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4.3 AIR QUALITY

Would the Pro88posed 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 discusses the existing air quality in the area for the proposed San Diego Gas & Electric Company (SDG&E) TL674A Reconfiguration & TL666D Removal Project (Proposed Project) and assesses the potential air quality impacts associated with construction and operation and maintenance (O&M) of the Proposed Project. Although some temporary impacts will result during construction 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 Restrictions. No new impacts will occur during O&M of the Proposed Project.

4.3.1 Methodology

The Proposed Project is located entirely within the jurisdiction of the San Diego County Air Pollution Control District (SDAPCD); therefore, existing air quality within San Diego County was researched using data obtained from the district'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 Proposed Project's air emissions were assessed by estimating emission rates from construction and O&M activities, and then comparing them to established significance criteria. Air pollutant emission rates were estimated using 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) (PM_{10}), fine PM ($PM_{2.5}$), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), reactive organic gases (ROGs), and carbon dioxide. CalEEMod also allows users to input minimization measures and evaluate their effects on emission rates.

4.3.2 Existing Conditions

This section describes the regulations and regulatory agencies applicable 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 air pollutants (CAPs) 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, particularly that of children and the elderly, as well as individuals that 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 CAP 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 CAPs.

In July 1997, the U.S. 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 O_3 standard of 0.08 parts per million (ppm) is now based on a longer averaging period (eight hours versus one hour), recognizing that prolonged exposure to O_3 is more damaging. In March 2008, the U.S. EPA further lowered the eight-hour O_3 standard from 0.08 ppm to 0.075 ppm. The PM standard is based on finer particles (2.5 microns and smaller versus 10 microns and smaller), recognizing that finer particles may remain in the lungs longer and contribute to greater respiratory illness. Table 4.3-1: State and Federal Ambient Air Quality Standards contains a list of the NAAQS and California Ambient Air Quality Standards (CAAQS).

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 [$\mu g/m^3$])	Not Applicable (NA)	NA
	8 hours	0.070 ppm (137 $\mu g/m^3$)	0.070 ppm (137 $\mu g/m^3$)	0.070 ppm (137 $\mu g/m^3$)
PM_{10}	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	150 $\mu g/m^3$
	Annual arithmetic mean	20 $\mu g/m^3$	NA	NA
$PM_{2.5}$	24 hours	NA	35 $\mu g/m^3$	35 $\mu g/m^3$
	Annual arithmetic mean	12 $\mu g/m^3$	12 $\mu g/m^3$	12 $\mu g/m^3$
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 $\mu g/m^3$)	100 parts per billion (ppb)	NA
	Annual arithmetic mean	0.030 ppm (57 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)
SO_2	1 hour	0.25 ppm (655 $\mu g/m^3$)	75 ppb	NA
	3 hours	NA	NA	0.5 ppm (1,300 $\mu g /m^3$)
	24 hours	0.04 ppm (105 $\mu g/m^3$)	0.14 ppm (365 $\mu g/m^3$)	NA
	Annual arithmetic mean	NA	0.030 ppm (80 $\mu g/m^3$)	NA
Lead	30 days	1.5 $\mu g/m^3$	NA	NA
	Rolling 3 months	NA	0.15 $\mu g/m^3$	0.15 $\mu g/m^3$
	Quarterly	NA	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$
Sulfates	24 hours	25 $\mu g/m^3$	NA	NA

Sources: CARB 2016a; U.S. EPA 2016a

Notes:
1. California standards for O_3, PM_{10}, $PM_{2.5}$, 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 Title 17, Section 70200 of the California Code of Regulations.
2. NAAQS (other than O_3, PM, and those based on annual averages or 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.
3. The concentration is expressed first in the units used to promulgate the standard. The 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 the 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 public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. 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 U.S. EPA.
8. On October 1, 2015, the national eight-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over three years.
10. To attain the one-hour national standard, the three-year average of the annual 98th percentile of the one-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national one-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national one-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new one-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the one-hour national standard, the three-year average of the annual 99th percentile of the one-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the one-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the one-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling three-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

State

The California CAA (CCAA) of 1988 requires air districts to develop and implement strategies to attain CAAQS. Table 4.3-1: State and Federal Ambient Air Quality Standards contains a list of the CAAQS. For some pollutants, the CAAQS are more stringent than the NAAQS. Regional air quality management districts, such as the SDAPCD, had to prepare an air quality plan specifying how federal and state standards will be met.

