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4.3 AIR QUALITY AND GREENHOUSE GASES

Would the Project:		Potentially Significant Impact	Potentially Significant Unless APMs 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 nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐
f.	Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑	☐
g.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
h.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

4.3.1 Introduction

This section of the PEA describes the existing air quality in the Proposed Project area and potential impacts relating to air quality and greenhouse gases (GHGs) associated with construction and operation of the Proposed Project.

4.3.2 Methodology

Federal, state, and regional/local regulations and policies were consulted to determine the Proposed Project's level of compliance with and impact, if any, to applicable air quality plans and/or standards. Information for this section was obtained from internet searches of federal, state, and regional/local websites.

This analysis of air quality impacts used the HP ratings, load factors, and emission factors from the California Air Resources Board (CARB)'s OFFROAD Model as provided in the CalEEMod User's Guide, Appendix D, for heavy construction. The analysis also utilized emission factors from CARB's EMFAC2011 Model for on-road vehicles. Emission factors for the construction year 2014 were used to calculate emissions.

4.3.3 Existing Conditions

4.3.3.1 Air Quality Regulatory Setting

Federal

National air quality policies are regulated through the federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 amendments. Pursuant to the federal CAA, the United States Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, which include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2, which is a form of nitrogen oxides [NO_x]), sulfur dioxide (SO_2, which is a form of sulfur oxides [SO_x]), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively), and lead (Pb). These pollutants are referred to as criteria pollutants because numerical criteria have been established for each pollutant, which define acceptable levels of exposure. USEPA has revised the NAAQS several times since their original implementation and would continue to do so as the health effects of exposure to air pollution are better understood.

USEPA designates areas as federal nonattainment areas if they have not achieved the NAAQS. Under the 1977 amendments to the federal CAA, states with air quality that did not achieve the NAAQS were required to develop and maintain state implementation plans (SIPs). These plans constitute a federally enforceable definition of the states approach (or "plan") and schedule for the attainment of the NAAQS. Air quality management areas were designated as attainment, nonattainment or unclassified for individual pollutants depending on whether they achieve the applicable NAAQS and California Ambient Air Quality Standards (CAAQS) for each pollutant. In addition, California can designate areas as transitional. It is important to note that because the NAAQS and CAAQS differ in many cases, it is possible for an area to be designated attainment by USEPA (meets NAAQS) and nonattainment by California (does not meet CAAQS) for the same pollutant.

Areas that were designated as nonattainment in the past, but have since achieved the NAAQS, are further classified as attainment-maintenance. The maintenance classification remains in effect for 20 years from the date that the area is determined by USEPA to meet the NAAQS. There are numerous classifications of the nonattainment designation, depending on the severity of nonattainment. The ozone nonattainment designation has seven subclasses: transitional, marginal, moderate, serious, severe-15, severe-17, and extreme. The designation of

nonattainment status is based on USEPA's "design value" for a given pollutant. The design value is a statistic that describes the air quality status of a given location relative to the level of the NAAQS. Design values are computed and published annually by USEPA's Office of Air Quality Planning and Standards and reviewed in conjunction with USEPA Regional Offices. Nonattainment areas are then designated based on their design value. For ozone nonattainment areas, the classifications are as follows:

Extreme: Area has a design value of 0.175 parts per million (ppm) and above.

Severe 17: Area has a design value of 0.119 up to but not including 0.175 ppm

Severe 15: Area has a design value of 0.113 up to but not including 0.119 ppm

Serious: Area has a design value of 0.100 up to but not including 0.113 ppm.

Moderate: Area has a design value of 0.086 up to but not including 0.100 ppm.

Marginal: Area has a design value of 0.076 up to but not including 0.086 ppm.

Nonattainment areas under different classifications have different deadlines to achieve the NAAQS. Extreme nonattainment areas are subject to a deadline of June 2024 to attain the NAAQS for ozone. Severe-15 nonattainment areas are subject to a deadline of June 2019 to attain the NAAQS for ozone. Serious nonattainment areas are subject to a deadline of June 2013 to attain the NAAQS for ozone. There are no areas that are currently designated as "severe-17" nonattainment areas for the NAAQS for ozone. Areas that lack monitoring data are designated as unclassified areas. Unclassified areas are treated as attainment areas for regulatory purposes.

State

CARB was created in 1967 from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its laboratory. Under the federal CAA, states may enact their own statewide air quality regulations and standards, provided they are at least as stringent as the federal CAA. In 1988, the California CAA was enacted to regulate air quality within California. CARB, a department of the California Environmental Protection Agency (CalEPA), oversees air quality planning and control throughout California. Its responsibility lies with ensuring implementation of the California CAA, responding to the federal CAA requirements, and regulating pollutant emissions from motor vehicles sold in California. It also sets fuel specifications to further reduce vehicular emissions.

The California CAA established the CAAQS and a legal mandate to achieve these standards by the earliest practicable date. These standards apply to the same criteria pollutants as the NAAQS, but also include sulfate, visibility, hydrogen sulfide, and vinyl chloride.

Local

CARB has designated San Diego County as a discrete air basin under the jurisdiction of the San Diego County Air Pollution Control District (SDAPCD). In addressing its planning role with respect to the NAAQS, SDAPCD has most recently developed an Ozone Redesignation Request

and Maintenance Plan, which served as the basis for USEPA's re-designation of the San Diego Air Basin (Basin) as an attainment zone for the one-hour ozone standard on July 28, 2003. As of April 30, 2012, the Basin has been designated as a marginal nonattainment area for the eight-hour ozone standard.

The Regional Air Quality Strategy (RAQS) was established by SDAPCD in 1991 to address state air quality planning requirements (focusing on ozone). The latest revision was published in April 22, 2009. SDAPCD is responsible for the overall development and implementation of the RAQS. The RAQS control measures focus on emission sources under SDAPCD's authority, specifically, stationary emission sources and some area-wide sources; however, the emission inventories and emission projections in the RAQS reflect the impact of all emission sources and all control measures, including those under the jurisdiction of CARB (e.g., on-road motor vehicles, off-road vehicles and equipment, and consumer products) and USEPA (e.g., aircraft, ships, trains, and pre- empted off-road equipment). While legal authority to control different pollution sources is separated, SDAPCD is responsible for reflecting federal, state, and regional/local measures in a single plan to achieve ambient air quality standards in San Diego County.

