputs for a peak day of simultaneous underground construction to demonstrate that emissions will not exceed emission thresholds.

Significance after mitigation: Less than significant.

Impact Air-2: Would Alternative 4 violate any air quality standard or contribute substantially to an existing or projected air quality violation? (*Less than significant with mitigation*)

Construction

State and National Ambient Air Quality Standards

Uncontrolled emissions from construction of only Alternative 4 would not exceed any emissions thresholds as shown in Table 4.13-17. Analysis of construction emissions from construction of only Alternative 4 does not adequately depict peak daily emissions from construction of the alternative because Alternative 4 would not be constructed independently of the Proposed Project but rather in lieu of a portion of the Proposed Project. An analysis of construction emissions from simultaneous construction of Alternative 4 and Proposed Project Segments A, B, and C (see footnote 3 above) is therefore provided below and in Table 4.13-18 in order to more accurately depict emissions resulting from Alternative 4 implementation.

Table 4.13-17 Alternative 4 Estimated Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016						
Uncontrolled Project Emissions[1]	10.29	58.40	83.35	0.14	22.38	7.02
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
2017						
Uncontrolled Project Emissions[1]	15.85	105.13	103.82	0.49	10.08	9.17
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

[1] Uncontrolled project emissions were estimated using assumptions included in APM AIR-4.

Source: SDG&E 2015c

Table 4.13-18 Estimated Peak Daily Construction Air Pollutant Emissions from Simultaneous Construction of Alternative 4 and Proposed Project Segments A, B, and C

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016						
Uncontrolled Project Emissions[1]	36.52	228.54	295.87	0.47	114.48	32.82
Controlled Project Emissions	36.52	228.54	295.87	0.47	58.38	21.04
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**Yes**	**No**	**No**	**No**
2017						
Uncontrolled Project Emissions[1]	24.00	159.87	158.05	0.89	16.94	14.63
Controlled Project Emissions	24.00	159.87	158.05	0.89	16.94	14.63
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

1 Uncontrolled project emissions were estimated using assumptions included in APM AIR-4.

2 The controlled project emissions are used to evaluate whether Alternative 4 would exceed the emissions thresholds.

Source: SDG&E 2015c

If Alternative 4 were to be constructed simultaneously with construction of Proposed Project Segments A, B, and C, uncontrolled emissions would exceed the PM_{10} and NO_x emissions thresholds as shown in Table 4.13-18. Implementation of APM AIR-1 (fugitive dust control) would reduce PM_{10} emissions to below the emissions threshold, and fugitive dust impacts would be less than significant.

In this same scenario, NO_x emissions would exceed the emissions threshold, which would be a significant impact. Alternative 4 would require additional diesel-powered equipment to construct underground power lines within Carmel Mountain Road and East Ocean Air Drive, which would result in additional emissions compared to the Proposed Project. APM AIR-4 (equipment emissions standards) requires use of construction equipment that meet a minimum of Tier 2 emissions standards. APM AIR-4 was considered in both the uncontrolled and controlled emissions and would not reduce emissions below the NO_x threshold. Implementation of Mitigation Measure Air-4, which requires the use of at least Tier 3 construction equipment, and Mitigation Measure Air-5, which requires SDG&E to phase construction activities such that duct bank construction would not occur simultaneously along

the Alternative 4 underground alignment and another underground segment, would reduce NO_x emissions below the threshold. Impacts would be less than significant with mitigation.

As discussed in Impact Air-1, Alternative 4 could be approved in conjunction with Alternative 3. Underground construction for both alternatives would emit NO_x emissions that would exceed the emissions threshold and result in a significant impact. Mitigation Measure Air-4 requires the use of construction equipment that meet a minimum of Tier 3 emission standards. Mitigation Measure Air-5 requires SDG&E to phase construction activities such that duct bank construction would not occur simultaneously along the Alternative 4 underground alignment and another underground segment, which in this scenario would be Alternative 3. While phasing construction would reduce maximum daily emissions, NO_x emissions would still exceed the threshold because NO_x emissions from construction of Alternative 3 would exceed the emissions threshold independent of construction of Alternative 4 (refer to the discussion in Section 4.13.10, Impact Air-2). Construction of Alternative 4 in conjunction with Alternative 3 would exceed the NO_x emissions threshold, and impacts would be significant and unavoidable in this scenario.

