TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

4.3 AIR QUALITY

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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 non-attainment 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?			✓	

4.3.0 Introduction

This section describes the existing air quality within the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) area and evaluates the potential impacts to air quality resulting from construction and operation of the Proposed Project. Although some temporary impacts will result during construction, operation, and maintenance activities, the potential air quality impacts from the Proposed Project will be less than significant with the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, as described in Chapter 3 – Project Description.

4.3.1 Methodology

The existing air quality within San Diego County was researched using data obtained from the San Diego County Air Pollution Control District's (SDAPCD's) network of air quality monitoring stations. Recent regulations and guidance documents from the California Air Resources Board (CARB), California Public Utilities Commission (CPUC), California Energy Commission, and the SDAPCD were also reviewed.

The majority of the Proposed Project's air emissions were assessed by estimating emission rates from construction, operation, and maintenance activities, and then comparing them to established

significance criteria. In other cases, such as the odor and sensitive receptor analysis, the impact assessment was based on subjective criteria, including experience with similar projects. Air pollutant emission rates were estimated using the latest version of the publicly available software California Emissions Estimator Model (CalEEMod) (version 2013.2.2). This computer model allows users to generate estimates of construction and operational emissions of various pollutants, including inhalable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), reactive organic gases (ROGs), sulfur oxides (SO_x), oxides of nitrogen (NO_x), and carbon dioxide. CalEEMod also allows users to input minimization measures and evaluate their effects on emission rates. The results of the computer modeling are presented in Attachment 4.3–A: Air Quality Modeling Results.

4.3.2 Existing Conditions

This section describes the regulations and regulatory agencies relevant to air quality for the Proposed Project, regional climate and meteorology, and existing air quality conditions in the area.

Regulatory Background

Federal

The 1970 federal Clean Air Act (CAA) established national ambient air quality standards (AAQS) for six pollutants: CO, ozone (O_3), PM_{10}, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. These six criteria pollutants are known to have adverse impacts on human health and the environment. To protect human health and the environment, the United States (U.S.) Environmental Protection Agency (EPA) has set primary and secondary maximum ambient thresholds. The primary thresholds were set to protect human health, and particularly that of children, the elderly, and individuals who suffer from chronic lung conditions (e.g., asthma and emphysema). The secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings. The combined primary and secondary standards are termed the National AAQS (NAAQS).

The 1977 CAA required each state to develop and maintain a State Implementation Plan (SIP) for each criteria pollutant that exceeds AAQS. The SIP serves as a tool to reduce pollutants that are known to cause impacts that exceed the ambient thresholds and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulation of both stationary and mobile emission sources for the criteria pollutants.

In July 1997, the EPA developed new health-based NAAQS for O_3 and PM_{10}. However, these standards were not fully implemented until 2001, after the resolution of several lawsuits. The new federal O_3 standard of 0.08 parts per million (ppm), which was established in 1997, was based on a longer averaging period (eight hours versus one hour) after recognizing that prolonged exposure to O_3 is more damaging. In March 2008, the EPA further lowered the eight-hour O_3 standard from 0.08 ppm to 0.075 ppm. The new federal particulate matter (PM) standard is based on finer particles (2.5 microns and smaller [$PM_{2.5}$] versus 10 microns and smaller [PM_{10}]), recognizing that finer particles may remain in the lungs longer and contribute to greater respiratory illness. In February 2007, the NO_2 AAQS was amended to lower the existing one-hour standard of 0.25 ppm to 0.18 ppm, which is not to be exceeded, and established a new

annual standard of 0.03 ppm, which is also not to be exceeded. Table 4.3-1: State and Federal Ambient Air Quality Standards contains a list of the NAAQS and California Ambient Air Quality Standards (CAAQS).

State

The California CAA of 1988 requires air districts to develop and implement strategies to attain CAAQS. For some pollutants, the California standards are more stringent than the national standards. Regional air quality management districts, such as the SDAPCD, are required to prepare an air quality plan specifying how federal and state standards will be met.

CARB enforces the CAAQS and works with the state's Office of Environmental Health Hazard Assessment (OEHHA) to identify toxic air contaminants (TACs) and enforce rules related to TACs, including the Air Toxic Hot Spots Information and Assessment Act of 1987. Enacted to identify TAC hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects, the act requires that business or other establishments identified as significant sources of toxic emissions provide the affected population with information about health risks posed by the emissions.