Each local air quality management or air pollution control district establishes criteria to assess a project's impacts on air quality. SDAPCD has established annual significance thresholds for oxides of nitrogen and reactive organic gases for stationary sources. SDAPCD has not established rules for characterizing impacts from construction, however. SDAPCD informally recommends quantifying construction emissions and comparing them to significance thresholds found in SDAPCD regulations for stationary sources (pursuant to SDAPCD Rule 20.1, et seq.) and shown in Table 4.3-1, Air Pollution Control District's Screening Level Thresholds. If construction-phase emissions exceed these thresholds for a stationary source air quality impact analysis, then construction has the potential to violate air quality standards or to contribute substantially to existing violations. The significance thresholds are shown in Table 4.3-1. While this PEA uses these thresholds as a guide, this PEA also evaluates if other substantial evidence in light of the whole record indicates that the Proposed Project could have a significant air quality impact, including proximity of sensitive receptors. This additional evaluation provides a conservative analysis of the Proposed Project's air quality impacts.

Table 4.3-1: Air Pollution Control District's Screening Level Thresholds

Pollutant	Pounds/Day
Carbon Monoxide (CO)	550
Oxides of Sulfur (SO_X)	250
Volatile Organic Compounds (VOCs)	75
Oxides of Nitrogen (NO_X)	250
Particulate Matter (PM_{10})	100
Particulate Matter ($PM_{2.5}$)	55

Source: San Diego County Air Pollution Control District Rule 1501, 20.2(d)(2), 1995.
The San Diego County Air Pollution Control District does not have thresholds of significant for VOCs or $PM_{2.5}$. As such, the VOC and $PM_{2.5}$ thresholds for construction from the South Coast Air Quality Management District's CEQA Air Quality Significance Thresholds (http://www.aqmd.gov/ceqa/handbook/signthres.pdf) were utilized.

4.3.3.2 Greenhouse Gases and Global Climate Change Regulatory Setting

California has been at the forefront of developing solutions to address global climate change. Global climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Global climate change may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of land.

Global climate change is being addressed at both the international and federal levels. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC) to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports from the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

The United Nations IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC concluded that a stabilization of GHGs at 400 to 450 ppm carbon dioxide equivalent concentration is required to keep global mean temperature increases below 3.6º Fahrenheit (ºF) (2º Celsius [ºC]), which is assumed to be necessary to avoid dangerous climate change. When accounting for GHGs, all types of GHG emissions are expressed in terms of carbon dioxide equivalents (CO_2e) and are typically quantified in metric tons (MT) or millions of metric tons (MMT).

GHGs have varying global warming potential. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. According to USEPA, global warming potential is the "cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for global warming potential is carbon dioxide (CO_2); therefore, carbon dioxide has a global warming potential of 1. The other main GHGs that have been attributed to human activity include methane (CH_4), which has a global warming potential of 21, and nitrous oxide (N_2O), which has a global warming potential of 310. Table 4.3-2, Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases, presents the global warming potential and atmospheric lifetimes of common GHGs.

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Table 4.3-2: Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases

GHG	Formula	100-Year Global Warming Potential	Atmospheric Lifetime (Years)
Carbon Dioxide	CO_2	1	Variable
Methane	CH_4	21	12 ± 3
Nitrous Oxide	N_2O	310	120
Sulfur Hexafluoride	SF_6	23,900	3,200

Source: California Climate Action Registry General Reporting Protocol, Version 3.1. 2009. January.

Human-caused sources of carbon dioxide include combustion of fossil fuels (coal, oil, natural gas, gasoline and wood). Data from ice cores indicate that carbon dioxide concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of carbon dioxide have increased in the atmosphere since the industrial revolution.

Methane is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure and cattle farming. Human-caused sources of nitrous oxide include combustion of fossil fuels and industrial processes, such as nylon production and production of nitric acid.

Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses.

All levels of government have responsibility for the protection of air quality, and each level (federal, state, and regional/local) has specific responsibilities relating to air quality regulation. The regulation of GHGs are a relatively new component of air quality regulation.

Federal

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change. Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of global climate change. The U.S. Supreme Court rules in *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007), that USEPA has the ability to regulate GHG emissions. In addition to the national and international efforts described above, many local jurisdictions have adopted climate change policies and programs.

Endangerment Finding

On April 17, 2009, USEPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the federal CAA:

Endangerment Finding: USEPA found that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF_6]) in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: USEPA found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

The endangerment findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing USEPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by USEPA and the DOT's National Highway Safety Administration on September 15, 2009.

Mandatory Reporting of Greenhouse Gases, 40 CFR Part 98

USEPA's rule titled Mandatory Reporting of Greenhouse Gases (40 Code of Federal Regulations [CFR] Part 98) requires mandatory reporting of GHGs for certain facilities. Subpart DD of the rule, titled Electrical Transmission and Distribution Equipment Use, applies to sulfur hexafluoride reporting from gas insulated substations. Under the final Mandatory Reporting Rule for Additional Sources of Fluorinated GHGs, owners and operators of electric power system facilities with a total nameplate capacity that exceeds 17,820 pounds (lbs) (7,838 kilograms [kg]) of sulfur hexafluoride and/or perfluorocarbons must report emissions of SF_6 and/or perfluorocarbons from the use of applicable electrical equipment. Owners or operators must collect emissions data, calculate GHG emissions, and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.

The rule requires that each electric power system facility must report total sulfur hexafluoride and PFC emissions (including emissions from equipment leaks, installation, servicing, decommissioning, and disposal, and from storage cylinders) from the following types of equipment:

- Gas-insulated substations;
- Circuit breakers;
- Switchgear, including closed-pressure and hermetically sealed-pressure switchgear;
- Gas-insulated lines containing sulfur hexafluoride or perfluorocarbons;
- Gas containers such as pressurized cylinders;
- Gas carts;

- Electric power transformers; and
- Other containers of sulfur hexafluoride or perfluorocarbons.

Facilities subject to Subpart DD began monitoring GHG emissions on January 1, 2011, in accordance with the methods specified in Subpart DD. The deadline for reporting is currently March 31 of each year, unless that date falls on a weekend, in which case the report is due the next business day.

State

California Health and Safety Code Section 38505(g) defines GHGs as any of the following compounds: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Carbon dioxide, followed by methane and nitrous oxide, are the most common GHGs that result from human activity.

In the State of California GHG Inventory, CARB compiled statewide anthropogenic GHG emissions and sinks, which include processes that uptake GHG emissions (Table 4.3-3, State of California Greenhouse Gas Emissions by Sector). The inventory includes estimates for carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. The current inventory covers the years 1990 to 2008, and is summarized in Table 4.3-3. Data sources used to calculate the inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. In CARB's original inventory, the inventory was divided into seven broad sectors and categories in the inventory, which include Agriculture, Commercial, Electricity Generation, Forestry, Industrial, Residential, and Transportation. The latest inventory includes GHG emissions from recycling and waste management, high-global warming potential gas emissions, and reductions in GHG emissions due to forestry (forestry sinks).