SDAPCD Rule 55

Alternative 4 would violate SDAPCD Rule 55 if visible dust beyond the property line or track-out were to occur as a result of earthmoving construction activities. APM AIR-1 (fugitive dust control) would address some of the Rule 55 standards, but impacts would remain significant if visible dust traveled beyond the property line. Mitigation Measure Air-3 would reduce impacts by requiring implementation of Rule 55 standards. Impacts would be less than significant with mitigation.

Operation and Maintenance

Operation and maintenance of Alternative 4 would require annual inspections of the cable poles and inspections approximately every three years of the underground vaults (approximately 1 day per vault ~~each year~~). The ~~annual~~ maintenance inspections would result in negligible pollutant emissions. Impacts from operation and maintenance of Alternative 4 would be less than significant. No mitigation is required.

Mitigation Measures: Air-3 (refer to Section 4.13.7), Air-4 (refer to Section 4.13.10), and Air-5 (refer to Impact Air-1)

Significance after mitigation: Less than significant[2].

[2] Note that impacts would be significant and unavoidable in a scenario where Alternative 4 is combined with Alternative 3 as presented in the impact analysis above.

Impact Air-3: Would Alternative 4 result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? (*Less than significant with mitigation*)

Construction

The SDAB is in nonattainment for O_3, PM_{10}, and $PM_{2.5}$ standards. Emissions from construction of only Alternative 4 would not exceed the emissions threshold for PM_{10}; however, emissions from simultaneous construction of Alternative 4 and Proposed Project Segments A, B, and C would exceed the PM_{10} emissions threshold (refer to Impact Air-2 for an explanation of simultaneous construction emissions). Implementation of APM AIR-1 (fugitive dust control) would reduce PM_{10} emissions to below the emissions threshold, and impacts would be less than significant.

Simultaneous emissions from construction of Alternative 4 and Proposed Project Segments A, B, and C would also exceed air quality thresholds for VOCs, an O_3 precursor, and contribute considerably to a significant cumulative impact (see Table 4.13-18). APM AIR-4 (equipment emissions standards) requires use of construction equipment that meets a minimum of Tier 2 emissions standards. APM AIR-4 was considered in both the uncontrolled and controlled emissions and would not reduce emissions below the NO_x threshold. Mitigation Measure Air-4 requires the use of Tier 3 construction equipment, and Mitigation Measure Air-5 requires avoidance of simultaneous underground construction in the Alternative 4 alignment and another underground segment. Mitigation Measures Air-4 and Air-5 would reduce NO_x emissions below the threshold; therefore, emission levels would not contribute to a cumulatively considerable net increase in O_3 because NO_x emissions would be consistent with current projections for the decline (as opposed to increase) of O_3. Impacts would be less than significant with mitigation.

As discussed in Impact Air-1, Alternative 4 could be approved in conjunction with Alternative 3. Underground construction for both alternatives would emit NO_x emissions that would exceed the emissions threshold and result in a significant impact. Mitigation Measure Air-4 requires the use of construction equipment that meet a minimum of Tier 3 emission standards. Mitigation Measure Air-5 requires SDG&E to phase construction activities such that duct bank construction would not occur simultaneously along the Alternative 4 underground alignment and another underground segment, which in this scenario would be Alternative 3. While phasing construction would reduce maximum daily emissions, NO_x emissions would still exceed the threshold because NO_x emissions from construction of Alternative 3 would exceed the emissions threshold independent of construction of Alternative 4 (refer to the discussion in Section 4.13.10, Impact Air-2). Construction of Alternative 4 in conjunction with Alternative 3 would exceed the NO_x emissions threshold, and emission levels would still result in a cumulatively considerable net increase in O_3. Impacts would be significant and unavoidable in this scenario.

