

4.3 AIR QUALITY

4.3 AIR QUALITY

This section discusses the current air quality conditions in the project area and region, air quality regulations applicable to the proposed project, and potential air quality impacts from the construction and operation of the proposed project. Air quality and the chemical components in the air affect other environmental resources, including plants and wildlife; air quality also affects human health. As a resource, air is essential to humans, wildlife, and plants.

4.3.1 Environmental Setting

This section provides a description of the existing air quality conditions, including regional climate conditions, ambient air quality, criteria pollutants, toxic air contaminants, types of emission sources, and sensitive receptors.

Air Basin

The proposed project would be located in the San Diego Air Basin (SDAB). The approximately 4,500-square-mile SDAB is located along the southern coast of California and is contiguous with San Diego County.

Climate and Meteorology

The project area is located in the transitional climate and coastal climate zones. The transitional climate zone is typically warm and dry with low humidity. Temperatures in the winter are generally about 60 degrees Fahrenheit, whereas summer temperatures can exceed 100 degrees Fahrenheit (SDAPCD 2010).

The SDAB experiences frequent temperature inversions. Temperature typically decreases at greater altitudes; a temperature inversion occurs when there is an increase in temperature with height. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. Another type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. Inversions effectively act as a cap beyond which pollutants cannot travel thereby concentrating pollutants in the atmosphere. Light daytime winds, predominately from the west, further aggravate the concentration of pollutants caused by frequent temperature inversions by driving air pollutants to the east, toward the mountains. Under certain conditions, atmospheric oscillation results in the offshore transport of air and pollutants from the Los Angeles region to San Diego County. The SDAB's climate effect on baseline concentrations of specific pollutants is further discussed by pollutant, below.

Wind directions at Brown Municipal Field by time of year are shown in Table 4.3-1. Wind directions at Brown Municipal Field adequately represent wind directions in the project area because Brown Municipal Field is close to the project area (approximately 3.5 miles south-southwest of the eastern terminus of the proposed project alignment), and there are no large hills or topographic features separating the project area from Brown Municipal Field. Over the course of the year, the principal wind direction is west-northwest (IEM 2014).

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Table 4.3-1 Wind Directions in the Project Area (2013)

Month	Principal Wind Direction(s)	Month	Principal Wind Direction(s)
January	Southeast	July	West-Northwest
February	West, Southeast	August	West-Northwest
March	West, West-Northwest	September	West-Northwest
April	West, West-Northwest	October	West-Northwest
May	South-Southwest, West, West-Northwest	November	Southeast, South-Southwest, North-Northwest
June	West-Northwest	December	Southeast, Southwest, West-Northwest

Source: IEM 2014

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Air Pollutants

The EPA and the California Air Resources Board (CARB) designate air basins according to federal and state air quality standards for criteria air pollutants and toxic air contaminants (TACs) (refer to Section 4.3.2 for discussion of the regulations). EPA standards are set to protect public health. EPA has set National Ambient Air Quality Standards (NAAQS) for seven criteria pollutants:

1. Ozone (O_3)
2. Sulfur dioxide (SO_2)
3. Carbon monoxide (CO)
4. Nitrogen dioxide (NO_2)
5. Lead (Pb)
6. Particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10})
7. Particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$)

CARB has set California Ambient Air Quality Standards (CAAQS) for four pollutants in addition to the seven NAAQS criteria pollutants:

1. Sulfates
2. Hydrogen sulfide (H_2S)
3. Visibility reducing particles

This section contains a discussion of each CAAQS and NAAQS criteria pollutant, including their sources, health effects, and concerns particular to the SDAB.

Ozone. Ozone is found in the upper atmosphere (as the ozone layer) as well as at ground level. At ground level, ozone is considered a pollutant. Ozone forms when ozone precursors (volatile organic compounds [VOCs], CO, nitrogen oxides [NO_x]) undergo chemical reactions. Sources of these precursors include fuel combustion in vehicles and industrial processes, gasoline vapors,

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and chemical solvents. Health effects of ozone include respiratory problems (chest pain, coughing, throat irritation) as well as exacerbation of existing respiratory problems, such as asthma and bronchitis.

Temperature inversions and atmosphere oscillation, explained previously in “Climate and Meteorology,” increase O₃ levels in the SDAB. Pollutants trapped by temperature inversions undergo photochemical reactions that produce O₃. Atmosphere oscillation results in transport of air pollutants from Los Angeles region to San Diego County, which contributes to O₃ concentrations in the SDAB. In the SDAB, ozone has been the “primary air pollution problem” (SDAPCD 2007b).

Sulfur Dioxide. Most sulfur dioxide released into the atmosphere is created during fossil fuel combustion. Health effects of SO₂ exposure include respiratory effects such as exacerbation of asthma and bronchitis. SO₂ is also necessary to form acid rain. Sulfur dioxide is not a pollutant of concern in the SDAB because low-sulfur fuels are used and there had never been a violation of federal or state standards (SDAPCD 2007a).

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

Nitrogen Dioxide. Nitrogen dioxide is formed during combustion of fossil fuels from vehicles and industrial processes. Nitrogen dioxide is an ozone precursor, but NO₂ can itself also cause health effects. Health effects of NO₂ include airway inflammation and exacerbation of preexisting asthma. Federal and state standards of NO₂ have not been violated since 1978 and 1988, respectively (SDAPCD 2007a).

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 2007a).

Respirable Particulate Matter (PM₁₀). Particulate matter is a combination of liquid globules and very small solid particles formed in a variety of ways. PM₁₀ particles are particulate matter particles that 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. PM₁₀ is a concern in the SDAB due to noncompliance with the state standard (SDAPCD 2007a).

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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 particulate matter particles that 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 PM₁₀ because it can contain a larger variety of dangerous components than PM₁₀ and can more easily go further into the lungs. PM_{2.5} can cause the same health problems as PM₁₀ but can also travel deeper into the lungs and damage lung tissue. PM_{2.5} is a concern in the SDAB due to noncompliance with the state standard (SDAPCD 2007a).

Sulfates. Sulfates are a form of sulfur. Most sulfate emissions come from burning 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 SO₂ from fuel combustion. SO₂ 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. Hydrogen sulfide is released principally in natural gas purification and oil refinement and is also produced during geothermal energy production. Health effects of H₂S 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.