Table 4.3-3: State of California Greenhouse Gases Emissions by Sector

Sector	Total 1990 Emissions ($MMTCO_2e$)[1]	Percent of Total 1990 Emissions	Total 2008 Emissions ($MMTCO_2e$)	Percent of Total 2008 Emissions
Agriculture	23.4	5%	28.06	6%
Commercial	14.4	3%	14.68	3%
Electricity Generation	110.6	26%	116.35	25%
Forestry (excluding sinks)	0.2	<1%	0.19	<1%
Industrial	103.0	24%	92.66	20%
Residential	29.7	7%	28.45	6%

Table 4.3-3 (cont): State of California Greenhouse Gases Emissions by Sector

Sector	Total 1990 Emissions ($MMTCO_2e$)[1]	Percent of Total 1990 Emissions	Total 2008 Emissions ($MMTCO_2e$)	Percent of Total 2008 Emissions
Transportation	150.7	35%	174.99	37%
Recycling and Waste			6.71	1%
High Global Warming Potential Gases			15.65	3%
Forestry Sinks	(6.7)		(3.98)	

[1] $MMTCO_2e$ refers to million metric tons of carbon dioxide equivalent emissions.

Source: Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, California Air Resources Board, November 16, 2007.

The following subsections describe regulations and standards that have been adopted by California to address global climate change issues.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed California Assembly Bill (AB) 32, the Global Warming Solutions Act, into law. AB 32 directs CARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit.
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020.
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures.
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources that CARB finds necessary to achieve the statewide GHG emissions limit.
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

AB 32 required that by January 1, 2008, CARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. CARB adopted its Scoping Plan in December 2008, which provided estimates of the 1990 GHG emissions level and identified sectors for the reduction of GHG emissions. CARB has estimated that the 1990 GHG emissions level was 427 MMT net CO_2e. CARB estimates that a reduction of 173 MMT net CO_2e emissions below Business as Usual would be required by 2020 to meet the 1990 levels. This amounts to a 15-percent reduction from today's levels, and a 30-percent reduction from projected Business as Usual levels in 2020.

The CPUC and California Energy Commission (CEC) concluded a lengthy proceeding in October 2008 to provide electricity and natural gas-specific recommendations to CARB for inclusion in its Scoping Plan and AB 32 regulations and programs. CARB adopted a comprehensive AB 32 Scoping Plan in December 2008 that outlined programs designed to achieve the 2020 GHG reduction goal of 174 million metric tons of CO_2e emissions through regulations, market mechanisms, and other actions.

For the electricity sector, the Scoping Plan adopted the fundamental recommendations of the CPUC for investor-owned and publicly-owned utilities to reduce GHG emissions. The investor-owned and publicly-owned utilities must continue to pursue energy efficiency programs, meet the goal of obtaining 33 percent of their electricity from renewable generation sources by 2020, and comply with a cap-and-trade program that seeks to reduce GHGs from electric generation and other sources.

Throughout 2009, CARB staff drafted rules to implement the 32 Scoping Plan and held public workshops on each measure included in the Scoping Plan. CARB identified "Discrete Early Actions" that would be implemented to reduce GHG emissions from the years 2007 through 2012. On January 29, 2009, CARB announced its regulatory schedule to adopt 74 separate regulations and other measures, including the enhanced energy efficiency programs and 33 percent Renewable Portfolio Standard. The early action measures identified within the Scoping Plan took effect on January 2010.

Senate Bill 97

Senate Bill 97, enacted in 2007, amends CEQA to state that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. Senate Bill 97 also directed the Governor's Office of Planning and Research to develop regulations as part of the CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" and directed the California Natural Resources Agency to certify and adopt the regulations. The new regulations became effective as part of the CEQA Guidelines on March 18, 2010.

Section 15064.4 of the *CEQA Guidelines* specifically addresses the potential significance of GHG emissions. Section 15064.4 calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions. Section 15064.4 states that the analysis of GHG impacts should consider the extent that the project would increase or reduce GHG emissions; exceed a locally applicable threshold of significance; and comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions."

Section 15064(h)(3) of the *CEQA Guidelines* states that a project may be found to have a less-than-significant impact on GHG emissions if it complies with an adopted plan that includes measures to reduce GHG emissions. The *CEQA Guidelines* do not require or recommend a specific analytical methodology or set a quantitative threshold for determining the significance of GHG emissions.

Senate Bill 375

Senate Bill 375, enacted in 2009, requires CARB to develop regional reduction targets for GHGs, and prompts the creation of regional plans to reduce emissions from vehicle use throughout the state. California's 18 Metropolitan Planning Organizations must each create a Sustainable Community Strategy. The Metropolitan Planning Organizations must develop the Sustainable Community Strategy through integrated land use and transportation planning and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.

The SANDAG is the Metropolitan Planning Organization for the Proposed Project region. SANDAG's Sustainable Community Strategy includes four building blocks:

1. A land use component that accommodates the Regional Housing Needs Assessment and includes the protection of sensitive resources, including areas protected under habitat conservation plans;

2. Transportation networks including highways, transit, and local streets and roads;

3. Transportation demand management strategies; and

4. Transportation system management programs and policies.

The Sustainable Community Strategy describes how the region will meet GHG reduction targets set by CARB. CARB's targets call for the region to reduce per capita emissions seven percent by 2020 and 13 percent by 2035 from a 2005 baseline. There are no mandated targets beyond 2035.

The SANDAG Board of Directors certified the Sustainable Community Strategy and a Regional Transportation Plan (RTP) on October 28, 2011, after more than two years of extensive public input. Several non-profit organizations challenged the Sustainable Community Strategy and RTP in San Diego Superior Court. On December 3, 2012, the court directed SANDAG to set aside its certification of the Environmental Impact Report for the Sustainable Community Strategy and RTP and to conduct new environmental review regarding GHGs. This ongoing litigation could result in changes to the Sustainable Community Strategy and RTP.

Executive Order S-3-05

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-3-05 also calls for the CalEPA to prepare biennial science reports on the potential impact of continued global climate change on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to

California", and its supporting document "Scenarios of Climate Change in California: An Overview" were published by the California Climate Change Center in 2006.

State Standards Addressing Vehicular Emissions

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. CARB adopted the regulations on September 24, 2009, to reduce GHG emissions in new passenger vehicles from 2009 through 2016. CARB has estimated that the regulations will reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030.

Senate Bills 1078 and 107 and Executive Order S-14-08

Senate Bill 1078 requires retail sellers of electricity to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the Renewables Energy Standard to 33 percent by 2020. In April 2011, the California legislature enacted Senate Bill 2, which mandates the Renewables Portfolio Standard of 33 percent by 2020 for investor-owned and publicly-owned utilities.