The CARB enforces the CAAQS and works with the state's Office of Environmental Health Hazard Assessment (OEHHA) in identifying toxic air contaminants (TACs) and enforcing 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.

The CARB also regulates mobile emission sources in California (e.g., 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 PM (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}. The CARB has also adopted specific control measures for the reduction of DPM from off-road, in-use diesel vehicles (rated 25 horsepower [hp] and higher), such as backhoes, dozers, 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 ATCM for DPM from Portable Engines provide for statewide registration and control of DPM from portable engines rated 50 hp and higher.

Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350)

The Clean Energy and Pollution Reduction Act of 2015 was enacted on September 11, 2015, and establishes a new set of objectives in clean energy, clean air, and pollution reduction for 2030 and beyond. The act requires the amount of electricity generated and sold from renewable energy resources to be increased to 50 percent by December 31, 2030, which is an increase in the state's Renewables Portfolio Standard (RPS) goal of 33 percent by 2020, established by Senate Bill (SB) 2 in 2011. In addition, statewide energy efficiency savings in electricity and natural gas must be doubled through energy efficiency and conservation efforts. As with SB 2, the act requires the CPUC to establish efficiency targets for electric and gas companies that are consistent with the statewide targets. To track RPS compliance, the CPUC's Energy Division has developed an RPS Compliance Report spreadsheet for retail sellers to report their progress in reaching the established targets on an annual basis. Further, the law defines pollution reduction objectives for the State of California.

Regional

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 CCAA. The SDAPCD is the primary agency responsible for planning, implementing, and enforcing federal and state ambient standards in San Diego County. The plans, rules, and regulations presented in the following subsections apply to all sources in the jurisdiction of the SDAPCD.

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 AAQS. 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 eight-hour O_3 NAAQS (per the SIP submitted to the U.S. 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 stringent standard at that time.

The SDAPCD maintains the RAQS, which acts as a road map demonstrating how the district will eventually meet the O_3 CAAQS. 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 jurisdiction; however, all emission sources and control measures are included, such as any under the jurisdiction of the CARB (e.g., on-road motor vehicles, off-road vehicles and equipment, and consumer products) and the U.S. EPA (e.g., aircraft, ships, trains, and pre-empted off-road equipment).

Particulate Matter Air Quality Management Plan

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

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.

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.

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.

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.

San Diego Association of Governments' 2014 Regional Energy Strategy

The 2014 Regional Energy Strategy is an energy policy guide used to support decision-making by the San Diego Association of Governments (SANDAG) and its member agencies through 2050 with the goal of assisting the San Diego region in meeting the energy needs of a growing population, housing stock, and workforce, while maintaining and enhancing regional quality of life and economic stability. The Regional Energy Strategy establishes long-term goals in 11 areas, including energy efficiency, renewable energy, distributed generation, transportation fuels, land use and transportation planning, border energy issues, and the green economy. In addition, the strategy identifies the following six early actions for SANDAG and local governments to focus on in the near term:

1. pursue a comprehensive building retrofit program to improve efficiency and install renewable energy systems;

2. create financing programs to pay for projects and improvements that save energy;

3. utilize the SANDAG-SDG&E Local Government Partnership to help local governments identify opportunities and implement energy savings at government facilities and throughout their communities;

4. support land use and transportation planning strategies that reduce energy use and greenhouse gas (GHG) emissions;

5. support planning of electric charging and alternative fueling infrastructure; and

6. support the use of existing and unused reclaimed water to decrease the amount of energy needed to meet the water needs of the San Diego region.