Operation and Maintenance

Operation and maintenance of Alternative 4 would require annual inspections of the cable poles and inspections approximately every three years of the underground vaults (approximately

1 day per vault ~~each year~~). The ~~annual~~ maintenance emissions (1 vehicle for a few weeks during each inspection ~~a year~~) would not be cumulatively considerable. Impacts from operation and maintenance of the Alternative 4 underground transmission line would be less than significant. No mitigation is required.

Mitigation Measures: Air-4 (refer to Section 4.13.10) and Air-5 (refer to Impact Air-1)

Significance after mitigation: Less than significant[3].

Impact Air-4: Would Alternative 4 expose sensitive receptors to substantial pollutant concentrations? (*Less than significant; no mitigation required*)

Construction

Construction of Alternative 4 would involve the use of diesel powered vehicles and equipment, which produce carcinogenic TACs and particulate matter. The potential for exposure to pollutants in any area would be similar to exposure from existing pollutant sources (e.g., trucks and buses). Pollutants from construction vehicles and equipment would not be concentrated in any one area of the Alternative 4 alignment because work would be conducted in multiple areas simultaneously and vehicles and equipment would be dispersed throughout the transmission corridor. Vehicles and equipment would be continuously moving along the alignment as work is conducted. Alternative 4 vehicles and equipment would therefore not produce substantial pollutant concentrations near any sensitive receptors because the pollutant emissions would not concentrate and would be similar to pollutant levels from diesel-powered trucks traveling through the area. Impacts would be less than significant.

Trenching along the Alternative 4 underground alignment would occur in a similar manner to trenching along Proposed Project Segment B and would therefore produce fugitive dust emissions. Impacts from fugitive dust concentrations would be less than significant because soils within the open trench would likely be moist and would not be exposed to wind for a sufficient duration of time to produce substantial pollutant concentrations near any sensitive receptor.

Operation and Maintenance

The ~~underground transmission line and~~ cable poles would be inspected once annually and the underground transmission line would be inspected once approximately every three years, which would involve a vehicle traveling on existing roads to inspect vaults and the cable poles. Operation and maintenance activities for Alternative 4 would not expose sensitive receptors to substantial concentrations of pollutants that would result in adverse health impacts because activities would not result in additional emissions relative to the current on-going maintenance

[3] Note that impacts would be significant and unavoidable in a scenario where Alternative 4 is combined with Alternative 3 as presented in the impact analysis above.

of SDG&E facilities or current emissions in the area. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: None required.

Impact Air-5: Would Alternative 4 create objectionable odors affecting a substantial number of people? (*Less than significant; no mitigation required)*

Construction

The two closest sensitive receptors to Alternative 4, Sage Canyon School and Sage Canyon Park, are located approximately 25 feet from the transmission line. Odors generated from a concentration of diesel-powered equipment during construction along the Alternative 4 alignment could result in perceptible odors because these receptors are within the odor detention radius of 29 feet (Colucci and Barnes 1971). Receptors at both Sage Canyon School and Sage Canyon Park would only be able to perceive odors if they were located very near (i.e., within 5 feet) the edge of the properties closest to the street. A substantial number of people would not be affected by odors from construction activities, and those that would perceive odors would only be affected temporarily because construction at any one location would not last more than a few days. Impacts would be less than significant. No mitigation is required.

Operation and Maintenance

Alternative 4 operation and maintenance activities would not subject a substantial number of sensitive receptors to objectionable odors because the activities would not result in additional diesel-equipment use and odors in proximity to sensitive receptors relative to the current on-going maintenance of SDG&E facilities. There would be no impact.

Mitigation Measures: None required.