Baseline Air Quality and Air Basin Designations

The EPA designates areas relative to NAAQS (described in Section 4.3.2) as one of the following:

- **Nonattainment:** area that does not meet NAAQS or an area that contributes to an area nearby that does not meet NAAQS
- **Attainment:** area that meets the NAAQS
- **Unclassifiable:** area that is not classifiable on available information

The CARB designates areas relative to the CAAQS (described in Section 4.3.2), as one of the following:

- **Nonattainment:** area with one or more violations of the CAAQS one or more times in the last three years
- **Attainment:** area with no violations of the CAAQS in the last three years
- **Unclassified:** area with insufficient data for designation

Air basin designations for the CAAQS and NAAQS are shown in Table 4.3-2.

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 Assembly Bill (AB) 1807 Program.

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Table 4.3-2 San Diego Air Basin Designations

Pollutant	State Designation	Federal Designation
O ₃	Nonattainment	Nonattainment (marginal)
SO ₂	Attainment	Attainment
CO	Attainment	Unclassified/Attainment
NO ₂	Attainment	Unclassified/Attainment
Pb	Attainment	Unclassified/Attainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Nonattainment	Unclassified/Attainment
Sulfates	Attainment	No federal standard
H ₂ S	Unclassified	No federal standard
Visibility Reducing Particles	Unclassified	No federal standard

Sources: EPA 2013a; CARB2012a, 2012b, and 2012c

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 2013b). CARB has also promulgated regulations, as Airborne Toxic Control Measures, to reduce airborne toxics emissions, including measures that apply to mobile sources (CARB 2013a).

Odors

Land use in the project area 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 project area.

Sensitive Receptors

The South Coast Air Quality Management District (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 2005a). Sensitive receptors include (SCAQMD 2005a):

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

The area around and including the project corridor is a mix of residential, developed, and undeveloped natural habitats. Sensitive receptors in the area include residences, schools, parks, and childcare facilities. Sensitive receptors near the project area are provided in Table 4.3-3.

There are no hospitals, retirement homes, or health care facilities near the project area.

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Table 4.3-3 Sensitive Receptors near the Project Area

Project Element	Receptor	Minimum Distance from Project Feature
Proposed Substation	Residences	190 feet
	High Tech Schools	1,024 feet
TL 6965	Residences	20 feet (35 feet with MM Noise-4)
	Camarena Elementary School	877 feet
	Winding Walk Park	106 feet
	Winding Trails Park	953 feet
	Sunset View Park	141 feet
	Olympic View School	302 feet
	East Lake High School	123 feet
	Chula Vista Community Park	639 feet
	Shorebird Park	966 feet
	Cobblestone Park	946 feet
	Mackenzie Creek Park	829 feet
	Mount San Miguel Community Park	23 feet
Miguel Substation	Residences	1,875 feet
	Mount San Miguel Park	1,508 feet
Hunte Parkway Staging Yard	Residences	120 feet
	High Tech Schools	658 feet
OTC Staging Yards	Residences	82 feet (Northern staging yard)
	Otay Lakes Regional Parks	632 feet (Southern staging yard)
	Eastlake Park	54 feet (Southern staging yard)
	Eastlake Junior Field	817 feet (Northern staging yard)

4.3.2 Regulatory Setting

Federal

EPA is responsible for setting NAAQS under the CAA. National primary standards are the “levels of air quality needed, with an adequate margin of safety, to protect the public health”

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(CARB 2013b). 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 2013b). NAAQS are listed in Table 4.3-4.

Table 4.3-4 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard 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	8 Hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	—
	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	—
NO ₂	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)
	1 Hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	—
SO ₂	Annual Arithmetic Mean	—	0.030 ppm (for certain areas)	—
	24 Hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas)	—
	3 Hours	—	—	0.5 ppm (1,300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	—
PM ₁₀	Annual Arithmetic Mean	20 µg/m ³	—	—
	24 Hours	50 µg/m ³	150 µg/m ³ ^[4]	150 µg/m ³ ^[4]
PM _{2.5}	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	15 µg/m ³
	24 Hours	— ⁵	35 µg/m ³	35 µg/m ³
Sulfates	24 Hours	25 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
H ₂ S	1 Hour	0.03 ppm (42 µg/m ³)	—	—

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Pollutant	Averaging Time	California Standard ¹	National Standards ²	
			Primary	Secondary
Vinyl Chloride	24 Hours	0.01 ppm (26 µg/m ³)	—	—
Visibility Reducing Particles	8 Hours (10 AM to 6 PM PST)	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 O₃, CO, SO₂ (1- and 24-hour), NO₂, and particulate matter (PM₁₀, 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 O₃, particulate matter, and those based on annual arithmetic mean) more than once per year.
- 3 An area achieves the O₃ 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 PM₁₀ 24-hour standard when the expected number of days per calendar year with a 24-hour average concentration greater than 150 µg/m³ 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.

µg/m³: micrograms per cubic meter

mg/m³: milligrams per cubic meter

ppb: parts per billion

ppm: parts per million

PST: Pacific Standard Time

Source: CARB 2013a

State

CARB is responsible for setting CAAQS under California Health and Safety Code Section 39606. CAAQS are intended to protect public health, safety, and welfare. CAAQS are listed in Table 4.3-3. 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.

Local

County or regional air quality management districts and APCDs are primarily responsible 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).

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

San Diego Regional Air Quality Strategy

The CCAA requires preparation and implementation of plans to attain air quality standards for each area designated nonattainment of CAAQS for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide. 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. The RAQS outlines how SDAPCD will make progress toward attainment of the California O₃ air quality standards by addressing emissions of the two O₃ precursors—VOCs and NOx. SDAPCD regulates stationary emission sources and a limited number of area-wide emissions 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 NOx emissions come from sources regulated at the federal level (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

Each area that violates the NAAQS must be designated in “nonattainment” for that pollutant and submit a SIP. A SIP outlines the local, state and federal emissions control regulations necessary to bring the area into attainment. The Eight-Hour Ozone Attainment Plan for the County serves as the SIP for SDAPCD for the eight-hour O₃ NAAQS. Sources of O₃ 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 2007b). The local control measures, enforced by SDAPCD, include rules to reduce NOx and VOC emissions, which are O₃ precursors. 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 O₃ (SDAPCD 2007b).

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

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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 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. It prohibits activities that discharge visible dust beyond the property line for more than an aggregate of 3 minutes in any 60-minute period and requires measures to minimize and remove visible roadway dust caused by spillage 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.