To accomplish these objectives, the Regional Energy Strategy calls for increased use of natural gas for certain transportation applications and the continued efficient use of electricity generation. The strategy reports that the San Diego region can improve air quality, promote

public heath, and reduce GHG emissions by improving the transition to alternative fuel vehicles, including compressed natural gas, liquefied natural gas, propane, biodiesel, and hybrid technologies.

Local

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following discussion of the local regulations relating to air quality is provided for information purposes.

City of San Diego General Plan

The City of San Diego's 2008 General Plan and 2010, 2012, and 2015 General Plan Amendments were reviewed for air quality policies that are relevant to the Proposed Project. No policies were identified within these documents.

City of Del Mar Community Plan

The City of Del Mar's 1976 Community Plan, as well as the 1985 amendments and 2002 resolution, were reviewed for air quality policies that are relevant to the Proposed Project. No policies were identified within these documents.

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 and up through the valley 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 of the City of San Diego, 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 47 degrees Fahrenheit (°F) at night to 63°F during the day. The warmest month is August, when the high temperatures average 74°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 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. 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 two categories—PM_{10} and $PM_{2.5}$.

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, and the highest concentrations are 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 U.S. EPA to have negligible photochemical reactivity.

Toxic Air Contaminants

TACs are the listed toxic pollutants as established by the OEHHA. Under Assembly Bill 1807, the CARB is required to use certain criteria in prioritizing, identifying, and controlling air toxins. In selecting substances for review, the CARB must consider pollutants that may pose a threat to human health or 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.

Air Quality Designations

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 exist 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.

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 the 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, statewide DPM emissions from stationary, area-wide, and on-and off-road mobile sources totaled approximately 16,300 tons in 2010.

Table 4.3-2: SDAPCD Attainment Status

CAPs	State	Federal
O_3 (eight-hour)	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Attainment
PM_{10}	Nonattainment	Unclassified
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Sulfates	Attainment	Not Applicable
Lead	Attainment	Attainment
Hydrogen Sulfide	Unclassifiable	Not Applicable
Visibility Reducing Particles	Unclassifiable	Not Applicable

Source: SDAPCD 2015
Note: There are no federal standards for sulfates, hydrogen sulfide, or visibility-reducing particles.

Ambient Air Quality

Violations of NAAQS and CAAQS for O_3, PM, and CO 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. As shown in these tables, the air quality in the surrounding areas has been relatively stable over the past four years; however, PM concentrations have increased over time in some cases.

Sensitive Receptors

Some exposed population groups (e.g., 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 characterized by light- and medium-industrial and office uses, single- and multi-family housing, and parks and recreational uses. The following schools are the nearest sensitive receptors and are located directly adjacent to or within the Proposed Project area:

- Del Mar Hills Elementary School is located less than 0.1 mile from Pole 59.
- Del Mar Hills Nursery School is located less than 0.1 mile from Pole 67.

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 ($\mu g/m^3$)
Del Mar – Mira Costa College	2015	0.098	--	--
	2014	0.100	--	--
	2013	0.076	--	--
	2012	0.088	--	--
San Diego – Kearny Villa Road	2015	0.077	39.0	25.7
	2014	0.099	39.0	20.2
	2013	0.081	39.0	22.0
	2012	0.099	35.0	20.1

Source: CARB 2016d
Note: "--" = insufficient or unavailable data.

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 $PM_{2.5}$
Del Mar – Mira Costa College	2015	1	--	--	--
	2014	1	--	--	--
	2013	0	--	--	--
	2012	0	--	--	--
San Diego – Kearny Villa Road	2015	0	0	0	0
	2014	1	0	0	0
	2013	0	0	0	0
	2012	1	--	--	--

Source: CARB 2016d
Note: "--" = insufficient or unavailable data.