Executive Order S-21-09

Executive Order S-21-09 directs CARB to work with the CPUC and CEC to implement the Renewables Portfolio Standard of 33 percent by 2020. On May 5, 2011, the CPUC adopted Order Instituting Rulemaking 11-05-005 to open a new proceeding for the Renewables Portfolio Standard. CARB is also working with the CALISO and other load balancing authorities to address reliability, renewable integration requirements, and interactions with wholesale power markets. Consistent with applicable law, CARB has established a loading order in its Energy Action Plan for resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

SDG&E Programs

SDG&E has been engaged for many years in activities to reduce GHG emissions. These activities include programs to increase energy efficiency, and efforts to meet the Renewables Portfolio Standard of 33 percent by 2020. In 2011, 20.8 percent of SDG&E's retail sales were from renewable energy sources.

SDG&E submits a mandatory Long Term Procurement Plan to the CPUC that describes its strategy for meeting forecasted load during the next 10 years. The Long Term Procurement Plan must be consistent with the loading order prescribed in the CEC's Energy Action Plan to meet growth first with conservation, then with renewable sources of electricity, and finally with new fossil-fueled sources to the extent necessary. New generation sources must be consistent with the Long Term Procurement Plan. The CPUC approved SDG&E's most recent Long Term Procurement Plan in September 2008.

The Long Term Procurement Plan includes the following programs to reduce GHG emissions:

- Energy efficiency, which will reduce needed capacity by 487 MW by 2016;

- Demand response, which will reduce needed capacity by 249 MW by 2016;
- Renewables, which will provide 318 MW in 2010 and 727 MW in 2016; and
- New peaker plants to back up intermittent renewable and support retirement of older plants.

Forecasted reductions from these programs are greater than 1.5 MMT CO_2e per year. These efforts will reduce carbon intensity by one-third while accommodating continued population growth and will ensure consistency with the applicable plans, policies and regulations adopted by California to reduce GHG emissions.

4.3.3.3 Existing Air Quality and Climate Conditions

Basin Characteristics

One of the main determinants of Basin climatology is the Pacific High, a semi-permanent high-pressure center over the Pacific Ocean. In the summer, this pressure center is located well to the north, causing storm tracks to be directed north of California. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation.

Basin Climate

The climate of the Basin is characterized by warm, dry summers and mild, wet winters. The climate 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 when the oceanic high pressure center is weakest and farthest south as the fringes of mid-latitude storms occasionally move through the area. The average temperatures in January range from 47 °F at night to 63°F during the day. The warmest month is August, when the high temperatures average 74°F. The annual rainfall is approximately 10 inches.

Generation of Air Pollutants

The same atmospheric conditions that create a desirable living climate combine to limit the ability of the atmosphere to disperse the air pollution generated by the large population attracted to the pleasant climate. The onshore winds across the coastline diminish quickly when they reach the foothill communities east of San Diego. The sinking air within the offshore high-pressure system forms a massive temperature inversion that traps all the air pollutants near the ground. The resulting horizontal and vertical stagnation, in conjunction with ample sunshine, causes a number of reactive pollutants to undergo photochemical reactions and form smog, which degrades visibility and irritates the tear ducts and nasal membranes of humans. While programs to control emission of air pollutants have substantially improved regional air quality within the last several decades, some parts of the Basin still do not meet clean air standards.

Local Climate

Local meteorological conditions in the Proposed Project vicinity conform to the regional pattern of strong onshore winds by day (especially in the 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 of 8 to 12 miles per hour blow onshore and up through the valley from the southwest by day. Light onshore breezes may continue throughout the night 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.

Temperature Inversions

Both the onshore flow of marine air and the nocturnal winds are accompanied by two characteristic temperature inversion conditions that control the rate of air pollution dispersal throughout the Basin. The daytime cool onshore flow is capped by a deep layer of warm, sinking air. Along the coastline, the marine air layer beneath the inversion cap is deep enough to accommodate any locally generated emissions. However, as the layer moves inland, pollution sources (especially automobiles) add pollutants from below without any dilution from above through the inversion interface. When this polluted layer approaches foothill communities east of coastal developments, it becomes shallower and exposes residents in those areas to the concentrated by-products of coastal area sources.

4.3.3.4 Air Quality

CARB sets State air quality standards and monitors ambient air quality at approximately 250 air quality monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Ambient air pollutant concentrations in the Basin are measured at 10 air quality-monitoring stations operated by SDAPCD.

The Escondido Monitoring Station located on East Valley Parkway in the City of Escondido was chosen to gather data for carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, PM_{10}, and $PM_{2.5}$. The data collected at this monitoring station are representative of the air quality experienced on-site from 2009 through 2011; refer to Table 4.3-5, Local Air Quality Levels. These data are likely conservative, as the monitoring station is located in a developed area with multiple emission sources, where TL 637 is located in a less developed area. The following air quality information briefly describes the various types of pollutants.

Ozone

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. In the troposphere, ozone is a photochemical pollutant and is formed from reactions between volatile organic compounds (VOCs) and nitrogen oxides with the presence of sunlight. Therefore, VOCs and nitrogen oxides are ozone precursors. VOCs and nitrogen oxides are emitted from various sources throughout the Basin. Significant ozone formation generally requires an adequate

amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems (such as forests and foothill plant communities) and damages agricultural crops and some man-made materials (such as rubber, paint and plastics). Societal costs from ozone damage include increased healthcare costs, the loss of human and animal life, accelerated replacement of industrial equipment and reduced crop yields.

Carbon Monoxide

Carbon monoxide is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all carbon monoxide emissions. At high concentrations, carbon monoxide can reduce the oxygen-carrying capacity of the blood and cause headaches, dizziness, and unconsciousness.

Nitrogen Dioxide

Nitrogen oxides are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. USEPA and CARB have established ambient air quality standards for nitrogen dioxide. Nitrogen dioxide is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of nitrogen dioxide occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

Nitrogen dioxide can irritate and damage the lungs, and lower resistance to respiratory infections, such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to nitrogen dioxide concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to nitrogen dioxide may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Sulfur Dioxide

Sulfur dioxide is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of sulfur dioxide are found near large industrial sources. Sulfur dioxide is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to sulfur dioxide can cause respiratory illness and aggravate existing cardiovascular disease.

Coarse Particulate Matter (PM_{10})

PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or 10 one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate the lungs and can potentially damage the

respiratory tract. On June 19, 2003, CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$)

Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both federal and state $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. Due to its smaller size, $PM_{2.5}$ has the potential to lodge more deeply in the lungs. Both USEPA and CARB have revised their ambient air quality standards for $PM_{2.5}$ to more stringent levels since the standards were originally proposed in 1997. Almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Reactive Organic Gases and Volatile Organic Compounds

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases, including reactive organic gases (ROGs) and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Lead

Lead in the atmosphere occurs as particulate matter. Lead has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen.

CARB has also set standards for four additional pollutants: sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These pollutants are generally not considered to be pollutants of concern in the Basin because there are no major sources that would contribute to ambient levels within the Basin.