CARB also regulates mobile emission sources in California—such as construction equipment, trucks, and automobiles—and oversees the air districts. Relevant programs related to oversight of mobile source emissions include the Off-Road and On-Road Mobile Sources Emission Reduction programs, the Portable Equipment Registration Program (PERP), and the Airborne Toxic Control Measure (ATCM) for Diesel Particulate Matter (DPM) from Portable Engines. The Mobile Sources Emission Reduction programs are aimed at reductions of NO_x, volatile organic compounds (VOCs), CO, and PM_{10}. CARB has also adopted specific control measures for the reduction of DPM from off-road, in-use diesel vehicles (rated 25 horsepower and higher), such as backhoes, bulldozers, and earthmovers used in construction projects. Additional DPM control measures are also in place for heavy-duty, on-road diesel trucks operated by public utilities and municipalities. The PERP and the ATCM for DPM from Portable Engines provide for statewide registration and control of DPM from portable engines rated 50 horsepower and higher.

In July 2004, CARB also adopted an ATCM that limits diesel-fueled commercial motor vehicle idling. The measure applies to motor vehicles with gross vehicular weight ratings greater than 10,000 pounds that are licensed for on-road use. This measure restricts vehicles from idling for more than five minutes at any location, with exceptions for idling that may be necessary in the operation of the vehicle.

Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to air quality is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to air quality.

Table 4.3-1: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard	Federal Standard	
			Primary	Secondary
O_3	1 hour	0.09 ppm (180 micrograms per cubic meter [µg/m^3])	Not Applicable (NA)	NA
	8 hours	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	0.075 ppm (147 µg/m^3)
PM_{10}	24 hours	50 µg/m^3	150 µg/m^3	150 µg/m^3
	Annual arithmetic mean	20 µg/m^3	50 µg/m^3	50 µg/m^3
$PM_{2.5}$	24 hours	NA	35 µg/m^3	35 µg/m^3
	Annual arithmetic mean	12 µg/m^3	15 µg/m^3	15 µg/m^3
CO	1 hour	20 ppm (23 milligrams per cubic meter [mg/m^3])	35 ppm (40 mg/m^3)	NA
	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	NA
	8 hours (Lake Tahoe)	6 ppm (7 mg/m^3)	NA	NA
NO_2	1 hour	0.18 ppm (339 µg/m^3)	NA	NA
	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)	NA	NA
	3 hours	NA	NA	0.5 ppm (1,300 µg /m^3)
	24 hours	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	NA
	Annual arithmetic mean	NA	0.030 ppm (80 µg/m^3)	NA
Lead	30 days	1.5 µg/m^3	NA	NA
	Rolling 3 months	NA	0.15 µg/m^3	0.15 µg/m^3
	Quarterly	NA	1.5 µg/m^3	1.5 µg/m^3

Sources: CARB 2009; EPA 2014

Table Notes:
1. California standards for O_3, suspended PM (both PM_{10} and $PM_{2.5}$), CO (except Lake Tahoe), NO_2, SO_2 (one hour and 24 hours), and visibility reducing particles are values that are not to be exceeded. All others are not to be

equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. NAAQS (other than O_3, PM, and those based on annual averages or an annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth-highest eight-hour concentration in a year—averaged over three years—is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current federal policies.
3. Concentration is expressed first in units used to promulgate the standard. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; "ppm" in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure that can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the health of the public.
6. National Secondary Standards: The levels of air quality necessary to protect the public's welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects established. These actions allow for implementation of control measures at levels below the ambient concentrations specified for these pollutants.
9. The final rule for the rolling three-month average for the national lead standard was signed October 15, 2008.

San Diego County Air Pollution Control District

The air districts are primarily responsible for regulating stationary emission sources at industrial and commercial facilities within their respective geographic areas and for preparing the air quality plans that are required under the federal CAA and the California CAA. The SDAPCD is the primary agency responsible for planning, implementing, and enforcing federal and state AAQS in San Diego County. The plans, rules, and regulations presented in the following subsections apply to all sources in the jurisdiction of the SDAPCD.