4.3.3 Applicant Proposed Measures

SDG&E proposes to implement measures that would reduce environmental impacts. The following relevant APMs are considered part of the proposed project (Table 4.3-5). The significance of the impact, however, is first considered prior to application of the APM and a significance determination is made. The implementation of the APM is then considered as part of the project when determining whether impacts would be significant and thus would require mitigation. These APMs would be incorporated as part of any CPUC approval of the project, 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 Section 9: Mitigation Monitoring and Reporting Plan of this Draft EIR), and the implementation of the measures would be monitored and documented in the same manner as mitigation measures.

Table 4.3-5 Applicant Proposed Measures for Air Quality Impacts

APM Number	Requirements
APM AIR-1: Dust Control	All unpaved demolition and construction areas will be wetted as needed to reduce fugitive dust emissions and meet San Diego Air Pollution Control District (SDAPCD) Rule 55 requirements. All earthen material transported off site will be secured by covering or use of at least 2 feet of freeboard to avoid carry-over. All earth-moving or excavation activities that create visible dust will be discontinued to limit fugitive dust from leaving the project site.
APM AIR-2: Vehicle and Equipment Exhaust	SDG&E or its contractors will maintain and operate construction equipment to minimize exhaust emissions. All equipment will be properly tuned and maintained in accordance with manufacturer specifications. During construction, trucks and vehicles in loading and unloading queues will have their engines turned off after 5 minutes when not in use. All areas where construction vehicles are parked, staged, or operating will be visibly posted with signs stating, "No idling in excess of 5 minutes." Construction activities will be phased and scheduled to avoid emissions peaks, and equipment use will be curtailed during second-stage smog alerts.

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APM Number	Requirements
APM AIR-3: VOC Emissions	Coatings, sealants, adhesives, solvents, asphalt, and architectural coatings will 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.

4.3.4 Significance Criteria

Appendix G of CEQA Guidelines (14 CCR 15000 *et seq.*) provides guidance on assessing whether a project will 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

4.3.5 Environmental Impacts and Mitigation Measures

This analysis addresses the potential air quality impacts associated with the construction, operation, and maintenance of the proposed project.

Approach to Impact Assessment

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 the CAAQS and NAAQS. 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 PM₁₀ waiver
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 the County.

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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 nonattainment for ozone and the SDAB is designated as marginal nonattainment, the SCAQMD's VOC threshold (VOC is an ozone precursor) was established to reduce VOC in a more aggressive manner than would be required in the SDAB because the SDAB has a lower degree of nonattainment for ozone. Use of the SCAQMD threshold for VOC and PM_{2.5} provides a conservative analysis because the SDAB would not need to adhere to such low thresholds to achieve attainment for ozone or to maintain attainment for PM_{2.5}.

Air Quality Modeling

This analysis of air quality impacts used air quality modeling to estimate air quality emissions resulting from construction of the project. Emissions from operation and maintenance were assumed to be below the level of significance due to the minimal level of increased long-term vehicle and equipment activity required for operation and maintenance of the project. The project does not include development of new homes or businesses and, therefore, would not induce population growth in the SDAB. The proposed project would increase reliability of electric service when the already-planned growth occurs in the area (refer to Section 7.1: CEQA Statutory Sections). Thus, emissions from the proposed project include only the emissions associated with maintenance of the proposed project.

Construction emissions were modeled using the emissions factors and equipment assumptions shown in Table 4.3-6.

Equipment Use and Assumptions

The analysis of air quality emissions is based on the construction schedule for each project component provided by SDG&E. Construction emissions were calculated weekly based on the construction schedule for each project component. Construction emission calculations include combustion emission from heavy construction equipment, construction truck trips, and worker commutes (Scientific Resources Associated 2013).

Table 4.3-6 Emissions Factors and Equipment Assumptions Used in Emissions Modeling

Emission Source	Emissions Factors and Equipment Assumptions
Off-road heavy construction equipment	<ul style="list-style-type: none">• CARB OFFROAD Model emissions factors• Based on SCAQMD composite off-road emission factors for year in which construction would occur• Assumes mix of 70 percent Tier 2 and 30 percent Tier 3 equipment• Horsepower rating and load factor based on California Emission Estimator Model (CalEEMod) default ratings
On-road vehicles	CARB 2011 emissions factors model (EMFAC2011)

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Emission Source	Emissions Factors and Equipment Assumptions
Helicopters	<ul style="list-style-type: none"> Fuel usage rates from EPA AP-42, Table II-1-8 Modal Emission Rates—Military Aircraft Engines Fuel density from Air British Petroleum (BP) Handbook of Products Emissions factors from California Climate Action Registry's General Reporting Protocol 3.1 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 was used. It was assumed that PM_{2.5} would be essentially equal to PM₁₀. 5 hours per day over a 4-day period
Fugitive dust	<ul style="list-style-type: none"> SCAQMD methodologies for earthmoving activities Considered maximum amount of earthwork that would occur in a day

Sources: Scientific Resources Associated 2013, SCAQMD 2012, CARB 2007

Impact Assessment

Table 4.3-7 provides a summary of the significance of potential impacts on 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 4.3-7 Summary of Potential 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 plans	Construction	Significant	Less than significant APM AIR-3	Less than significant
	Operation and Maintenance	No impact	No impact	No impact
Impact Air-2: Potentially violate any air quality standard or contribute substantially to an existing or projected air quality violation	Construction	Significant	Significant APM AIR-1	Less than significant MM Air-1
	Operation and Maintenance	Less than significant	Less than significant	Less than significant
Impact Air-3: Potentially 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	Construction	Significant	Less than significant APM AIR-1	Less than significant
	Operation and Maintenance	Less than significant	Less than significant	Less than significant
Impact Air-4: Potentially expose sensitive receptors to substantial pollutant concentrations	Construction	Less than significant	Less than significant	Less than significant
	Operation and Maintenance	Less than significant	Less than significant	Less than significant

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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	Less than significant	Less than significant
	Operation and Maintenance	Less than significant	Less than significant	Less than significant

Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plans (Less than significant; no mitigation required)

Construction

Construction of the proposed project would not conflict with or obstruct implementation of applicable air quality plans, which are the RAQS and the Eight-Hour Ozone Attainment Plan for San Diego County.

The RAQS emission inventories and projections include all sources of VOCs and NO_x; 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 above existing growth projections (refer to Section 7.1: CEQA Statutory Sections).

The 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 proposes to implement APM AIR-3, which requires adherence to the planned future architectural coating standard in the RAQS. Project construction would therefore not conflict with the RAQS. Impacts would be less than significant.