Toxic Air Contaminants (TACs)

Section 39655 of the California Health and Safety Code defines a toxic air contaminant (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." Section 39657 (b) of the California Health and Safety Code defines TACs to include 189 substances that have been listed as federal hazardous air pollutants under Section 7412 of Title 42 of the USC.

TACs can cause various cancers, depending on the particular chemicals, their type, and the duration of exposure. Additionally, some of the TACs may cause other health effects over the short or long term. The 10 TACs posing the greatest health risk in California are acetaldehyde,

benzene, 1-3 butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchlorethylene, and diesel particulate matter.

Air Quality Designations

Three air quality designations can be given to an area for a criteria 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.

Current NAAQS and CAAQS are summarized in Table 4.3-4, National and California Ambient Air Quality Standards. On April 15, 2004, USEPA formally replaced the 1979 1-hour ozone standard with a more stringent 8-hour standard as part of the Clean Air Rules of 2004. The Basin is currently designated as a nonattainment area for ozone and all particulate matter.

Table 4.3-4: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 $\mu g/m^3$)	**Nonattainment**	NA	NA
	8 Hours	0.070 ppm (137 $\mu g/m^3$)	**Nonattainment**	0.075 ppm (147 $\mu g/m^3$)	**Marginal Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 $\mu g/m^3$	**Nonattainment**	150 $\mu g/m^3$	Attainment
	Annual Arithmetic Mean	20 $\mu g/m^3$	**Nonattainment**	NA	Attainment
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 $\mu g/m^3$	Attainment
	Annual Arithmetic Mean	12 $\mu g/m^3$	**Nonattainment**	12 $\mu g/m^3$	Unclassified
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment
	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)[5]	Annual Arithmetic Mean	0.030 ppm (56 $\mu g/m^3$)	NA	0.053 ppm (100 $\mu g/m^3$)	Attainment
	1 Hour	0.18 ppm (338 $\mu g/m^3$)	Attainment	100 ppb	Attainment
Lead (Pb)[7,8]	30 days average	1.5 $\mu g/m^3$	Attainment	N/A	NA
	Calendar Quarter	N/A	NA	1.5 $\mu g/m^3$	Attainment

Table 4.3-4 (cont): National and California Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Sulfur Dioxide (SO_2)[6]	24 Hours	0.04 ppm (105 $\mu g/m^3$)	Attainment	0.14 ppm (365 $\mu g/m^3$)	Attainment
	3 Hours	N/A	NA	0.5 ppm (1300 $\mu g/m^3$)	Attainment
	1 Hour	0.25 ppm (655 $\mu g/m^3$)	Attainment	75 ppb (196 $\mu g/m^3$)	NA
Visibility-Reducing Particles[9]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 $\mu g/m^3$	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	Unclassified		
Vinyl Chloride[7]	24 Hour	0.01 ppm (26 $\mu g/m^3$)	Unclassified		

Notes:
$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time. N/A = Not Applicable

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site 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. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. The table presents primary standards with the exception of the 3-hour SO_2 standard, which is a secondary standard.
5. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-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.
6. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-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.
7. 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.
8. The national standard for lead was revised on October 15, 2008, to a rolling 3-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.

Table 4.3-4 (cont): National and California Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
9. In 1989, 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 standard, respectively.					
Source: California Air Resources Board and U.S. Environmental Protection Agency, November 30, 2012.					

Ambient Air Quality

Violations of NAAQS and CAAQS for ozone and PM have occurred historically in the Proposed Project area. The frequency of violations and current air quality conditions at the Escondido Monitoring Station are summarized in Table 4.3-5, Local Air Quality Levels. The Escondido Monitoring Station is the site nearest to the Proposed Project area, although the Escondido Monitoring Station is located in a more developed area with multiple emission sources compared to the TL 637 area.

Table 4.3-5: Local Air Quality Levels

Pollutant	Standard (Maximum Allowable Amount)		Year1	Maximum Concentration[2]	Number of Days State/Federal Std. Exceeded
	California	Federal Primary			
1-hour Ozone (O_3)[1]	0.09 ppm for 1 hour	NA	2009 2010 2011	0.093 ppm 0.105 ppm 0.098 ppm	0/NA 2/NA 1/NA
8-hour Ozone (O_3)[1]	0.070 ppm for 8 hours	0.075 ppm for 8 hours	2009 2010 2011	0.080 ppm 0.084 ppm 0.089 ppm	9/1 5/3 2/2
1-hour Carbon Monoxide (CO)	20 ppm for 1 hour	35 ppm for 1 hour	2009 2010 2011	4.4 ppm 3.9 ppm 3.5 ppm	0/0 0/0 0/0
8-hour Carbon Monoxide (CO)	9.0 ppm for 8 hours	9 ppm for 8 hour	2009 2010 2011	3.54 ppm 2.46 ppm 2.20 ppm	0/0 0/0 0/0
Nitrogen Dioxide (NO_2)	0.18 ppm for 1 hour	0.100 ppm For 1 hour	2009 2010 2011	0.073 ppm 0.064 ppm 0.062 ppm	0/0 0/0 0/0
1-hour Sulfur Dioxide (SO_2)	75 ppb for 1 hour	NA	2009 2010 2011	0.004 ppm 0.005 ppm 0.007 ppm	0/0 0/0 0/0
24-hour Sulfur Dioxide (SO_2)	0.04 ppm for 24 hours	NA	2009 2010 2011	0.003 ppm 0.002 ppm 0.002 ppm	0/NA 0/NA 0/NA
Fine Particulate Matter ($PM_{2.5}$)[1, 2]	No Separate Standard	35 µg/m^3 for 24 hours	2009 2010 2011	64.9 µg/m^3 48.4 µg/m^3 69.8 µg/m^3	NA/2 NA/2 NA/3
Particulate Matter (PM_{10})[1, 2]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2007 2008 2009	74.0 µg/m^3 43.0 µg/m^3 40.0 µg/m^3	1/0 0/0 0/0

Table 4.3-5 (cont): Local Air Quality Levels

Pollutant	Standard (Maximum Allowable Amount)		Year1	Maximum Concentration[2]	Number of Days State/Federal Std. Exceeded
	California	Federal Primary			
Sources: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2009 to 2011, http://www.arb.ca.gov/adam; for 1-hour CO and 1-hour SO_2, San Diego Air Pollution Control District, Five-Year Air Quality Summary, http://www.sdapcd.org/info/reports/5-year-summary.pdf.					
ppm = parts per million; PM_{10} = particulate matter 10 microns in diameter or less; NM = not measured; $\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; NA = not applicable; * There was insufficient (or no) data available to determine this value.					
Notes:					
1. Maximum concentration is measured over the same period as the California Standards.					
2. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.					

4.3.3.5 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than is the general population. According to the South Coast Air Quality Management District (SCAQMD), "a sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant than is the population at large," such as medical patients and elderly persons/athletes/children at public parks/playgrounds, long-term care/assisted living facilities, churches, schools, child care centers/homes and athletic fields.

Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and carbon monoxide are of particular concern. Land uses that may include sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers and retirement homes. Table 4.3-6, Locations That May Include Sensitive Receptors, lists the distances and locations where sensitive receptors may be found and that lie within one mile of the areas that would be affected by the improvements along TL 637. The closest land uses that may contain sensitive receptors would be the residential units located southwest of the Proposed Project site.

Table 4.3-6: Locations That May Include Sensitive Receptors

Type	Name	Distance from Project Site (miles)	Direction from Project Site
TL 637			
Residential	N/A	0.1	Residential uses surround the TL 637 route
Schools	Ramona High School	0.70	Northwest
	Olive Pierce Middle School	0.7	Northwest
	Barnett Elementary School	0.5	South
	Spencer Valley Elementary School	1.5	Southeast

Table 4.3-6 (cont): Locations That May Include Sensitive Receptors

Type	Name	Distance from Project Site (miles)	Direction from Proposed Project Site
Places of Worship	Christian Science	0.1	Northwest
	The Way Church	0.1	Southwest
	St. Mary's In-the-Valley Episcopal Church	0.4	West
	Immaculate Heart of Mary Catholic Church	0.55	North Northwest
	Seventh Day Adventist Church	0.55	North Northwest
	Berean Bible Church	0.55	North Northwest
	First Congregational Church of Ramona	0.55	Northwest
	The Church of Jesus Christ of Latter Day Saints	0.55	Northwest
	Apostolic Assembly of the Faith in Jesus Christ	0.55	Northwest
	Calvary Chapel	0.75	East
Parks	Simon Preserve	0	The Proposed Project is located within and traverses the Mt. Gower Preserve
	Collier Park	0.5	Northwest
	Mt. Gower Preserve	0	The Proposed Project is located within and traverses the Mt. Gower Preserve

Source: http://www.mapquest.com
Note: Sensitive receptors utilized in this analysis are those within a one-mile radius of the Proposed Project site.

4.3.4 Potential Impacts

4.3.4.1 Significance Criteria

Standards of impact significance were derived from Appendix G of the *CEQA Guidelines*. Under these guidelines, the Proposed Project could have a potentially significant impact to air quality if it will:

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

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

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality

standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

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

Also under these guidelines, a project would have a potentially significant impact to GHGs if it will:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG.

4.3.4.2 SDAPCD Thresholds

Per SDAPCD, a project would result in a significant air quality impact if it generates total emissions (direct and indirect) that exceed their adopted thresholds; refer to Table 4.3-7, SDAPCD Pollutant Thresholds. A project that results in a significant impact must incorporate sufficient measures to reduce its impact to a level that is not significant. A project that results in impacts that cannot be mitigated to a level that is not significant must incorporate all feasible measures. Note that the emission thresholds are given as a daily value and an annual value, so that a multi-phased project (such as a project with a construction phase and a separate operational phase) with phases shorter than one year can be compared to the daily value.

Table 4.3-7: SDAPCD Pollutant Thresholds

Pollutant	Pounds/Day
Carbon Monoxide (CO)	550
Oxides of Sulfur (SO_X)	250
Volatile Organic Compounds (VOCs)	75
Oxides of Nitrogen (NO_X)	250
Particulate Matter (PM_{10})	100
Particulate Matter ($PM_{2.5}$)	55

Source: San Diego County Air Pollution Control District Rule 1501, 20.2(d)(2), 1995.
The San Diego County Air Pollution Control District does not have thresholds of significant for VOCs or $PM_{2.5}$. As such, the VOC and $PM_{2.5}$ thresholds for construction from the South Coast Air Quality Management District's CEQA Air Quality Significance Thresholds (http://www.aqmd.gov/ceqa/handbook/signthres.pdf) were utilized.

4.3.4.3 Question 3a – Conflict with or obstruct implementation of the applicable air quality plan?

Construction – Less Than Significant Impact

A potentially significant impact on air quality would occur if the Proposed Project would conflict with or obstruct the implementation of the applicable air quality plan. Although the Proposed Project would contribute air emissions to the Basin, of primary concern is that project-related impacts have been properly anticipated in the regional air quality planning process and reduced

whenever feasible. Therefore, it is necessary to assess the Proposed Project's consistency with the RAQS and SIP. Proposed Project consistency with the RAQS and SIP is determined in terms of whether the Proposed Project exceeds the criteria pollutant threshold levels established by SDAPCD and whether the Proposed Project would result in growth that has been anticipated in a given subregion. Construction emissions are temporary and short-term, and comprise a small percentage of the emissions budgets for construction activities that are included in the SIP. Construction of various small projects such as the Proposed Project is anticipated within the SIP emissions budgets. The Proposed Project will improve reliability and reduce fire risks in fire-prone areas as part of an overall effort of fire-hardening projects and other enhancements. Additional benefits of the Proposed Project include reduction of outage potential, improved contamination resistance, reduction of facility maintenance, maximization of equipment life span potential, installation of fiber optic for enhanced digital protective relay systems, and improved avian protection. The Proposed Project involves the replacement of existing pole structures and does not involve new construction. The Proposed Project would not result in growth that would conflict with or obstruct implementation of the applicable air quality plan.

Operation and Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under CPUC G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. Accordingly, the Proposed Project would not result in a significant increase in long-term air quality emissions. Therefore, the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan and would have no impact relating to plan consistency.

4.3.4.4 Question 3b - Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction – Less Than Significant Impact

Construction of the Proposed Project is anticipated to occur for approximately nine months (January through September, 2014). Table 4.3-8, Preliminary Construction Schedule, includes a preliminary schedule for the Proposed Project. Construction of the Proposed Project is anticipated to occur in 2014.

Table 4.3-8: Preliminary Construction Schedule

Construction Phase, 2014	Schedule (Estimated)
Micropile Foundation Drilling	1-4 through 2-15
Micropile Foundation Grouting	1-10 through 3-6
Cap and Testing	3-6 through 3-15
Foundation Digging	1-11 through 5-5
Shoe-Fly (Temporary) Pole Installation	1-8 through 1-21
Mobilization	2-20 through 3-4
Power Line Construction	3-4 through 6-17
Overhead Line Pulling and Tensioning	5-12 through 7-28
Sag work	6-18 through 8-6
Underground Distribution Installation	3-18 through 5-3
Demobilization	8-6 through 8-20
Cleanup	8-6 through 9-6

Note: Above information was provided by SDG&E and is subject to change upon final project design.

Construction equipment would include drill rigs, mobile cranes, bucket trucks, line trucks, crew trucks, generator sets, grouting equipment, air compressors, a helicopter, and trucks for transporting equipment to the site. Heavy hauling trucks would be employed for the equipment delivery and installation. Crew trucks, bucket trucks, and pick-up trucks would arrive and depart from the site daily for the duration of the construction activities.