San Diego County Air Pollution Control District Air Quality Plans

The SDAPCD's air quality plans collectively provide an overview of the region's air quality and air pollution sources and identify the pollution-control measures needed to expeditiously attain and maintain air quality standards. The SDAPCD's air quality plans include the San Diego Regional Air Quality Strategy (RAQS) and the San Diego portion of the California SIP, which address state and federal requirements, respectively.

Ozone Air Quality Management Plan

The SDAPCD SIP predicts that state and local programs will allow San Diego County to reach attainment status for the previously applicable 0.08 ppm federal eight-hour O_3 AAQS (per the SIP submitted to the EPA in June 2007). It is anticipated that the EPA will designate San Diego County as a nonattainment area for the new 0.075 ppm eight-hour O_3 standard in the future. The SDAPCD will have to submit an updated SIP to address the new, more stringent standard at that time.

The SDAPCD maintains the RAQS, which acts as a road map demonstrating how the district will eventually meet the state's O_3 AAQS. The RAQS details the measures and regulations that focus on managing and reducing O_3 precursors, such as NO_x and VOCs. The RAQS control measures concentrate on stationary sources that are under the SDAPCD's authority, specifically stationary sources and some area-wide sources.[1]

Particulate Matter Air Quality Management Plan

The California CAA does not require local districts to establish an air quality management plan for state PM_{10} nonattainment, but the SDAPCD has prepared a report entitled Measures to Reduce Particulate Matter in San Diego County. The SDAPCD is considering rule-making for source category-specific PM control measures for emissions from fugitive dust generated at construction sites and from unpaved roads.

[1] Examples of stationary sources include power plants, manufacturing and industrial facilities, stationary internal combustion engines, gas stations, landfills, and solvent cleaning and surface coating operations. Area-wide sources are individually small and spread over a wide area. These sources are mostly residential in nature and include water heaters, furnaces, architectural coatings, and consumer products.

San Diego County Air Pollution Control District Regulation IV – Prohibitions, Rule 50 – Visible Emissions

This rule prohibits any activity that will create air contaminant emissions darker than 20-percent opacity for more than an aggregate of three minutes in any consecutive 60-minute time period.

San Diego County Air Pollution Control District Regulation IV – Prohibitions, Rule 51 – Nuisance

This regulation prohibits any activity that will discharge air contaminants that cause or have a tendency to cause injury, detriment, nuisance, or annoyance to people and the public, or damage to any business or property.

San Diego County Air Pollution Control District Regulation IV – Prohibitions, Rule 55 – Fugitive Dust Control

This regulation prohibits any activity that will discharge visible dust emissions into the atmosphere beyond the property line bounding the activity for more than three minutes during any 60-minute period. This regulation also prohibits visible roadway dust due to track-out or carry-out.

San Diego County Air Pollution Control District Rule XV – Federal Conformity

The federal conformity rule prohibits any federal actions that may be inconsistent with the SDAPCD's efforts to achieve attainment with the NAAQS.

Environmental Setting

Regional Climate and Meteorology

Climate in the San Diego Air Basin (SDAB) is generally warm, with low annual rainfall occurring mostly during the winter months. Climate plays an important role in the air quality of the SDAB. When cool, moist air from the coast travels toward the higher elevations, a temperature inversion can occur. This inversion layer prevents polluted air from rising and dispersing. According to the SDAPCD, most air quality exceedances are recorded on the lower mountain slopes that experience an inversion layer.

Local meteorological conditions in the vicinity of the Proposed Project conform to the regional pattern of strong onshore winds by day (especially in summer) and weak offshore winds at night (particularly during the winter). These local wind patterns are driven by the temperature difference between the ocean and the warm interior topography. In the summer, moderate breezes between eight and 12 miles per hour blow onshore from the southwest by day. Light onshore breezes may continue overnight when the land remains warmer than the ocean. In the winter, the onshore flow is weaker and the wind flow reverses to blow from the northeast in the evening as the land becomes cooler than the ocean.

The climate in the vicinity of the Proposed Project, as with all of Southern California, is largely controlled by the strength and position of the Pacific High. This high-pressure ridge over the West Coast creates a repetitive pattern of frequent early morning cloudiness, hazy afternoon shine, clean daytime onshore breezes, and little temperature change throughout the year. Limited

rainfall occurs in the winter as the fringes of mid-latitude storms occasionally move through the area. Average temperatures in January range from 46 to 47 degrees Fahrenheit (°F) at night and from 63 to 69°F during the day. The warmest month is August, when the high temperatures average 78°F. Annual rainfall is approximately 10 inches in the Proposed Project area.