4.13.12 Alternative 5: Pomerado Road to Miramar Area North Combination Underground/Overhead (Avoids All Proposed Project Segments)

Alternative 5 would include underground installation of the transmission line with the exception of the east and west ends where the transmission line would be installed in an overhead position within existing SDG&E ROWs. Under this alternative, the alignment would exit the Sycamore Canyon Substation at MCAS Miramar an overhead line and travel westerly within an existing SDG&E ROW toward Stonebridge Parkway. The transmission line would transition to underground beneath Stonebridge Parkway in the vicinity of Greenstone Court, then continue underground on Pomerado Road, Miramar Road, Kearny Villa Road, Black Mountain Road, Activity Road, Camino Ruiz, Miralani Drive, Arjons Drive, Trade Place, Camino Santa Fe, Carroll Road/Carroll Canyon Road and Scranton Road. The transmission line would either remain underground within the Pomerado/Miramar bridge or temporarily transition to an overhead alignment via two new cable poles and potentially two new interset poles, where it would cross I-15. At the western end of the underground portion, the line would transition back to overhead structures located within an existing SDG&E ROW heading northward into the Peñasquitos Substation. Alternative 5 would avoid construction within the

Proposed Project alignment with the exception of approximately 3,400 feet of existing SDG&E ROW in Segment A connecting to the Sycamore Canyon Substation. SDG&E may use up to eight other staging yards during construction of Alternative 5 in addition to the Proposed Project staging yards. The Alternative 5 staging yards would be located within the Conrock and Hanson Aggregates Pacific Southwest quarries north of the Alternative 5 underground alignment, within the cul-de-sac west of Birch Canyon Place, off of Summers Ridge Road, and behind the Sorrento Canyon Golf Center. This alternative is described in more detail in Chapter 3: Alternatives.

4.13.12.1 Alternative 5 Environmental Setting

The air quality conditions described for the Proposed Project in Section 4.13.2, with the exception of sensitive receptors, would apply to Alternative 5 because this alternative would be constructed in the same air basin as the Proposed Project. Sensitive receptors along Alternative 5 are described below.

Sensitive receptors along the small portion of Proposed Project Segment A would be the same as those for the Proposed Project (refer to Table 4.13-3). Sensitive receptors near the Alternative 5 underground portion and overhead portion between Carroll Canyon Road and Peñasquitos Substation are listed in Table 4.13-19.

Table 4.13-19 Sensitive Receptors within 1,000 Feet of Alternative 5 between P5 and Peñasquitos Substation

Type of Receptor by Project Component	Name	Minimum Distance from Alternative 5 Area (feet)
Residential	Communities include Rancho Encantada, Scripps Ranch, Miramar, Sorrento Valley, and Carmel Valley	30
Schools	Alliant University	860 [1] ~~feet to baseball field~~ ~~1,050 feet to nearest building~~
	California Miramar University	140
	California Western University, including horse stables	50 feet to property line 640 feet to nearest building
	Chabad Hebrew Academy	735
	FAA Merry-Go-Around Center	430
	Greater San Diego Academy	200
	Jerabek Elementary School	930
	Klassic Kids	930
	Mira Mesa Christian School	360
	My Friends and I Children's Growing Place	710

Type of Receptor by Project Component	Name	Minimum Distance from Alternative 5 Area (feet)
	Thurgood Marshall Middle School	560
	Wangenheim Middle School	865
Parks	El Camino Memorial	150
	Hendrix Park	720
	Los Peñasquitos Canyon Preserve	Project located in park
	Miramar Speed Circuit	130
	~~San Diego Playgrounds LLC~~	~~935~~
	Scripps Ranch Swim and Racquet Club	560
	Silverton Park	385
	Sky High Sports	160
	Sorrento Canyon Golf Center	~~160~~ 90
	Semillon Mini-Park	770
Medical Centers	~~A Baby Visit~~	~~880~~
	~~Babies First Ultrasound~~	~~40~~
	~~Center for Integrative Wellness~~	~~80~~
	~~Crimson Center for Speech and Language/Coast Music Therapy~~	~~350~~
	~~Dixon Orthodontics~~	~~85~~
	Light Bridge Hospice	900
	~~Mira Mesa Alano Club~~	~~75~~
	Scripps Proton Therapy Center	60
~~Places of Worship~~	~~Chabad of San Diego~~	~~735~~
	~~Community Bible Church~~	~~740~~
	~~Holy Hands Church of God in Christ~~	~~40~~
	~~Mira Mesa First Assembly Church~~	~~360~~
	~~Mt. Moriah Christian Church~~	~~165~~
	~~River Church~~	~~50~~
	~~The Unity Center of San Diego~~	~~70~~
	~~Vedic Cultural and Spiritual Center of San Diego~~	~~220~~