- Del Mar Heights Elementary School is located less than 0.1 mile from Pole 69. A staging area/fly yard will also be located within a recreational field associated with Del Mar Heights Elementary School near Poles 69 and 70.

- Brighter Future Preschool and Child Development Center is located less than 0.1 mile from Pole 100.

Section 4.10 Land Use and Planning and Section 4.14 Public Services provide more information about the sensitive receptors in close proximity to the Proposed Project components.

4.3.3 Impacts

Significance Criteria

San Diego County Air Pollution Control District Thresholds

To determine whether a significant impact will occur during construction, 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.). These thresholds have been summarized in Table 4.3-5: SDAPCD 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 substantially to existing violations.

Table 4.3-5: SDAPCD Significance Thresholds

Pollutant	Construction Threshold (pounds per day)
$PM_{2.5}$	55
PM_{10}	100
NO_x	250
SO_x	250
CO	550
VOC	75

Source: SDAPCD, 2016

California Environmental Quality Act Guidelines

In addition to the previously mentioned criteria, Appendix G of the California Environmental Quality Act Guidelines determines that impacts to air quality will 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 CAP for which the Proposed Project region is classified as nonattainment under an applicable federal or state AAQS

- Exposes sensitive receptors to substantial pollutant concentrations
- Creates objectionable odors affecting a substantial number of people

Question 4.3a – Applicable Air Quality Plan Conflicts – *Less-than-Significant Impact*

A potentially significant impact on air quality will occur if the Proposed Project conflicts with or obstructs the implementation of the applicable air quality plan. Although the Proposed Project will result in CAP emissions within the basin, the primary focus for analyzing air quality plan conflicts 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 whether 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: CalEEMod Reports.

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., grading of the substation pad and excavation of the underground duct bank trenches), 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. The results of the CalEEMod simulations included in Attachment 4.3–A: CalEEMod Reports indicate that the peak unmitigated emissions will be in compliance with all applicable SDAPCD thresholds, as indicated in Table 4.3-6: Peak Daily Uncontrolled Construction Emissions.

Table 4.3-6: Peak Daily Uncontrolled Construction Emissions

Year	Emissions (pounds per day)					
	$PM_{2.5}$	PM_{10}	NO_x	SO_x	CO	VOCs
2019	12.39	58.20	137.44	0.30	116.56	13.67
Threshold	55	100	250	250	550	75
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

To reduce impacts to the extent possible, SDG&E will implement the following control measures that are part of the Project Design Features and Ordinary Construction Restrictions described in Chapter 3 – Project Description:

- **Fugitive Dust Control.** All unpaved construction areas will be watered, as necessary, during construction to reduce dust emissions and to meet SDAPCD Rule 55 requirements. SDG&E or its contractor will keep the construction area sufficiently dampened to control dust caused by construction and hauling, and will provide at all times reasonable dust control in areas subject to windblown erosion.

- **Bulk Material Transport.** All loads will be secured by covering them or by sufficiently watering and using at least two feet of freeboard to avoid carry-over.

- **Equipment Emissions.** SDG&E or its contractor 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. Construction activities will be phased and scheduled to avoid emission peaks, and equipment use will be curtailed during second-stage smog alerts.

- **VOC Reduction.** Low- and non-VOC-containing coatings, sealants, adhesives, solvents, asphalt, and architectural coatings will be used to reduce VOC emissions.

These control measures were entered into CalEEMod, as appropriate, and the resulting mitigated emissions are presented in Table 4.3-7: Peak Daily Controlled Construction Emissions. As a result, both uncontrolled and controlled emission rates from the construction phase of the Proposed Project will not exceed the applicable SDAPCD thresholds.