Air Quality

Criteria Air Pollutants

O_3, CO, NO_2, SO_2, lead, PM_{10}, and $PM_{2.5}$ are all criteria air pollutants (CAPs) that are regulated in California. Non-methane ethane VOCs, also referred to as ROGs, are also regulated as precursors to the formation of O_3. Certain of these CAPs and their effects on humans are discussed in the following subsections.

Ozone

O_3 is a colorless gas that is not directly emitted as a pollutant, but is formed when hydrocarbons and NO_x react in the presence of sunlight. Low wind speeds or stagnant air mixed with warm temperatures typically provide optimum conditions for the formation of O_3. Because O_3 formation does not occur quickly, O_3 concentrations often peak downwind of the emission source. As a result, O_3 is of regional concern as it impacts a larger area. When inhaled, O_3 irritates and damages the respiratory system.

Particulate Matter

PM, which is defined as particles suspended in a gas, is often a mixture of substances, including metals, nitrates, organic compounds, and complex mixtures, such as diesel exhaust and soil. PM can be traced back to both natural and man-made sources. The most common sources of natural PM are dust and fires, while the most common man-made source is the combustion of fossil fuels.

PM causes irritation to the human respiratory system when inhaled. The extent of the health risks due to PM exposure can be determined by the size of the particles. The smaller the particles, the deeper they can be deposited in the lungs. PM is often grouped into the following two categories:

- PM_{10}: inhalable PM less than 10 microns in diameter, and
- $PM_{2.5}$: fine PM less than 2.5 microns in diameter.

Carbon Monoxide

CO is a colorless, odorless, and tasteless gas that is directly emitted as a by-product of combustion. CO concentrations tend to be localized to the source, with the highest concentrations being associated with cold, stagnant weather conditions. CO is readily absorbed through the lungs into the blood, where it reduces the ability of the blood to carry oxygen.

Nitrogen Oxides

NO_x is a generic name for the group of highly reactive gases that contain nitrogen and oxygen in varying amounts. Many types of NO_x are colorless and odorless. However, when combined

with particles in the air, the common pollutant NO_2 can often be seen as a reddish-brown layer over many urban areas.

NO_x form when fuel is burned at high temperatures. Typical man-made sources of NO_x include motor vehicles, fossil-fueled electricity generation utilities, and other industrial, commercial, and residential sources that burn fuels. NO_x can harm humans by affecting the respiratory system. Small particles can penetrate the sensitive parts of the lungs and can cause or worsen respiratory disease and can aggravate existing heart conditions. As discussed previously, O_3 is formed when NO_x and VOCs react with sunlight.

Sulfur Oxides

SO_x are formed when sulfur-containing materials are processed or burned. SO_x sources include industrial facilities (e.g., petroleum refineries and cement manufacturing and metal processing facilities), locomotives, large ships, and some non-road diesel equipment. A wide variety of health and environmental impacts are associated with SO_x because of the way it reacts with other substances in the air. A number of people are particularly sensitive to SO_x emissions, including children, the elderly, people with asthma, and people with heart or lung disease. When inhaled, these particles gather in the lungs and contribute to increased respiratory symptoms and disease, difficulty breathing, and premature death.

Volatile Organic Compounds

VOCs (or ROGs) are a group of chemicals that react with NO_x and hydrocarbons in the presence of heat and sunlight to form O_3. Examples of VOCs include gasoline fumes and oil-based paints. This group of chemicals does not include methane or other compounds determined by the EPA to have negligible photochemical reactivity.

Air Quality Designations

The following three air quality designations can be given to an area for a particular pollutant:

- Nonattainment: This designation applies when air quality standards have not been consistently achieved.
- Attainment: This designation applies when air quality standards have been achieved.
- Unclassified: This designation applies when insufficient monitoring data exists to determine a nonattainment or attainment designation.

The current CAAQS and NAAQS attainment status is provided in Table 4.3-2: SDAPCD Attainment Status. The SDAPCD is currently designated as a nonattainment area for O_3 and PM.