The Eight-Hour Ozone Attainment Plan considers that sources of O₃ 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 2007b). The project does not include development of new homes or businesses and, therefore, would not induce population growth in the SDAB. However, the proposed project would increase reliability of electric transmission when the planned and approved development occurs in the area (refer to Section 7.1: CEQA Statutory Sections). 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 Eight-Hour Ozone Attainment Plan. Construction of the proposed project would therefore not conflict with

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the projections or the emissions control measures in the Eight-Hour Ozone Attainment Plan, and there would be no impact.

Operation and Maintenance

Operation and maintenance of the proposed project would not conflict with or obstruct implementation of applicable air quality plans because the limited vehicle emissions would be within the projections of the local air quality plans. The proposed substation would be an unmanned substation and operation and maintenance would involve daily or weekly trips of one vehicle to the proposed substation, while none currently occur. Routine inspections and maintenance of the TL 6965 power line would consist of two vehicles traveling to the site six times per year, and maintenance would happen periodically, as needed (refer to Section 2.8: Project Description). Emissions during operation and maintenance would therefore be far lower than emissions during construction.

Operation and maintenance does not involve new development and would not induce population growth. The proposed project would increase reliability of electric transmission when the planned and approved development occurs in the area (refer to Section 7.1: CEQA Statutory Sections). Operation and maintenance is consistent with the RAQS and applicable portions of the Eight-Hour Ozone Attainment Plan for San Diego County (County of San Diego 2014). The proposed project would therefore not conflict with or obstruct implementation of the RAQS or the Eight-Hour Ozone Attainment Plan for San Diego County. There would be no impact.

Mitigation Measures: None required.

Impact Air-2: 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 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 (PM₁₀ and PM_{2.5}) and exhaust emissions (NO_x, sulfur oxides [SO_x], CO, VOCs, PM₁₀, and PM_{2.5}).

CAAQS and NAAQS

Table 4.3-8 provides of a summary of estimated maximum daily air pollutant emissions for each year of construction, both uncontrolled and controlled. Assumptions and values used for uncontrolled emissions are described previously in “Air Quality Modeling.” The emission modeling results shown in Table 4.3-8 indicate that the uncontrolled project construction emissions (emissions prior to the application of APMs) would be far below emissions thresholds

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Table 4.3-8 Estimated Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}
2016						
Uncontrolled Project Emissions	31.05	133.45	219.14	0.52	160.99	39.75
Controlled Project Emissions	31.05	133.45	219.14	0.52	19.19	9.97
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No
2017						
Uncontrolled Project Emissions	23.16	103.18	147.14	0.35	6.82	5.55
Controlled Project Emissions	23.16	103.18	147.14	0.35	6.82	5.55
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No

Note:

¹ Determination is based on controlled project emissions.

Source: SDG&E 2015b

for all pollutants except PM₁₀. Uncontrolled PM₁₀ emissions would exceed the emissions threshold in 2016. APM AIR-1 would reduce emissions of PM₁₀ below the emissions threshold by requiring SDG&E to regularly water disturbed construction areas. Emissions of VOC, CO, NO_x, SO_x, PM₁₀, 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. Impacts would be less than significant, and no mitigation is required.

SDAPCD Rule 55

The project would involve earthmoving activities that could produce PM₁₀ 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. Mitigation Measure Air-1 requires preparation of a Dust Control Management Plan, which would include measures to meet the standards of Rule 55. Impacts would be less than significant with mitigation.

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Operation and Maintenance

Operation and maintenance of the proposed project would result in minor emissions associated with vehicle usage. Operations would involve daily or weekly trips of one vehicle to the proposed substation, while none currently occur. Routine inspections and maintenance of the transmission line would consist of two vehicles traveling to the site six times per year, and maintenance would happen periodically, as needed (refer to Section 2.8: Project Description). The operation and maintenance activity level would be far below that of construction.

Emissions during operation and maintenance would therefore be far lower than emissions during construction and would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

Mitigation Measures: Air-1

Mitigation Measure Air-1: 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:

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:
 - a. 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
 - b. 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 PM₁₀-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 earth moving activities when wind speed exceeds 20 miles per hour
- Covering soil stockpiles

Significance After Mitigation: Less than significant.

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Impact Air-3: Potentially 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 (Less than significant; no mitigation required)

The project emissions were evaluated for their contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. CARB designates the SDAB as nonattainment for the state O₃, PM₁₀, and PM_{2.5} standards (CARB 2012a, CARB 2012b, CARB 2012c). EPA designates the SDAB as nonattainment (marginal) under the federal 8-hour O₃ standard. The proposed project would have a cumulatively considerable impact on air quality if:

- The project would result in emissions above the significance thresholds, or
- The project would violate any action in an Attainment Plan

The SDAPCD has developed an Eight-Hour Ozone Attainment Plan. The Eight-Hour Ozone Attainment Plan utilizes emissions inventories and projections compiled by CARB in order to define action criteria and emissions thresholds that will allow the SDAPCD to achieve ozone attainment as expeditiously as possible (SDAPCD 2007b). The emissions inventories and projections consider current and future emissions from all sources in the SDAB, including household uses, transportation, public services, and utilities; therefore, the emissions thresholds consider impacts from all cumulative projects in the air basin. This Draft EIR uses the emissions thresholds from SCAB for VOC (ozone precursor) and PM_{2.5}, which hold individual projects to a tougher standard because they were designed with consideration of worse existing air quality conditions than the proposed project region. If the proposed project does not exceed the SCAB standard, the project would not cause cumulative impacts in the project region because emissions would be below thresholds that are more stringent than those necessary to achieve attainment in the SDAB.

Construction

Construction activities would result in emissions of O₃ precursors (CO, VOC, and NO_x) and fugitive dust (PM₁₀ and PM_{2.5}). The air quality standards included in the significance threshold for Impact Air-2 are designed to ensure that a project does not exacerbate existing violations and consider cumulative impacts as described above. As discussed for Impact Air-2, uncontrolled emissions of PM₁₀ would exceed the emissions threshold prior to implementation of APM AIR-1, which would be a significant cumulative impact. APM AIR-1 would require SDG&E to water disturbed soils, which would reduce emissions of PM₁₀ and PM_{2.5} to a level well below the thresholds of significance. Implementation of Mitigation Measure Air-1 would reduce emissions and the cumulative impact from emissions of PM₁₀ and PM_{2.5} would therefore be less than significant.