Table 4.3-7: Peak Daily Controlled Construction Emissions

Year	Emissions (pounds per day)					
	$PM_{2.5}$	PM_{10}	NO_x	SO_x	CO	VOCs
2019	9.20	26.23	137.44	0.30	116.56	13.67
Threshold	55	100	250	250	550	75
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

The Proposed Project is not a trip-generating project (e.g., residential or commercial development), nor will it result in population growth. Once construction of the Proposed Project has been completed, emissions will be relatively low, resulting only from scheduled maintenance and operation activities. These activities will be conducted in the same manner as they were prior to construction of the Proposed Project. As described in Chapter 3 – Project Description, O&M of the proposed underground duct banks within Via De La Valle will be installed parallel to existing facilities where O&M activities are currently being conducted. The TL666D removal will eliminate all future O&M activities associated with these facilities. The conversion of C510

and C738 will eliminate O&M requirements associated with approximately 4,530 feet of existing overhead distribution line. Although these conversions will introduce approximately 4,230 feet of new underground duct bank, SDG&E currently owns and operates existing underground distribution facilities in the vicinity of these Proposed Project components. Based on the removal of existing overhead facilities and the installation of Proposed Project components in areas already covered by existing O&M activities, post-construction O&M requirements in the Proposed Project area will be reduced. Therefore, the Proposed Project will not conflict with or obstruct implementation of the applicable air quality plan, and thus will have a less-than-significant impact in regard to plan consistency.

Question 4.3b – Air Quality Standard Violations

Construction – Less-than-Significant Impact

Construction of the Proposed Project will require various pieces of heavy equipment, including excavators, aerial lift trucks, and drill rigs. Street-legal haul trucks and cement trucks will be employed during material export or import activities. In addition, portable cranes and heavy hauling trucks will be employed for equipment delivery and installation. Concrete trucks, back hoes, crew trucks, and pick-up trucks will arrive and depart the proposed staging area during construction.

It is anticipated that approximately 125 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 50 workers—and their associated vehicles and construction equipment—will be in any one location at any time during the peak of construction, and emissions will not exceed any applicable threshold. In addition, the number of trips generated will be minimal and will constitute an insignificant percentage of current daily volumes in the area, as described in Section 4.16 Transportation and Traffic. Moreover, SDG&E will encourage carpooling during construction.

Construction of the Proposed Project will generate short-term air quality impacts. CalEEMod was used to simulate emissions from construction activities based on the schedule and construction equipment list provided in Chapter 3 – Project Description. The results of this simulation are presented in Table 4.3-6: Peak Daily Uncontrolled Construction Emissions. The following variables factored into the total construction emissions estimate:

- the level of activity,
- the length of construction,
- the number of pieces and types of equipment in use,
- site characteristics,
- weather conditions,
- the number of construction personnel, and
- the amount of materials transported on site or off site.

As described in response to Question 4.3a, SDG&E's Project Design Features and Ordinary Construction Restrictions were entered into CalEEMod, as appropriate, and the resulting mitigated emissions are presented in Table 4.3-7: Peak Daily Controlled Construction Emissions.

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 is provided in the subsections that follow.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust (i.e., PM_{10}) emissions 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 excavation, trenching, and truck travel on unpaved roadways. Fugitive dust emissions can vary 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.

Fugitive dust emissions were simulated using CalEEMod, and the resulting maximum daily uncontrolled and controlled emissions are presented in Table 4.3-6: Peak Daily Uncontrolled Construction Emissions and Table 4.3-7: Peak Daily Controlled Construction Emissions. As shown, the unmitigated emissions will be below the applicable thresholds. Nonetheless, SDG&E will implement its Project Design Features and Ordinary Construction Restrictions to further reduce these emissions, as described in response to Question 4.3a. These measures include adherence to ordinary construction restrictions (e.g., watering inactive and perimeter areas, cleaning track-out, and containing dirt and dust within the Proposed Project area) and compliance with the SDAPCD's Rule 55. Impacts from fugitive dust 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, emissions produced on site as the equipment is used, and emissions from trucks transporting import and export materials. Emitted pollutants will include CO, VOCs, NO_x, PM_{10}, and $PM_{2.5}$. As presented in Table 4.3-6: Peak Daily Uncontrolled Construction Emissions, the maximum daily uncontrolled emissions will not exceed the SDAPCD's standards for all pollutants. 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 (i.e., 70 years). Because construction activities will be short term, emissions will not impact any sensitive receptors for any length of time.