Toxic Air Contaminants

TACs are the listed toxic pollutants as established by OEHHA. Under Assembly Bill 1807, CARB is required to use certain criteria in prioritizing, identifying, and controlling air toxins. In selecting substances for review, CARB must consider pollutants that may pose a threat to human health or may cause or contribute to serious illnesses or death. For many TACs, no threshold level exists below which adverse health impacts may not be expected to occur. This contrasts

with the CAPs, for which acceptable levels of exposure can be determined and for which the federal and state governments have set AAQS.

Table 4.3-2: SDAPCD Attainment Status

Criteria Air Pollutants	State	Federal
O_3 (eight-hour)	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Unclassified/Attainment
PM_{10}	Nonattainment	Unclassified
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Attainment
Sulfates	Attainment	NA
Lead	Attainment	Attainment
Hydrogen Sulfide	Unclassified	NA
Visibility Reducing Particles	Unclassified	NA

Source: CARB, 2014b

PM emissions generated by diesel combustion, or DPM, are of particular concern in California. In 1998, the OEHHA completed a 10-year comprehensive human health assessment of diesel exhaust. The results of this assessment formed the basis for CARB to formally identify DPM as a TAC that poses a threat to human health. Because no established AAQS exist for TACs, they are managed on a case-by-case basis, depending on the quantity and type of emissions and the proximity of potential receptors. DPM emissions result from a wide variety of sources, including on-road and off-road vehicles and stationary and portable internal combustion engines. In California, diesel internal combustion engines were estimated to generate 28,000 tons of PM emissions in 2000.

Ambient Air Quality

Violations of NAAQS and CAAQS for O_3 and PM have occurred historically in the Proposed Project area. The frequency of violations and current air quality conditions at the two monitoring sites nearest to the Proposed Project area are summarized for O_3, PM_{10}, and $PM_{2.5}$ in Table 4.3-3: Recent Air Quality Concentrations and Table 4.3-4: Frequency of Air Quality Standard Violations.[2] As shown in these tables, the air quality in the surrounding areas has been relatively stable over the past five years and has improved in some cases.

[2] The Chula Vista monitoring station is located approximately 3.6 miles northwest of the Proposed Project area at 80 East J Street in the City of Chula Vista. The Otay Mesa monitoring station is located approximately 1.4 miles southeast of the Proposed Project area at 1100B Paseo Internacional in the City of San Diego.

Table 4.3-3: Recent Air Quality Concentrations

Monitoring Station	Year	O_3, Maximum 1-hour (ppm)	PM_{10}, Maximum 24-hour ($\mu g/m^3$)	$PM_{2.5}$, Maximum 24-hour ($\mu g/m^3$)
Chula Vista	2013	0.073	38.0	21.9
	2012	0.085	37.0	34.3
	2011	0.083	45.0	27.9
	2010	0.107	43.0	22.7
Otay Mesa	2013	0.073	– –	– –
	2012	0.081	126.0	– –
	2011	0.095	125.0	– –
	2010	0.076	108.0	– –

Source: CARB, 2015

Table 4.3-4: Frequency of Air Quality Standard Violations

Monitoring Station	Year	Number of Days in Exceedance of Standard			
		State 1-hour O_3	State 24-hour PM_{10}	National 24-hour PM_{10}	National 24-hour $PM_{2.5}$
Chula Vista	2013	0	0	0	0
	2012	0	0	0	0
	2011	0	0	0	– –
	2010	1	0	0	– –
Otay Mesa	2013	0	– –	– –	– –
	2012	0	– –	– –	– –
	2011	1	138.5	0	– –
	2010	0	136.0	0	– –

Source: CARB, 2015
Notes: "– –" = insufficient or unavailable data. Days over PM_{10} CAAQS are based on monitoring every sixth day.

Sensitive Receptors

Some exposed population groups—including children, the elderly, and the ill—can be especially vulnerable to airborne chemicals, and irritants and are termed "sensitive receptors." In addition, due to sustained exposure durations, all persons located within residential areas are considered to be sensitive receptors.

The Proposed Project area is mostly characterized by undeveloped areas. The nearest sensitive receptors to the Proposed Project site are residential neighborhoods located along Black Coral Way, Topsail Drive, and Avenida De Las Vistas in the City of San Diego. Section 4.10 Land Use and Planning provides more information about residences in close proximity to the Proposed Project components.