Emissions of CO, VOC, and NO_x would be below the emissions thresholds set by SDAB and SCAB. The proposed project would not exceed the emission-based significance thresholds for O₃ precursors and would therefore not contribute considerably to a significant cumulative impact to O₃. The cumulative impact from project emissions of CO, VOC, and NO_x would be less than significant.

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The RAQS and Eight-Hour Ozone Attainment Plan for San Diego County are designed to reach attainment status for state and federal O₃ standards given all projected activities in the SDAB. The RAQS outline how SDAPCD will reach attainment of California O₃ standards. The Eight-Hour Ozone Attainment Plan for San Diego County outlines how the SDAPCD will reach attainment for federal O₃ standards. As discussed for Impact Air-1, the project would be consistent with the plans to reach attainment in the basin. The project would not cause a cumulatively considerable contribution to O₃ attainment status. Impacts would be less than significant, and no mitigation is required.

Operation and Maintenance

The significance thresholds in Impact Air-2 are designed to ensure that a project does not exacerbate ongoing violations and contribute to a cumulatively considerable impact. As discussed for Impact Air-2, operation and maintenance of the proposed project would result in minor emissions associated with limited vehicle usage (i.e., one vehicle trip per week for inspections and infrequent vehicle use for maintenance); emissions from operation and maintenance would be far below the emissions thresholds set by the air district through consideration of cumulative regional projects. Emissions of O₃ precursors and fugitive dust would be well below the significance thresholds and 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.

Mitigation Measures: None required.

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

Construction

Proposed Substation

Diesel exhaust particulate matter would be emitted from heavy equipment during substation construction. Homes are located within 190 feet of the substation site, while schools are located within 1,000 feet of the substation site. Diesel exhaust particulate matter is considered carcinogenic, and long-term exposure to such emissions could cause negative health effects. Emissions would occur at the substation site for 18 months, but emissions would not occur 24 hours per day. Emissions would occur during working hours and at varying levels over time as construction activities change at the substation site. Construction would not require use of exclusively heavy-duty construction equipment or heavy-duty diesel trucks—which are subject to the CARB Airborne Toxics Control Measure—throughout the 18-month construction period. Use of Tier 2 and 3 equipment, assumed in the air quality modeling, would minimize equipment exhaust emissions, further reducing impacts on nearby sensitive receptors.

Health effects from toxic air emissions are typically framed in terms of incremental cancer risk. Incremental cancer risk is measured by the likelihood that a person continuously exposed to TACs over a 70-year lifetime would develop cancer (SCAQMD 2005b). Construction of the proposed substation would occur for 18 to 24 months and would not continuously expose persons to TAC emissions over a long period of time (i.e., 70 years), and there would be no

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residual cancer risk once construction ceases. This level of exposure would not measurably increase cancer risk. Impacts would be less than significant.

TL 6965

Sensitive receptors near the TL 6965 alignment include residences, parks, and schools. The closest sensitive receptor is 20 feet (35 feet with implementation of Mitigation Measure Noise-4) from the nearest pole work area. Diesel exhaust would be emitted at pole work areas for the limited time required to install the poles. Work would occur for a few days at each pole site, substantially limiting sensitive receptor exposure to diesel exhaust emissions. Receptors would not be exposed to substantial pollutant concentrations due to the short-term nature of the work in each area. Impacts would be less than significant.

Miguel Substation

Sensitive receptors near Miguel Substation include Mt. San Miguel Park at approximately 1,500 feet from the substation and residences located approximately 1,875 feet or more from the substation. Diesel exhaust would be emitted at Miguel Substation. However, work is limited in this area, and sensitive receptors are far enough away that diesel emissions would dissipate before reaching the receptors. Receptors would not be exposed to substantial pollutant concentrations due to the distance to sensitive receptors and the limited amount of work at Miguel Substation. Impacts would be less than significant.

Operation and Maintenance

Sensitive receptors near the project would not be exposed to substantial pollutant concentrations caused by project operation and maintenance. Operations would involve daily or weekly trips of one vehicle to the proposed substation, while none currently occur. Routine inspections and maintenance of the transmission line would consist of two vehicles traveling to the site six times per year, and maintenance would happen periodically, as needed (refer to Section 2.8: Project Description). Most vehicles 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. Impacts would be less than significant.

Mitigation Measures: None required.

Impact Air-5: Create objectionable odors affecting a substantial number of people (Less than significant; no mitigation required)

Construction

Proposed Substation

Substation construction activities may generate some odors associated with vehicle and equipment exhaust emissions. The proposed substation site is located approximately 190 feet from homes and approximately 1,000 feet from High Tech High School. One study concluded 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 (Colucci & Barnes 1970); these distances are conservative due to advances in technology. Buses with diesel engines would create comparable

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odors to construction equipment. Substantial numbers of sensitive receptors are all well beyond 36 feet from the proposed substation site, and odors would be non-detectable. There would be no impact.

TL 6965

TL 6965 construction activities may generate some site-specific odors associated with vehicle and equipment exhaust emissions. Residents are as close as 20 feet from construction areas along TL 6965. The concentration of several vehicles in one area at 20 feet away from residences could result in slightly perceptible odors. These odors would be temporary as construction at any one pole location would not last more than a few days. Further, only a limited number of residences in the vicinity would perceive the odors temporarily; a substantial number of people would not be affected. Impacts would be less than significant.

Miguel Substation

Construction activities at Miguel Substation may generate some site-specific odors associated with vehicle and equipment exhaust emissions. The closest residents are almost 1,900 feet from construction areas. Construction odors generated from Miguel Substation work would not affect sensitive receptors because odors would dissipate and become undetectable at a distance of 1,900 feet. There would be no impact.

Operation and Maintenance

Operation and maintenance work would intermittently generate negligible, undetectable levels of odors associated with vehicle and equipment exhaust emissions. Project-related vehicle emissions and associated odors may occur infrequently within 20 feet of residences. Impacts from operation and maintenance of TL 6965 would be less than significant.

There would be no impact from operation and maintenance of the proposed substation or modifications at Miguel Substation because the substations are located more than 36 feet from receptors. Any odors from vehicles maintaining the facility would not be detectable at the nearest sensitive receptors.

Mitigation Measures: None required.

4.3.6 Project Alternatives

Table 4.3-9 provides a summary of the potential impacts on air quality from the project alternatives.