Note:

[1] The distance to the nearest instructional or administration building is over 1,000 feet.

[Places of Worship, indoor sports centers, and medical centers that do not house sensitive or long-term care patients have been removed from the list of sensitive reports because these are not air quality sensitive receptors and air quality impacts to receptors at these locations were not analyzed.]

Eight additional staging yards would be available for use during the construction of Alternative 5 (refer to Figure 3.5-5). These staging yards would be located closer to the Alternative 5 alignment and therefore would reduce vehicle miles traveled for the transport of equipment and construction materials. The reduction of vehicle miles traveled would reduce pollutant emissions associated with construction of Alternative 5. The air quality model used to estimate criteria pollutant emissions assumed use of only the Proposed Project staging yards (refer to Section 2.3.3.1 of the EIR), which are located farther from the Alternative 5 alignment than the newly proposed Alternative 5 staging yards. Because Alternative 5 could also utilize the Proposed Project staging yards, the air quality model and, consequently, the impact analysis assumed use of only the Proposed Project staging yards to conservatively estimate criteria pollutant emissions from construction of Alternative 5.

4.13.12.2 Alternative 5 Impacts and Mitigation Measures

Table 4.13-20 summarizes the impacts to air quality from Alternative 5.

Table 4.13-20 Summary of Alternative 5 Impacts to Air Quality

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plan	Construction	Significant	Significant APM AIR-2 APM AIR-3	Significant and unavoidable MM Air-1 MM Air-4
	Operation and Maintenance	Less than significant	---	---
Impact Air-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	Construction	Significant	Significant APM AIR-1 APM AIR-4	Significant and unavoidable MM Air-3 MM Air-4
	Operation and Maintenance	Less than significant	---	---
Impact Air-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	Construction	Significant	Significant APM AIR-1 APM AIR-2	Significant and unavoidable MM Air-4
	Operation and Maintenance	Less than significant	---	---
Impact Air-4: Expose sensitive receptors to substantial pollutant concentrations	Construction	Less than significant	---	---
	Operation and Maintenance	Less than significant	---	---

Significance Criteria	Project Phase	Significance Prior to APMs	Significance after APMs and before Mitigation	Significance after Mitigation
Impact Air-5: Create objectionable odors affecting a substantial number of people	Construction	Less than significant	---	---
	Operation and Maintenance	No impact	---	---

Impact Air-1: Would Alternative 5 conflict with or obstruct implementation of the applicable air quality plan? (Significant and Unavoidable)

RAQS

Significance of air quality impacts is based, in part, on the degree to which a project is consistent with SANDAG's growth forecasts. Alternative 5 would not directly or indirectly induce population growth and would therefore have no impact related to population growth. Alternative 5 would conflict with the RAQS if Alternative 5 construction activities did not adhere to a planned future VOC measure. This conflict with the RAQS would be a significant impact. SDG&E would implement APM AIR-3 (RAQS architectural coating standards); however, this measure does not specify adherence to the planned future VOC standards. Implementation of Mitigation Measure Air-1 which requires adherence to RAQS architectural coating standards would avoid conflicts with the RAQS. Impacts would be less than significant with mitigation.

Eight-Hour Ozone Attainment Plan

Alternative 5 would not directly or indirectly induce population growth in the SDAB and would not conflict with socio-economic projections used in the Eight-Hour Ozone Attainment Plan.