4.3.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

San Diego County Air Pollution Control District Thresholds

To determine whether an impact to air quality resulting from construction of the Proposed Project would be considered significant, the SDAPCD informally recommends quantifying construction emissions and comparing them to significance thresholds (pounds per day) found in the SDAPCD regulations for stationary sources (pursuant to Rule 20.1 et seq.) and shown in Table 4.3-5: Air Quality Significance Thresholds. If emissions during Proposed Project construction exceed the thresholds that apply to stationary sources, then construction activities will have the potential to violate air quality standards or contribute to existing violations.

Table 4.3-5: Air Quality Significance Thresholds

Pollutant	Significance Threshold	
	Pounds per Day	Tons per Year
$PM_{2.5}$	55*	10*
PM_{10}	100	15
NO_x	250	40
SO_x	250	40
CO	550	100
VOCs	75**	13.7***

Source: SDAPCD, 2015

* EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the South Coast Air Quality Management District (SCAQMD).

** Threshold for VOCs based on the threshold of significance for VOCs from the SCAQMD for the Coachella Valley.

*** Threshold based on 75 pounds per day multiplied by 365 days per year and divided by 2,000 pounds per ton.

California Environmental Quality Act Guidelines

In addition to the previously mentioned criteria, Appendix G of the California Environmental Quality Act (CEQA) Guidelines determines that impacts to air quality would be significant if the Proposed Project:

- Conflicts with or obstructs implementation of the applicable air quality plan
- Violates any air quality standard or contributes substantially to an existing or projected air quality violation
- Results in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is classified as nonattainment under an applicable federal or state ambient air quality standard
- Exposes sensitive receptors to substantial pollutant concentrations
- Creates objectionable odors affecting a substantial number of people

Question 4.3a – Applicable Air Quality Plan Conflicts

Construction – No Impact

A potentially significant impact on air quality will occur if the Proposed Project conflicts with or obstructs the implementation of an applicable air quality plan. Although the Proposed Project will result in CAP emissions within the SDAB, the primary focus is that the Proposed Project's emissions are properly anticipated in the regional air quality planning process and reduced where feasible. To determine if the emissions were captured during the air quality planning process, it is necessary to assess the Proposed Project's consistency with the RAQS. Consistency with the RAQS is determined by evaluating if the Proposed Project's emissions exceed the CAP thresholds established by the SDAPCD and if the Proposed Project will result in growth that has been anticipated.

CalEEMod was used to simulate the anticipated emissions during construction using site-specific information to generate emission rates based on the Proposed Project's anticipated size, schedule, land use, and construction methods. Using this data, the model calculated the maximum daily emissions for a range of pollutants. The CalEEMod input and output are provided in Attachment 4.3–A: Air Quality Modeling Results.

PM and NO_x are generally the primary air pollutants resulting from construction activities. The simulated PM emissions are the composite of two types of sources—fugitive dust and tailpipe emissions. Typical fugitive dust sources include earth-moving activities (e.g., excavation for the placement of direct-bury poles or foundations), the loading and unloading of fill and spoil materials, and vehicle travel across unpaved areas. Tailpipe emissions result from the combustion of fossil fuels in both off-road construction equipment and on-road vehicles.

To address the potential impacts resulting from vehicle and equipment emissions and fugitive dust impacts, SDG&E will implement the following measures as part of its Project Design Features and Ordinary Construction Restrictions/Operating Restrictions as described in

Chapter 3 – Project Description, which include SDG&E Subregional Natural Community Conservation Plan Operational Protocol 39:

- All visible mud and dirt that is tracked out onto paved, public roadways will be cleaned up at the conclusion of each workday or at 24-hour intervals for operations that are continuous.

- Open-bodied trucks transporting bulk materials that may become airborne will be completely covered, unless the bulk material is wetted or there is at least two feet of freeboard from the top of the container.

- SDG&E or its contractors will maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues will have their engines turned off after five minutes when not in use.

- Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities will be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 miles per hour.