Table 4.3-9 Summary of Impacts from Alternatives by Significance Criteria

Significance Criteria	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Impact Air-1: Conflict with or obstruct implementation of the applicable air quality plans	Less than significant APM AIR-3			

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Significance Criteria	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Impact Air-2: Potentially violate any air quality standard or contribute substantially to an existing or projected air quality violation	Less than significant	Less than significant with mitigation APM AIR-1 APM AIR-2 MM Air-1 MM Air-Alt 1-1	Less than significant with mitigation APM AIR-1 MM Air-1	Less than significant with mitigation APM AIR-1 MM Air-1
Impact Air-3: Potentially 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	Less than significant	Less than significant with mitigation APM AIR-1 MM Air-Alt 1-1	Less than significant with APM AIR-1	Less than significant APM AIR-1
Impact Air-4: Potentially expose sensitive receptors to substantial pollutant concentrations	Less than significant	Less than significant	Less than significant	Less than significant
Impact Air-5: Create objectionable odors affecting a substantial number of people	Less than significant	No impact	No impact	Less than significant

Alternative 1: 230/12-kV Substation and 230-kV Loop-In

Environmental Setting

Alternative 1 involves constructing a 230/12-kV substation, distribution circuits, and a 230-kV loop-in within the same parcel as the proposed substation. The air quality conditions described in Section 4.3.1 would apply to Alternative 1.

Environmental Impacts

Similar to the proposed project, Alternative 1 would involve implementation of the applicable current control measures in the RAQS, including a new control measure related to VOCs. Alternative 1 would result in a significant impact if it did not adhere to the planned control measure in the RAQS. APM AIR-3 requires adherence to the planned future architectural coating standard in the RAQS. Construction would therefore not conflict with the RAQS, and impacts would be less than significant.

Table 4.3-10 provides a summary of the peak air quality emissions for construction of Alternative 1. Construction of Alternative 1 would avoid all emissions and air quality impacts associated with construction of the overhead 69-kV power line because the overhead power line would not be constructed under this alternative. Similar to the proposed project, uncontrolled emissions from construction of Alternative 1 would be below emissions thresholds for all pollutants except PM₁₀. Uncontrolled PM₁₀ emissions would exceed the threshold, which would be a significant impact. APM AIR-1 would reduce PM₁₀ emissions below the emissions threshold by requiring watering of disturbed soils. Even with APM AIR-1, fugitive dust emissions could violate SDAPCD Rule 55 if earthmoving activities produced visible dust

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Table 4.3-10 Estimated Alternative 1 Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}
2016						
Uncontrolled Project Emissions	44.39	181.23	244.75	0.60	162.49	39.68
Controlled Project Emissions	44.39	181.23	244.75	0.60	21.13	10.00
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No
2017						
Uncontrolled Project Emissions	7.74	36.43	51.35	0.12	2.39	1.05
Controlled Project Emissions	7.74	36.43	51.35	0.12	2.39	1.05
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No

Note:

¹ Determination is based on controlled project emissions.

Source: SDG&E 2015b

beyond the property line or in track-out, resulting in a significant impact. Mitigation Measure Air-1 requires preparation and implementation of a Dust Control Management Plan, which would include measures to meet the standards of Rule 55. Impacts would be less than significant with mitigation.

Peak NOx emissions from Alternative 1 are close to the threshold of 250 lbs/day. It is possible that SDG&E could require more activity on the peak day of construction that may not be fully accounted for in project planning. The use of additional equipment on a peak day or the use of less than 30 percent Tier 3 construction equipment, as assumed in the modeling, could cause construction of Alternative 1 to exceed the emissions threshold, which would be a significant impact. APM AIR-2 would reduce emissions by reducing the total running time of equipment in a given day; however, emissions may still be significant if the running time is not sufficiently reduced. Mitigation Measure Air-Alt 1-1 specifies actions SDG&E must take to reduce NOx emissions if project equipment use is expected to exceed the emissions threshold on any day of

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construction. Implementation of Mitigation Measure Air-Alt 1-1 would ensure the project would not exceed the NO_x emissions threshold or cause a cumulatively considerable contribution to O₃ attainment status. Impacts would be less than significant with mitigation.

Mitigation Measure Air-Alt 1-1: SDG&E shall develop and implement a NO_x Control Plan. The NO_x Control Plan will specify the methods for monitoring and reporting quarterly on SDG&E's equipment activity levels and percent of Tier 2 and Tier 3 equipment used during construction to ensure that the construction activity does not exceed the daily significance threshold of 250 pounds of NO_x per day. The NO_x Control Plan will also define methods to keep NO_x emissions below 250 pounds per day, which could include:

- Limiting the length of time that equipment operates
- Limiting the amount of equipment operating in a given day
- Using a different fuel blend
- Use of greater than 30 percent Tier 3 equipment

SDG&E shall submit the NO_x Control Plan to CPUC for review and approval no less than 30 days prior to construction. Construction may not commence until the Plan is approved.

Emissions of diesel exhaust particulate matter from heavy equipment used during construction and TACs would occur at the substation site for 24 to 30 months, approximately 6 to 12 months longer than the proposed project. Similar to the proposed project, use of Tier 2 and Tier 3 equipment, assumed in the air quality modeling, would minimize equipment exhaust emissions and reduce impacts on nearby sensitive receptors. Similar to the proposed project, construction of the 230/12-kV substation would not result in a long-term (i.e., 70 years) source of TAC emissions, and there would be no residual cancer risk once construction ceases. Impacts would be less than significant.

Construction, operation, and maintenance of the 230/12-kV substation may generate some odors associated with vehicle and equipment exhaust emissions. Sensitive receptors near the Alternative 1 construction area are all well beyond the 36-foot perception distance for diesel exhaust emission from the substation site, and odors would be non-detectable. There would be no impact.

Similar to the proposed project, operation and maintenance of Alternative 1 would result in minor emissions associated with vehicle usage. Operations would involve daily or weekly trips of one vehicle to the substation, while none currently occur. Alternative 1 would avoid emissions associated with operation and maintenance of a new power line because Alternative 1 does not include a new power line. Emissions during operation and maintenance would be far lower than emissions during construction because there would be far fewer vehicles and equipment operating and producing emissions and no new ground disturbance during operation and maintenance. Operation and maintenance would not violate any air quality standard, contribute substantially to an existing or projected air quality violation, or expose

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sensitive receptors near the project to substantial pollutant concentrations. Impacts would be less than significant.

Alternative 2: 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities

Environmental Setting

The environmental setting for Alternative 2 would be the same as the proposed project. The Alternative 2 substation would be constructed in the same parcel as the proposed project substation. The Border facility and LEF are located within the same air basin as the proposed project. The air quality conditions and air basin attainment status for the proposed project would apply to the electric generating facilities.