It is anticipated that approximately 140 workers could be working on the Proposed Project at any one time. This estimate includes construction crews, SWPPP personnel, site monitors, testing and inspection crews, and SDG&E personnel.

Daily transportation of construction workers is not expected to cause a significant effect since there would not be more than 40 workers at one time in any one location at the peak of construction, and the number of trips generated would be minimal and constitute an insignificant percentage of current daily volumes in the area. Moreover, SDG&E will encourage carpooling to the greatest extent possible.

Future construction of the Proposed Project site would generate short-term air quality impacts during soil disturbance and construction operations. The short-term air quality analysis considers the following temporary impacts from the Proposed Project.

- Traveling on unpaved surfaces and earthmoving activities generates fugitive dust, and thus PM_{10};
- Heavy equipment and vehicles required for construction generates and emits diesel exhaust emissions; and,
- The vehicles of commuting construction workers and trucks hauling equipment would generate and emit exhaust emissions.

Construction activities at the Proposed Project were modeled based upon the schedule provided in Table 4.3-8. As discussed above, the Proposed Project was modeled using emission factors from CARB's OFFROAD2007 and EMFAC2011 programs.

Variables factored into estimating the total construction emissions 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 site disturbance anticipated. The construction emissions findings for TL 637 are presented in Table 4.3-9, TL 637 Maximum Daily Construction Air Emissions. Table 4.3-9 presents an evaluation of the maximum daily emissions associated with the simultaneous construction activities required for the wood pole replacement project. Maximum daily activities were identified based on a review of the construction schedule to identify simultaneous construction phases. A listing of mobile and stationary construction equipment is included in the air quality modeling; refer to Appendix 4.3-A, Emissions Spreadsheets.

Table 4.3-9: TL 637 Maximum Daily Construction Air Emissions

Emissions Source	Pollutant (pounds/day)[1]				
	ROG	CO	NOx	PM_{10}	$PM_{2.5}$
2014					
Emissions	36.45	243.56	240.28	40.61	24.13
SDAPCD Thresholds	75	550	250	100	55
Is Threshold Exceeded After Mitigation?	No	No	No	No	No

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter; up to 10 microns

Notes:

1. Refer to Appendix 4.3-A, Emissions Spreadsheets, for assumptions used in this analysis, including quantified emissions reduction by mitigation measures.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust (PM_{10}) emissions that may have a substantial, although temporary, impact on 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, cut and fill, and truck travel on unpaved roadways. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from soil disturbance and construction is expected to be short-term and would cease upon Proposed Project completion. Additionally, most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

The emission calculations include fugitive dust emissions as part of soil disturbance activities; refer to Table 4.3-9. With implementation of SDG&E's standard construction practices, the Proposed Project would not exceed the SDAPCD standards for PM_{10} or $PM_{2.5}$. Standard measures include adherence to standard construction practices (watering of inactive and perimeter areas, track-out requirements, and containing dirt and dust within the Proposed Project area).

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the Proposed Project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. Emitted pollutants would include carbon monoxide, ROG, nitrogen oxides, PM_{10}, and $PM_{2.5}$. As presented in Table 4.3-9, the individual components of the Proposed Project would not cause exceedances of SDAPCD standards for any criteria pollutant. There is no other substantial evidence in the record demonstrating that the Proposed Project would have an additional significant impact. Therefore, impacts associated with construction would be less than significant.

Operation and Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. Accordingly, the Proposed Project would not result in a significant increase in long-term air quality emissions. Therefore, the Proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. No impacts would result.

4.3.4.5 Question 3c - Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Construction – Less Than Significant Impact

As shown previously in Table 4.3-9, the construction of the Proposed Project would lead to a small, temporary increase in criteria air pollutants. SDG&E standard construction practices include minimizing vehicle idling time and controlling for dust emissions to reduce the impacts of the construction. Emissions, which would be temporary, would not exceed the SDAPCD standard for any criteria pollutant. Therefore, impacts associated with construction would be less than significant.

Operation & Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of

existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. Accordingly, the Proposed Project would not result in a significant increase in long-term air quality emissions. Therefore, the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment. No impacts would occur.

4.3.4.6 Question 3d - Expose sensitive receptors to substantial pollutant concentrations?

Construction – Less Than Significant Impact

California has identified diesel particulate matter as a TAC. Diesel particulate matter is emitted from on- and off-road vehicles that utilize diesel as fuel. Following identification of diesel particulate matter as a TAC in 1998, CARB has worked on developing strategies and regulations to reduce the emissions and associated risk from diesel particulate matter. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter from Diesel-Fueled Engines and Vehicles*.

Construction activities associated with the wood pole replacement along TL 637 would result in emissions of diesel particulate matter. Sources of diesel particulate matter at the site would include haul truck activities, heavy construction equipment, and contractor vehicles. Potential health effects associated with exposure to diesel particulate matter are long-term effects and are evaluated on the basis of a lifetime of exposure (70 years). Because construction activities would move on a daily basis, and because activities would be short-term, emissions would not impact any sensitive receptors for any length of time.

CARB has adopted airborne toxic control measures (ACTMs) applicable to off-road diesel equipment and portable diesel engines rated brake 50 HP and greater. The purpose of these ACTMs is to reduce emissions of particulate matter from engines subject to the rule. The ACTMs require diesel engines to comply with PM emission limitations on a fleet-averaged basis.

CARB has also adopted an ACTM that limits diesel-fueled commercial motor vehicles 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 must meet California's applicable ATCMs for control of diesel particulate matter or nitrogen oxide in the exhaust (e.g., ATCMs for portable diesel engines, off-road vehicles, and heavy-duty on-road diesel trucks, and 5-minute diesel engine idling limits)

that are in effect during the implementation of the Proposed Project. The mobile fleets used for the Proposed Project are expected to comply fully with these ATCMs. This will ensure that pollutant emissions in diesel engine exhaust do not exceed applicable federal or state air quality standards.

Operation & Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. Accordingly, the Proposed Project would not result in a significant increase in diesel particulate emissions. Operational activities would be short-term, and similar to existing operational activities. Therefore, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. No impacts would occur.

4.3.4.7 Question 3e - Create objectionable odors affecting a substantial number of people?

Construction – Less Than Significant Impact

Construction activity associated with the construction activities associated with the Proposed Project may generate detectable odors from heavy-duty equipment exhaust. Potential odors generated during construction operations would be temporary in nature and would be limited by the relatively small number of vehicles and equipment onsite and distance from any sensitive receptors. Therefore, impacts would be less than significant.

Operation & Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC

approval is required. Therefore, the Proposed Project would not create objectionable odors affecting a substantial amount of people. No impacts would occur.