These restrictions were entered into CalEEMod, as appropriate, and the resulting emissions are presented in Table 4.3-6: Peak Daily Construction Emissions. The results of the CalEEMod simulations included in Attachment 4.3–A: Air Quality Modeling Results and summarized in Table 4.3-6: Peak Daily Construction Emissions demonstrate that the peak emissions will be in compliance with all applicable SDAPCD thresholds. As a result, the Proposed Project will be consistent with the RAQS and has been considered in the regional air quality planning process. Therefore, the Proposed Project will not conflict with or obstruct implementation of the applicable air quality plan, and thus, there will be no impact.

Table 4.3-6: Peak Daily Construction Emissions

Year	Emissions (pounds per day)					
	$PM_{2.5}$	PM_{10}	NO_x	SO_x	CO	VOC
2016	5.08	13.17	103.47	0.13	49.70	9.00
2017	4.13	28.22	42.77	0.05	21.60	3.69
Threshold	55	100	250	250	550	75
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of steel poles relative to the existing wood poles. As a result, the operation and maintenance emissions

associated with the Proposed Project will not result in an increase in long-term air quality emissions. Therefore, the Proposed Project will not conflict with or obstruct implementation of the applicable air quality plan, and thus, there will be no impact.

Question 4.3b – Air Quality Standard Violations

Construction – Less-than-Significant Impact

The pole installation and removal phase of the Proposed Project will require various pieces of heavy equipment, including drill rigs, cranes, bucket trucks, and forklifts. Street-legal haul trucks will be employed during material export activities. Concrete trucks, crew trucks, and pick-up trucks will arrive and depart the Proposed Project site during the installation of poles.

It is anticipated that approximately 35 workers will be on site at any one time during construction. Daily transportation of construction workers is not expected to cause a significant effect on air quality, because no more than 35 workers will be in any one location at any time during the peak of construction. The number of trips generated by these workers will be minimal and constitute an insignificant percentage of current daily volumes in the area, as described in Section 4.16 Transportation and Traffic.

In addition to the worker daily trips, construction of the Proposed Project will generate short-term air quality impacts that were estimated using CalEEMod, which simulates emissions from construction activities based on the schedule and construction equipment lists provided in Chapter 3 – Project Description. Variables that factor into estimating the total emissions of construction include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, number of construction personnel, and the amount of materials transported on site or off site.

As described in response to Question 4.3a – Applicable Air Quality Plan Conflicts, SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions were entered into CalEEMod, as appropriate, and the resulting emissions are presented in Table 4.3-6: Peak Daily Construction Emissions. The following subsections provide a detailed discussion of the Proposed Project's potential to impact air quality from fugitive dust, construction equipment and worker vehicle exhaust, and TAC sources.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions—specifically for PM_{10}—that have the potential to temporarily impact local air quality. In addition, fugitive dust may be a nuisance to those living and working in the Proposed Project area. Fugitive dust emissions are associated with land clearing, excavation, and truck travel on unpaved roadways. Fugitive dust emissions can vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from construction is expected to be short-term and will cease when these activities are completed.

As described previously in response to Question 4.3a – Applicable Air Quality Plan Conflicts, SDG&E will implement their Project Design Features and Ordinary Construction/Operating Restrictions to ensure compliance with SDAPCD Rule 55. This will include cleaning track-out

and containing dirt and dust within the Proposed Project area. As a result, anticipated fugitive dust emissions, and impacts from fugitive dust alone, will be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with transporting machinery and supplies to and from the Proposed Project area and emissions produced on site as the equipment is used. Emitted pollutants will include CO, VOC, NO_x, PM_{10}, and $PM_{2.5}$. With the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, the maximum daily uncontrolled emissions for each year of construction of the Proposed Project will not exceed the SDAPCD's standards for all pollutants, as presented in Table 4.3-6: Peak Daily Construction Emissions. Therefore, impacts associated with construction will be less than significant.

Toxic Air Contaminants

DPM will be emitted from on- and off-road vehicles that use diesel as fuel during the construction phase of the Proposed Project. Potential health effects associated with exposure to DPM are long-term and are evaluated on the basis of a lifetime of exposure (70 years). Because construction activities will be short-term, emissions will not impact any sensitive receptors for more than a de minimus length of time.