The electric generating facilities are permitted for operation by SDAPCD. The Border facility is permitted for 8,760 hours per year, i.e., 24 hours a day, 7 days a week year-round (CEC 2001a). In 2014, the Border facility was in operation for approximately 324 hours (16,041 MWh) (CEC 2015). Emissions from the Border facility may not exceed allowances that are lawfully held under Title IV of the CAA. The Border facility permit prohibits NO_x emissions from exceeding 31.6 tons per calendar year and CO emissions from exceeding 100 tons per year (SDAPCD 2011b).

The LEF is permitted for 5,950 hours per year (approximately 248 days) and can run for 24 hours per day (Wildflower Energy LP 2001). In 2014, LEF was in operation for approximately 841 hours (37,860 MWh) (CEC 2015). Similar to the Border facility, emissions from the LEF may not exceed allowances that are lawfully held under Title IV of the CAA. The permit also prohibits NO_x emissions from exceeding 50 tons per calendar year and CO emissions from exceeding 250 tons per year (SDAPCD 2011a).

Environmental Impacts

Similar to the proposed project, Alternative 2 would involve implementation of the applicable current control measures in the RAQS, including a new control measure related to VOCs. Alternative 2 would result in a significant impact if SDG&E did not implement the control measure in the RAQS. Impacts would be less than significant with implementation of APM AIR-3, which requires adherence to the planned future architectural coating standard in the RAQS.

Alternative 2 would have slightly less short-term air quality impacts than the proposed project because Alternative 2 would not require construction of a new 69-kV power line. Alternative 2 would have slightly greater long-term air quality impacts because it would require additional power generation at the Border facility and the LEF during operation of the project.

69-kV Substation. Construction of Alternative 2 would result in the same air quality emissions and impacts as construction of the proposed project substation, distribution circuits, and TL 6910 loop-in. The peak air quality emissions from construction of Alternative 2 are summarized in Table 4.3-11.

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Table 4.3-11 Estimated Alternative 2 Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}
2016						
Uncontrolled Project Emissions	17.82	77.14	143.53	0.33	156.81	36.62
Controlled Project Emissions	17.82	77.14	143.53	0.33	15.44	6.93
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No
2017						
Uncontrolled Project Emissions	16.91	76.34	103.32	0.24	5.06	4.08
Controlled Project Emissions	16.91	76.34	103.32	0.24	5.06	4.08
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No

Note:

¹ Determination is based on controlled project emissions.

Source: SDG&E 2015b

Construction of Alternative 2 would produce uncontrolled PM₁₀ emissions in exceedance of the emission thresholds, which would be a significant impact. APM AIR-1 would reduce emissions from PM₁₀ by requiring SDG&E to wet all unpaved demolition and construction areas and secure earthen materials transported off site. Alternative 2 would not produce air quality emissions in exceedance of any applicable air quality standards for NAAQS and CAAQS criteria pollutants with APM AIR-1, and emissions would be less than the proposed project. Impacts would be less than significant.

Alternative 2 would involve earthmoving activities that could result in visible dust beyond the property line or in track-out, thereby violating SDAPCD Rule 55. Violation of Rule 55 would be a significant impact. Mitigation Measure Air-1 requires SDG&E to prepare and implement a Dust Control Management Plan, which would include measures to meet the standards of Rule 55. Impacts would be less than significant with mitigation.

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Emission of diesel exhaust particulate matter from heavy equipment and TACs would be the same as emissions from construction of the proposed project substation, distribution circuits, and TL 6910 loop-in. Construction of Alternative 2 would not result in a long-term (i.e., 70 years) source of TAC emissions, and there would be no residual cancer risk once construction ceases. Impacts would be less than significant.

Construction, operation, and maintenance of Alternative 2 may generate some odors associated with vehicle and equipment exhaust emissions. Sensitive receptors near Alternative 2 are all well beyond the 36-foot perception distance for diesel exhaust emission from the substation site, and odors would be non-detectable. There would be no impact.

Operation and maintenance of the 69/12-kV substation would be the same as the proposed project and would result in minor emissions associated with vehicle usage. Operation and maintenance would not violate any air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors near the project to substantial pollutant concentrations. Impacts would be less than significant.

Alternative 2 would avoid all emissions associated with construction and operation of a new 69-kV power line and Miguel Substation modifications because a new power line would not be constructed.

Power Generation at Border and Larkspur. Emissions were estimated for each criteria pollutant from the potential to emit values obtained from the California Energy Commission Dockets for the Border and Larkspur facilities, including the Final Staff Assessments (CEC 2001a, CEC 2001b) and the SDAPCD Title V Operating Permits (SDAPCD 2011a, SDAPCD 2011b) for each facility. SDG&E's estimates of required additional MWh generation for Alternative 2 were used to define the total annual emissions at each facility (SDG&E 2015a). For the LEF, emissions calculations assumed only natural gas would be combusted; fuel oil emissions were not used to estimate emissions. The Border facility only operates with natural gas. Estimated emissions from additional generation at the Border facility are shown in Table 4.3-12, and estimated emissions from additional generation at LEF are shown in Table 4.3-13. The values in the tables reflect emissions from the incremental increase in power generation required for Alternative 2 (refer to Section 3.4.2: Alternatives for the additional MWh of generation that would be required for Alternative 2 relative to the proposed project).

The additional generation of electricity at Border and LEF would not cumulatively produce air quality emissions that would exceed NAAQS and CAAQS air quality standards for VOCs, SO_x, or fugitive dust (PM₁₀ and PM_{2.5}). Emissions of NO_x and CO would not exceed thresholds permitted by the Title V Operating Permits for the facilities. Impacts would be less than significant.

Operation of the facilities would not violate SDAPCD Rule 55. Current operation of the Border facility and LEF require the facility operators to adhere to all applicable SDAPCD rules, except rules specified in the operating permits. Generation at Border and LEF would not conflict with any SDAPCD rule, including Rule 55; there would be no impact.