The CARB has adopted ATCMs that are applicable to off-road diesel equipment and portable diesel engines with a rating of 50 brake hp or higher. The purpose of these ATCMs is to reduce PM emissions from engines subject to the rule. The ATCMs require diesel engines to comply with PM emissions limitations on a fleet-averaged basis. The CARB has also adopted an ATCM that limits diesel-fueled commercial motor vehicle idling. The rule applies to motor vehicles

with gross vehicular weight ratings greater than 10,000 pounds that are licensed for on-road use. The rule 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.

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, and 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 AAQS. As a result, impacts will be less than significant.

Operation and Maintenance – No Impact

As described in response to Question 4.3a, once construction of the Proposed Project has been completed, emissions will result only from scheduled O&M activities. These activities will be conducted in the same manner as they were prior to construction of the Proposed Project. Although new underground duct banks will be installed, SDG&E currently owns and operates existing underground facilities in the vicinity these Proposed Project components. In addition, all O&M activities associated with TL666D will be eliminated following construction. Based on the removal of existing overhead facilities and the installation of Proposed Project components in areas already covered by existing O&M activities, post-construction O&M requirements in the Proposed Project area will be reduced, and there will be no impact.

Question 4.3c – Criteria Pollutant Increases

Construction – Less-than-Significant Impact

As shown previously in Table 4.3-6: Peak Daily Uncontrolled Construction Emissions and Table 4.3-7: Peak Daily Controlled Construction Emissions, the construction of the Proposed Project will lead to a small, temporary increase in CAPs. SDG&E's Project Design Features and Ordinary Construction Restrictions will be implemented, which include minimizing vehicle idling time and controls for dust emissions, to reduce the impacts of the construction. As a result, the temporary CAP emissions will not exceed the applicable SDAPCD thresholds, and impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously in response to Question 4.3a, O&M activities will be eliminated for TL666D following construction. For the remainder of the newly installed Proposed Project components, SDG&E currently owns and operates underground facilities in these areas. All other overhead components will continue to be operated and maintained in the same manner as they currently are. As a result, O&M activities in the Proposed Project area will be reduced, and there will be no impact.

Question 4.3d – Sensitive Receptor Exposure – *Less-than-Significant Impact*

The Proposed Project site is located in an industrial, residential, and recreational area. Although sensitive receptors have been identified directly adjacent to or within the Proposed Project,

impacts to these receptors will be less than significant with the implementation of SDG&E's Project Design Features and Ordinary Construction Restrictions, as described in response to Question 4.3a. These restrictions include reducing idling time and implementing dust control measures. In addition, emissions resulting from O&M activities associated with the Proposed Project will be reduced when compared to the current activities being conducted in the Proposed Project area. Neither the construction nor O&M phases of the Proposed Project will contribute to the violation of an existing AAQS. As a result, the Proposed Project will have a less-than-significant impact to sensitive receptors.

Question 4.3e – Odor – *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 and the distance from any sensitive receptors. As described previously, O&M activities will be reduced from their current levels following construction of the Proposed Project, and these activities will not generate any significant sources of odor-causing pollutants. Therefore, impacts will be less than significant.

4.3.4 Applicant-Proposed Measures

Because the Proposed Project will have a less-than-significant impact on air quality and because SDG&E's Project Design Features and Ordinary Construction Restrictions will be implemented, no applicant-proposed measures are proposed.

4.3.5 References

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