Construction of Alternative 5 would conflict with the RACM to restrict vehicle idling, which would constitute a significant impact. Implementation of APM AIR-2 (vehicle and equipment exhaust controls) would avoid conflict with the RACM. Impacts would be less than significant. No mitigation is required.

Construction of Alternative 5 would utilize the same types of construction equipment as the Proposed Project with the exception of heavy lift helicopters, which would not be used during construction of Alternative 5. Emissions from construction equipment would exceed the modeling assumptions used in the Eight-Hour Ozone Attainment Plan because construction of Alternative 5 would exceed the NO_x emissions threshold (see Impact Air-2 below). Although the Eight-Hour Ozone Attainment Plan has accounted for construction-related emissions, it has only accounted for emissions that would not exceed thresholds; therefore, construction emissions generated by Alternative 5 would conflict with those included in the emissions inventory of the Plan, which would be a significant impact. Mitigation Measure Air-4, which requires the use of construction equipment that meets a minimum of Tier 3 emissions standards, would reduce NO_x emissions. However, impacts would remain significant because

NO_x emissions would remain above the threshold. Impacts would be significant and unavoidable.

Operation and Maintenance

RAQS

Operation and maintenance of Alternative 5 would not induce population growth and would therefore not conflict with or obstruct implementation of the RAQS. There would be no impact.

Eight-Hour Ozone Attainment Plan

Operation and maintenance activities for Alternative 5 would be the same as activities for the Proposed Project. Vehicles and equipment used during operation and maintenance would not produce sufficient emissions to exceed those assumptions used in the analysis of equipment emissions or conflict with any of the RACMs in the Eight-Hour Ozone Attainment Plan (refer to Section 4.13.7 for further details). Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-1 (refer to Section 4.13.7) and Air-4 (refer to Section 4.13.10)

Significance after mitigation: Significant and unavoidable.

Impact Air-2: Would Alternative 5 violate any air quality standard or contribute substantially to an existing or projected air quality violation? (*Significant and unavoidable*)

Construction

State and National Ambient Air Quality Standards

Alternative 5 would exceed the PM_{10} and NO_x emissions thresholds as shown in Table 4.13-21; this impact would be significant. Implementation of APM AIR-1 (fugitive dust control) would reduce PM_{10} emissions to below the emissions threshold, and impacts from PM_{10} emissions would be less than significant.

NO_x emissions from construction of Alternative 5 would exceed the emissions thresholds, which would constitute a significant impact. Additional equipment use and simultaneous use of multiple crews to construct the longer underground transmission line account for the increase in NO_x emissions compared to the Proposed Project. APM AIR-4 (equipment emissions standards) requires use of construction equipment that meet a minimum of Tier 2 emissions standards. APM AIR-4 was considered in both the uncontrolled and controlled emissions and would not reduce emissions below the NO_x threshold. Mitigation Measure Air-4, which requires the use of at least Tier 3 construction equipment, would reduce NO_x emissions. Even with implementation of Mitigation Measure Air-4, NO_x emissions would exceed the emissions threshold. Impacts would remain significant and unavoidable.

SDAPCD Rule 55

Alternative 5 would violate SDAPCD Rule 55 if visible dust beyond the property line or track-out were to occur as a result of earthmoving construction activities. APM AIR-1 (fugitive dust control) would address some of the Rule 55 standards, but impacts would remain significant.

Table 4.13-21 Alternative 5 Estimated Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
2016						
Uncontrolled Project Emissions[1]	61.60	383.55	474.36	1.10	119.55	41.54
Controlled Project Emissions	61.60	383.55	474.36	1.10	72.66	31.69
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**Yes**	**No**	**No**	**No**
2017						
Uncontrolled Project Emissions[1]	13.38	88.46	106.74	0.16	6.86	4.99
Controlled Project Emissions	13.38	88.46	106.74	0.16	6.86	4.99
Emissions Threshold	**75**	**550**	**250**	**250**	**100**	**55**
Threshold Exceeded?[2]	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

1 Uncontrolled project emissions were estimated using assumptions included in APM AIR-4.

2 The controlled project emissions are used to evaluate whether Alternative 5 would exceed the emissions thresholds.

Source: SDG&E 2015c

Mitigation Measure Air-3 which requires implementation of a Dust Control Management Plan would reduce impacts. Impacts would be less than significant with mitigation.