All off-road diesel equipment, on-road heavy-duty diesel trucks, and portable diesel equipment used for the Proposed Project will meet the state's applicable ATCMs for control of DPM or NO_x in the exhaust (e.g., ATCMs for portable diesel engines, off-road vehicles, and heavy-duty on-road diesel trucks, as well as ATCMs for five-minute diesel engine idling limits) that are in effect during implementation of the Proposed Project. The mobile fleets used in the Proposed Project are expected to be in full compliance with these ATCMs. This will ensure that pollutant emissions in diesel engine exhaust do not exceed applicable federal or state air quality standards. As a result, impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The Proposed Project will not result in an increase in long-term air quality emissions. Therefore, the Proposed Project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and no impact will occur.

Question 4.3c – Criteria Pollutant Increases

Construction – Less-than-Significant Impact

As discussed in Section 4.3.2 Existing Conditions and summarized in Table 4.3-2: SDAPCD Attainment Status, the Proposed Project area is currently designated as non-attainment for O_3, PM_{10}, and $PM_{2.5}$. As shown in Table 4.3-6: Peak Daily Construction Emissions, the construction of the Proposed Project will lead to a small, temporary increase in these three CAPs. With the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating

Restrictions, which include implementing CARB's ATCM which requires five-minute diesel engine idling limits and controls for fugitive dust, all emissions will be below the applicable SDAPCD thresholds. As a result, the Proposed Project will not lead to a cumulatively considerable net increase in CAP emissions, and impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The Proposed Project will not result in an increase in long-term air quality emissions. Therefore, the Proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment. No impacts will occur.

Question 4.3d – Sensitive Receptor Exposure

Construction – Less-than-Significant Impact

Sensitive receptors in the Proposed Project vicinity could be exposed to increases in CAPs as a result of the fugitive dust released during excavation activities. The closest of these receptors—residential neighborhoods—will be located approximately 75 feet from pole replacement activities in the City of San Diego. As shown in Table 4.3-6: Peak Daily Construction Emissions, with the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, all emissions will be well below the applicable significance thresholds. As a result, these sensitive receptors will not be exposed to substantial levels of CAPs, and impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. No new sensitive receptors will be exposed to emissions from operation and maintenance activities, and there will be no increase in pollutant concentrations. There will be no impact.

Question 4.3e – Odor

Construction – Less-than-Significant Impact

Due to the nature of the Proposed Project, odor impacts are unlikely. Typical odor nuisances include hydrogen sulfide, ammonia, chlorine, and other sulfide-related emissions. No significant sources of these pollutants will exist during construction. An additional potential source of Proposed Project-related odor is diesel engine emissions. These emissions will be temporary in nature and will be limited by the relatively small number of vehicles on site. Therefore, impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, no new sources of odor will be introduced, existing odor levels, if any, may decrease, and there will be no impact.

4.3.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to air quality, no applicant-proposed measures have been proposed.

4.3.5 References

CARB. 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. Online. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf. Site visited July 6, 2015.

CARB. 2009. California Ambient Air Quality Standards (CAAQS). Online. http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Site visited July 6, 2015.

CARB. 2014a. Quality Assurance Air Monitoring Site Information. Online. http://www.arb.ca.gov/qaweb/site.php. Site visited July 6, 2015.

CARB. 2014b. Area Designations Maps / State and National. Online. http://www.arb.ca.gov/desig/adm/adm.htm. Site visited July 6, 2015.

CARB. 2015. iADAM Air Quality Data Statistics. Online. http://www.arb.ca.gov/adam/. Site visited July 6, 2015.

City of San Diego. 2011. Significance Determination Thresholds. Online. http://www.sandiego.gov/development-services/pdf/news/sdtceqa.pdf. Site visited July 6, 2015.

EPA. 2013. Air Pollution and the Clean Air Act. Online. http://www.epa.gov/air/caa/. Site visited July 6, 2015.

EPA. 2014. National Ambient Air Quality Standards (NAAQS). Online. http://www.epa.gov/air/criteria.html. Site visited July 6, 2015.

SCAQMD. 2014. CEQA Handbook. Online. http://www.aqmd.gov/ceqa/hdbk.html. Site visited July 6, 2015.

SDAPCD. 2015. Air Pollution Control District County of San Diego Rules & Regulations. Online. http://www.sdapcd.org/rules/rules.html. Site visited July 6, 2015.