4.3.4.8 Question 3f - Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?

Construction – Less Than Significant Impact

Construction emissions are temporary and short-term. Construction activities are subject to SDAPCD Rule 50, Visible Emissions; SDAPCD Rule 51, Nuisance; and SDAPCD Rule 55, Fugitive Dust Control. SDG&E's standard construction practices are consistent with the requirements of SDAPCD Rules 50, 51, and 55. Therefore, the construction of the Proposed Project will not diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutants. Impacts are less than significant.

Operation and Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. Accordingly, the Proposed Project would not result in a significant increase in long-term air quality emissions. The Proposed Project would not diminish an existing air quality rule or future compliance and would have no impact in regards to air quality rules and compliance requirements.

4.3.4.9 Question 3g - Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impacts from GHG emissions are not direct impacts, but would have the potential for cumulative impacts on the environment. The Summary Report from the California Climate Change Center uses a range of emissions scenarios developed by the IPCC to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century. Three warming ranges were identified: Lower warming range (3.0 to 5.5 ºF); medium warming range (5.5 to 8.0 ºF); and higher warming range (8.0 to 10.5 ºF). The report then presents an analysis of the future projected climate changes in California under each warming range scenario.

According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. These impacts would result from a

projected increase in extreme conditions, with the severity of the impacts depending upon actual future GHG emissions and associated warming. These impacts are described below.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase by 25 to 35 percent under the lower warming range and 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as is predicted in some scenarios, it may become impossible to meet local air quality standards.

An increase in wildfires could also occur, and the corresponding increase in the release of pollutants including $PM_{2.5}$ could further compromise air quality. The Summary Report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced. The purpose of the Proposed Project is to minimize the risk of fires along the TL 637 route. The Proposed Project therefore helps to address the risk of wildfires.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases (such as malaria, dengue fever, yellow fever, and encephalitis) may increase, such as those spread by mosquitoes and other disease-carrying insects.

Climate change could affect the Proposed Project area because warmer climates may experience more of the problems identified above related to heat, should increases in average temperature in the Proposed Project area occur.

Water Resources

A vast network of reservoirs and aqueducts capture and transport water throughout California from Northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages. In addition, if temperatures continue to rise, more precipitation would fall as rain instead of snow, further reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. California's water resources are also at risk from rising sea levels. An influx of seawater would degrade California's estuaries, wetlands, and groundwater aquifers.

This global climate change impact is not likely to have a direct effect on the operation of the Proposed Project.

Agriculture

Increased GHGs and associated increases in temperature are expected to cause widespread changes to the agricultural industry, reducing the quantity and quality of agricultural products statewide. Significant reductions in available water supply to support agriculture would also impact production. Crop growth and development will change as will the intensity and frequency of pests and diseases. Agricultures impacts from global climate change are not

anticipated to affect the Proposed Project directly because the Proposed Project site does not include agricultural uses. Agricultural impacts from global climate change could affect ranching and grazing activities in the Proposed Project area, however.

Ecosystems/Habitats

Continued global warming will likely shift the ranges of existing invasive plants and weeds, thus alternating competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Continued global warming is also likely to increase the populations of and types of pests and affect natural ecosystems and biological habitats throughout California. This effect of global climate change could affect current ecosystems and habitats at the Proposed Project site.

Wildland Fires

Global warming is expected to increase the risk of wildfire and alter the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout California. If global climate change leads to increased risk of wildfires in Southern California, this impact could affect the Proposed Project area. The purpose of the Proposed Project is to minimize the risk of fires along the TL 637 route. The Proposed Project therefore helps to address the risk of wildfires.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten California's coastal regions. Under the high warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. A sea level risk of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten levees and inland water systems, and disrupt wetlands and natural habitats. In California, the coastal zone is defined as 1,000 yards inland from the mean high tide level. Because the Proposed Project site is not located within the coastal zone, sea level risk would not affect the Proposed Project.

Construction – Less than Significant Impact

The main source of GHG emissions associated with the Proposed Project would be combustion of fossil fuels during construction of the Proposed Project. GHG emissions for construction were calculated using the same approach as criteria pollutant emissions for overall construction emissions. Estimated GHG emissions are summarized in Table 4.3-10, Greenhouse Gas Construction Emissions. Emission calculations are provided in Appendix 4.3-A, Emissions Calculations.

Table 4.3-10: Greenhouse Gas Construction Emissions

Construction Emission Source	GHG Emissions (metric tons)
	CO_2e
Construction Heavy Equipment	1,277
Helicopters	99
Construction Trucks	75
Worker Vehicles	1,071
TOTAL	**2,552**
Amortized Construction Emissions (amortized over 30 years)	**84**

Both the County of San Diego and SCAQMD have proposed significance thresholds for industrial projects of 10,000 metric tons of CO_2e annual emissions. The total annualized construction CO_2e emissions of 84 metric tons are below the County of San Diego's and the SCAQMD's significance threshold of 10,000 metric tons of CO_2e annually for industrial projects. The Proposed Project would therefore not generate GHGs that would have a significant impact on the environment. The impact is less than significant.

Operation & Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. Accordingly, the Proposed Project would not result in a significant increase in long-term air quality emissions. Therefore, the Proposed Project would not generate GHGs that would have a significant impact on the environment. No impacts would result.

4.3.4.10 Question 3h - Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Construction – Less Than Significant Impact

Construction of the Proposed Project would be temporary. GHG emissions are below the County of San Diego's and the SCAQMD's significance threshold when amortized over a 30-year period as recommended by the County of San Diego and the SCAQMD. Construction equipment and vehicles supporting the construction of the Proposed Project would comply with the requirements implemented by CARB to reduce GHG emissions. Accordingly, construction impacts are less than significant.

Operation & Maintenance – No Impact

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project site, and the Proposed Project is the reconstruction of existing electric facilities within existing SDG&E ROW and substation property. SDG&E's existing facilities and operations and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operations and maintenance activities for the Proposed Project would decrease slightly compared to baseline conditions due to the increased reliability of the new power line components included in a typical wood to steel replacement project, the installation of fewer poles along the alignment, and the relocation of poles outside of jurisdictional features. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. Accordingly, the Proposed Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, the Proposed Project would not generate GHGs that would have a significant impact on the environment. No impacts are anticipated.

4.3.5 Project Design Features and Ordinary Construction/Operating Restrictions

The Proposed Project will comply with applicable project design features, and ordinary construction/operating restrictions (refer to Section 3.8). Construction activities will comply with SDAPCD Rules 50, 51, and 55 governing visible emissions, nuisance effects, and emissions of fugitive dust. Equipment will comply with existing CARB requirements.

4.3.6 Applicant Proposed Measures

The Proposed Project has no potentially significant impacts relating to air quality and GHGs; therefore, no APMs are proposed.

4.3.7 Detailed Discussion of Significant Impacts

Based upon the preceding analysis, no significant impacts relating air quality and GHGs are anticipated from the Proposed Project.

4.3.8 References

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