Operation and Maintenance

Operation and maintenance of the Alternative 5 overhead transmission lines would be similar to SDG&E's existing operation and maintenance activities, and there would be no additional pollutant emissions from inspection and maintenance of the overhead transmission lines. The majority of the Alternative 5 alignment would be underground and would require ~~annual~~ inspections of vaults via a vehicle travelling to each vault for less than 1 day ~~per~~ every three years. Operation and maintenance emissions would not exceed thresholds due to the very low levels of equipment and vehicle activity. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: Air-3 (refer to Section 4.13.7) and Air-4 (refer to Section 4.13.10)

Significance after mitigation: Significant and unavoidable.

Impact Air-3: Would Alternative 5 result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? (*Significant and unavoidable*)

Construction

The SDAB is in nonattainment of CAAQS for PM_{10} and $PM_{2.5}$. Alternative 5 uncontrolled emissions would exceed the emissions threshold for PM_{10}. Implementation of APM AIR-1 (fugitive dust control) would reduce PM_{10} emissions to below the emissions threshold, and Alternative 5 would not contribute to a cumulatively considerable increase in fugitive dust emissions. Impacts would be less than significant.

The SDAB is also in nonattainment of CAAQS and marginal nonattainment of NAAQS for O_3. Alternative 5 emissions of NO_x, an O_3 precursor, would contribute to a cumulatively considerable increase in emissions of O_3, which would be a significant impact. NO_x emissions would be reduced with implementation of Mitigation Measure Air-4, which requires use of construction equipment that meet a minimum of Tier 3 emissions standards; however, impacts would remain significant because NO_x emissions would still exceed thresholds and contribute to a cumulatively considerable increase in O_3. Impacts would remain significant and unavoidable.

Operation and Maintenance

Operation and maintenance of the Alternative 5 overhead transmission lines would be similar to SDG&E's existing operation and maintenance activities, and there would be no additional pollutant emissions from inspection and maintenance of the overhead transmission lines. The majority of the Alternative 5 alignment would be underground and would require ~~annual~~ inspections of vaults via a vehicle travelling to each vault for less than 1 day ~~per~~ every three years. The very low level of emissions produced by a single vehicle once ~~a~~ every three years would not contribute to a cumulatively considerable net increase in emissions of pollutants for which the SDAB is in nonattainment. Impacts would be less than significant. No mitigation is required.

Mitigation Measure: Air-4 (refer to Section 4.13.10)

Significance after mitigation: Significant and unavoidable.

Impact Air-4: Would Alternative 5 expose sensitive receptors to substantial pollutant concentrations? (*Less than significant; no mitigation required*)

Construction

Construction of Alternative 5 would involve the use of diesel-powered vehicles and equipment, which produce carcinogenic TACs and particulate matter. The potential for exposure to pollutants in any area would be similar to exposure from existing pollutant sources (e.g., trucks and buses). The vehicles and equipment used for construction would not be concentrated in any one area of the Alternative 5 alignment because work would be conducted in multiple areas

simultaneously and vehicles and equipment would be dispersed throughout the transmission corridor. Vehicles and equipment would be continuously moving along the alignment as work is conducted. Alternative 5 vehicles and equipment would therefore not produce substantial pollutant concentrations near any sensitive receptors because the pollutants emissions would not concentrate and would be similar to pollutant levels from diesel-powered trucks traveling through the area. Impacts would be less than significant.

Construction activities along the underground portion of Alternative 5 would produce fugitive dust emissions in concentrations similar to the Proposed Project near sensitive receptors due to the use of open-cut trenching techniques. Impacts from fugitive dust emissions would be less than significant because soils within the open trench would likely be moist and would not be exposed to wind for a sufficient duration of time to produce substantial pollutant concentrations near any sensitive receptor.