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Table 4.3-12 Alternative 2 Estimated Emissions from Additional Generation at Border and LEF

Year	Estimated Yearly Emissions (tons/year)									
	VOC		CO		NOx		SOx		PM ₁₀ & PM _{2.5} ¹	
	Border	LEF	Border	LEF	Border	LEF	Border	LEF	Border	LEF
2017	0.10	0.25	1.20	1.49	0.39	0.79	0.09	0.17	0.18	0.36
2018	0.11	0.27	1.28	1.59	0.42	0.84	0.10	0.19	0.19	0.38
2019	0.12	0.29	1.35	1.68	0.44	0.89	0.10	0.19	0.20	0.40
2020	0.12	0.30	1.42	1.76	0.47	0.94	0.11	0.21	0.22	0.44
2021	0.13	0.32	1.49	1.85	0.49	0.99	0.12	0.22	0.23	0.46
2022	0.13	0.33	1.56	1.94	0.51	1.03	0.12	0.23	0.24	0.48
2023	0.14	0.34	1.62	2.01	0.53	1.07	0.13	0.24	0.25	0.50
2024	0.15	0.36	1.69	2.10	0.55	1.11	0.13	0.24	0.26	0.52
2025	0.15	0.37	1.77	2.20	0.58	1.17	0.14	0.26	0.27	0.54
2026	0.16	0.39	1.85	2.30	0.61	1.22	0.14	0.27	0.28	0.56
2027	0.17	0.41	1.94	2.41	0.63	1.27	0.15	0.28	0.29	0.58
Emissions Threshold	N/A ²		100 ³		31.6 ³		40		N/A ¹	
Threshold Exceeded?	No		No		No		No		No	

Notes:

¹ Neither SDAPCD nor SCAQMD set annual emissions thresholds for PM_{2.5}. Although SDAPCD sets annual thresholds for PM₁₀ (15 tons/year), emissions could not be compared to this threshold because PM₁₀ and PM_{2.5} emissions were estimated together due to modeling constraints.

² Neither SDAPCD nor SCAQMD set annual emissions thresholds for VOC.

³ Thresholds are determined by the Title V Operating Permit issued for LEF and the Border facility by SCAPCD (SDAPCD 2011a; 2011b).

Source: Based on MWh estimates provided in SDG&E 2015b

Increasing generation at the electric generating facilities would marginally increase pollutant concentrations and odors emitted from the facilities due to the increased run time (equivalent to approximately seven hours per year) and would not expose sensitive receptors to substantial concentrations of pollutants or odors. Impacts would be less than significant.

Alternative 3: 69/12-kV Substation and Underground 69-kV Power Line within Public ROW

Environmental Setting

Alternative 3 involves constructing a 69-kV substation, distribution lines, and TL 6910 loop-in within the same parcel as the proposed project and constructing an underground power line within public roads east of the proposed TL 6965 alignment. The air quality conditions described in Section 4.3.1 would apply to Alternative 3. The Alternative 3 underground alignment would be located in the same air basin and would have the same baseline air quality conditions as the proposed project alignment.

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Environmental Impacts

Similar to the proposed project, Alternative 3 would involve implementation of the applicable current control measures in the RAQS, including a new control measure related to VOCs.

Alternative 3 would result in a significant impact if it did not adhere to the planned control measure in the RAQS. Impacts would be less than significant with implementation of APM AIR-3, which requires adherence to the planned future architectural coating standard in the RAQS.

Alternative 3 would have slightly greater air quality impacts than the proposed project because Alternative 3 would require the use of additional diesel-powered equipment to construct the underground power line relative to the overhead power line. The construction timeframe for the power line would be longer than the proposed project due to the additional length of the power line and additional effort required to construct the power line underground.

The peak daily air quality emissions from construction of the 69/12-kV substation and underground power line are summarized in Table 4.3-14. Emissions were modeled for Alternative 3 in the same manner as the proposed project (see Section 4.3.5).

Construction of the substation and underground power line would produce uncontrolled PM₁₀ emissions in exceedance of the emission thresholds, which would be a significant impact. APM AIR-1 would reduce emissions from PM₁₀ by requiring SDG&E to wet all unpaved demolition and construction areas and secure earthen materials transported off site. Alternative 3 would not result in emissions that exceed any applicable air quality standards for NAAQS or CAAQS criteria pollutants with implementation of APM AIR-1. Impacts would be less than significant.

Similar to the proposed project, ground disturbing activities could result in visible dust beyond the property line or track-out and violate SDAPCD Rule 55, resulting in a significant impact. Implementation of Mitigation Measure Air-1 would reduce impacts from fugitive dust by requiring SDG&E to prepare and implement a Dust Control Management Plan, which would include measures to meet the standards of Rule 55. Impacts would be less than significant with mitigation.

Emission of diesel exhaust particulate matter from heavy equipment and TACs would be similar to emissions from construction of the proposed project 69-kV overhead power line. Construction of the underground power line would not result in a long-term (i.e., 70 years) source of TAC emissions, and there would be no residual cancer risk once construction ceases. Impacts would be less than significant.

Construction, operation, and maintenance of Alternative 3 including the underground power line may generate some odors associated with vehicle and equipment exhaust emissions. Similar to the proposed project, odors would be minimal and temporary. Impacts would be less than significant.

Similar to the proposed project, operation and maintenance of Alternative 3 would require a minimal amount of trips for maintenance. Operation and maintenance would not violate any air

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Table 4.3-13 Estimated Alternative 3 Peak Daily Construction Air Pollutant Emissions

Item	Estimated Peak Daily Air Pollutant Emissions (pounds/day)					
	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}
2016						
Uncontrolled Project Emissions	32.80	140.19	212.99	0.50	162.69	40.06
Controlled Project Emissions	32.80	140.19	212.99	0.50	18.98	9.88
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No
2017						
Uncontrolled Project Emissions	21.73	99.21	155.95	0.37	25.59	9.37
Controlled Project Emissions	21.73	99.21	155.95	0.37	8.19	5.72
Emissions Threshold	75	550	250	250	100	55
Threshold Exceeded? ¹	No	No	No	No	No	No

Note:

¹ Determination is based on controlled project emissions.

Source: SDG&E 2015b

quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors near the project to substantial pollutant concentrations. Impacts would be less than significant.

No Project Alternative

Under the No Project Alternative, SDG&E may need to do upgrades at other substations to account for additional distribution capacity and would need to construct additional distribution infrastructure to supply the project area, as described in Section 3: Alternatives. SDG&E would need to expand the Proctor Valley Substation, which would generate potential short-term, construction-related air quality impacts. SDG&E may also extend distribution lines up to 6 to 7 miles. The construction of new distribution lines would also result in short-term air quality emissions. Overall impacts on air quality would be less than the less-than-significant impacts of the proposed project due to the elimination of grading and large scale construction activities associated with the proposed project. Impacts of the No Project Alternative would be less than significant.