Operation and Maintenance

Operation and maintenance of the Alternative 5 overhead transmission lines would be similar to SDG&E's existing operation and maintenance activities, and there would be no additional pollutant emissions from inspection and maintenance of the overhead transmission lines. The majority of the Alternative 5 alignment would be underground and would require ~~annual~~ inspections of vaults approximately every three years. Operation and maintenance activities for Alternative 5 would not expose sensitive receptors to substantial concentrations of pollutants that result in adverse health impacts because activities would not result in additional emissions relative to the current on-going maintenance of SDG&E facilities. Impacts would be less than significant. No mitigation is required.

Mitigation Measures: None required.

Impact Air-5: Would Alternative 5 create objectionable odors affecting a substantial number of people? (*Less than significant; no mitigation required)*

Construction

Alternative 5 diesel exhaust emissions from construction vehicles and equipment would create objectionable odors. Residential uses are located as close as 30 feet from construction work areas along the transmission line corridor. Colucci and Barnes (1971) found that diesel emissions are perceptible within 29 feet of a stationary source; thus, the use of construction equipment and vehicles 30 feet from a residence would result in minimally perceptible, if not imperceptible, odors. Additionally, receptors would only temporarily be able to perceive odors because construction at any one location would not last more than a few days. Impacts would be less than significant. No mitigation is required.

Operation and Maintenance

Alternative 5 operation and maintenance activities would not subject a substantial number of sensitive receptors to objectionable odors because the activities would not result in additional diesel-equipment use and odors in proximity to sensitive receptors relative to the current

on-going maintenance of SDG&E facilities and trucks and busses traveling on roadways. There would be no impact.

Mitigation Measures: None required.

4.13.13 No Project Alternative

The No Project Alternative would include construction of the CAISO approved Mission—Peñasquitos 230-kV transmission line, ~~and~~ Second Poway—Pomerado 69-kV power line, Second Miguel—Bay Boulevard 230-kV transmission line, and Second Sycamore Canyon—Scripps 69-kV power line, and upgrades of the Miguel—Mission 230-kV, Bernardo—Felicita Tap—Felicita 69-kV, and Artesian—Bernardo 69-kV lines. ~~The No Project Alternative would also involve installation of a series reactor at Sycamore Canyon Substation.~~ This alternative is described in more detail in Chapter 3: Alternatives. Overall air quality emissions would be ~~lower~~ greater than the Proposed Project because the No Project Alternative would ~~not involve underground duct bank construction, which produces substantially~~ involve construction along approximately 69 more miles than the Proposed Project. The No Project Alternative would potentially involve underground construction similar to the Proposed Project, which would produce more emissions than overhead transmission or power line construction.

~~4.13.13.1 Mission—Peñasquitos 230-kV Transmission Line and Second Poway—Pomerado 69-kV Line~~

Construction of the Mission—Peñasquitos transmission line, ~~and~~ Second Poway—Pomerado line, Second Miguel—Bay Boulevard 230-kV transmission line, Second Sycamore Canyon—Scripps 69-kV power line, and the reconductoring of the three existing lines would require the use of diesel-powered equipment and possibly helicopters to install new structures to accommodate the new transmission and power lines. Equipment and helicopters would emit VOCs, CO, NO_x, and SO_x; earth disturbance from pole excavations and movement of equipment on dirt roads would generate fugitive dust (PM_{10} and $PM_{2.5}$). Emissions of criteria pollutants would likely not exceed air quality emissions thresholds if construction were phased to minimize simultaneous construction along multiple parts of the transmission corridors; impacts would be less than significant.

~~4.13.13.1 Series Reactor at Sycamore Canyon Substation~~

~~Installation of a series reactor at Sycamore Canyon Substation would require use of diesel-powered equipment and earth disturbance that would emit criteria pollutants. However, the activity level for installing a series reactor would be much less than the Proposed Project; therefore, it would have a less than significant impact on air quality because the Proposed Project air quality emissions are less than significant.~~

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