Chapter 10
Greenhouse Gas Emissions

10.1 Overview

This chapter evaluates the Proposed Project's greenhouse gas (GHG) emissions impacts. The chapter first describes the GHG emissions regulatory and environmental settings and then evaluates the project's greenhouse gas emissions impacts. The impact evaluation begins by describing the GHG emissions significance criteria and the methodology used to evaluate significance, and then presents the impact evaluation.

10.2 Regulatory Setting

All levels of government have some 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 and climate change is a relatively new component of air quality. Several legislative actions have been adopted to regulate GHGs on a federal, State, and local level, as detailed in this section.

10.2.1 Federal Laws, Regulations, and Policies

United States Environmental Protection Agency

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (CAA). In reaching its decision, the Court also acknowledged that climate change is caused, in part, by human activities. The Supreme Court's ruling paved the way for the regulation of GHG emissions by the U.S. Environmental Protection Agency (USEPA) under the CAA.

The USEPA has enacted a number of GHG regulations, and other environmental regulations that impact GHG emissions, including:

- Mandatory GHG Reporting,
- GHG Tailoring Rule for Prevention of Serious Deterioration Permits,
- Carbon Pollution Standards for Power Plants,
- Oil and Natural Gas Air Pollution Standards,
- GHG Vehicle Emissions Standards,
- Corporate Average Fuel Economy Standards,
- Renewables Fuel Standard, and

- Geologic Sequestration of Carbon Dioxide, under the Safe Drinking Water Act (USEPA 2016a, 2016b).

None of these federal regulations are specifically relevant to the construction or operation of the Proposed Project; however, the vehicle and fuel-related standards would indirectly cause GHG emission reductions from the regulated vehicles used during construction and operation of the Proposed Project.

10.2.2 State Laws, Regulations, and Policies

Climate change is a global phenomenon, and the regulatory environment and scientific data are changing rapidly. In addition to the federal regulations and policies on climate change, several states, including California, are formally addressing climate change. As of 2013, California is one of 20 states that have set GHG emission targets (C2ES 2013). Executive Orders S-3-05 and B-30-15, Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and Senate Bill (SB) 32, promulgated targets to achieve reductions in GHG emissions to 1990 levels by the year 2020. The California Air Resources Board (CARB) is designated as the responsible State agency for traditional air quality regulations. In addition, AB 32 vested CARB with regulatory authority for GHGs.

There are a variety of statewide rules and regulations that have been implemented or are in development in California that mandate the quantification or reduction of GHGs, or plan for adaptation for expected climate change scenarios. The relevant State actions are discussed below.

Executive Order S-3-05

Executive Order S-3-05 was signed by Governor Arnold Schwarzenegger in June 2005. Executive Order S-3-05 establishes the following statewide emission reduction targets through the year 2050:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order S-3-05 also calls for the CalEPA to coordinate oversight in the efforts to meet these targets and 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 (CCCC) in 2006 (CCCC 2006a, 2006b). The Climate Action Team has prepared subsequent Executive Order S-3-05 mandated reports in 2007/2008, 2009, and 2010.

This Executive Order does not include any specific requirements that directly pertain to the Proposed Project.

Assembly Bill 32

In response to Executive Order S-3-05 (June 2005), which declared California's particular vulnerability to climate change, the California Global Warming Solutions Act of 2006 (AB 32) was signed on September 27, 2006. In passing the bill, the California Legislature found that:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems (California Health & Safety Code, Sec. 38500, Division 25.5, Part 1).

AB 32 was established to mandate the quantification and reduction of GHGs to 1990 levels by 2020, and is the first law to comprehensively limit GHG emissions at the State level. The law establishes periodic targets for reductions, and requires certain facilities to report emissions of GHGs annually. The bill also reserves the ability to reduce emissions targets lower than those proposed in certain sectors that contribute the most to emissions of GHGs, including transportation. Additionally, the bill requires GHG emission standards to be implemented by 2012; and CARB to develop an implementation program and adopt GHG control measures "to achieve the maximum technologically feasible and cost-effective GHG emission reductions from sources or categories of sources." CARB issued a draft Climate Change Scoping Plan (Scoping Plan) in December 2008.

The AB 32 Scoping Plan contains the main strategies California will use to reduce the GHGs that cause climate change. The Scoping Plan includes recommendations for reducing GHG emissions from most sectors of the California economy. The range of GHG reduction actions include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms, such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. The proposed Scoping Plan was released on October 15, 2008, and approved at the Board hearing on December 12, 2008.

The draft of the First Update to the Scoping Plan was published in February 2014, followed by its accompanying Environmental Analysis (a California Environmental Quality Act [CEQA]-Equivalent Document) published in March 2014 and approved in June 2014 (CARB 2016).

California Governor's Executive Order B 30 15

Executive Order B-30-15 (April 2015) establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. One purpose of this interim target is to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. This executive order also specifically addresses the need for climate adaptation and directs state agencies to update the state climate adaption strategy to identify how climate change will affect California infrastructure and industry and what actions the state can take to reduce the risks posed by climate change. SB 32 of 2016 codified this GHG emissions target to 40% below the 1990 level by 2030.

California Renewable Portfolio Standard Program

SB 1078 established California's Renewable Portfolio Standard (RPS) program in 2002. The RPS program requires retail sellers of electricity to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources. The bill requires the California Energy Commission to certify eligible renewable energy resources, to design and implement an accounting system to verify compliance with the RPS by retail sellers, and to allocate and award supplemental energy payments to cover above-market costs of renewable energy. Under SB 1078, each electrical corporation was required to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales were procured from eligible renewable energy resources.

In 2006, SB 107 accelerated the RPS program by establishing a deadline of December 31, 2010, for achieving the 20 percent goal.

The RPS goal was increased to 33 percent when Governor Schwarzenegger signed Executive Order S1408 in November 2008. Executive Order S-14-08 was later superseded by Executive Order S-21-09 on September 15, 2009. Executive Order S-21-09 directed the CARB to adopt regulations requiring an RPS of 33 percent by 2020. On September 23, 2010, the CARB approved a Renewable Electricity Standard regulation.

The 33 percent RPS goal became law when SB X1-2 was signed into law by Governor Brown in April 2011. SB X1-2, which was codified into the California Public Resources Code (Sections 25740 through 25751) and Public Utilities Code (Sections 399.11 through 399.31), requires that all electricity retailers in the State meet a 33 percent RPS by the end of 2020, and that they have met a 20 percent RPS by 2013, and will meet a 25 percent RPS by 2016.

Early in 2015, the Governor and Legislature started work to increase the RPS standard to 50 percent by the year 2030 With the Clean Energy and Pollution Reduction Act of 2015 (SB 350), signed into law on October 7, 2015, California expanded the specific set of objectives to be achieved by 2030, with the following:

- To increase the RPS from 33 percent to 50 percent for the procurement of California's electricity from renewable sources; and
- To double the energy efficiency savings in electricity and natural gas end uses by retail customers.

This law does not specifically apply to the Proposed Project, but the Proposed Project would increase grid reliability and efficiency that helps the integration of intermittent renewable energy resources that will enable electricity retailers to meet their RPS obligations required under this law.

Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulating Gear

This CARB regulation (17 California Code of Regulations 95350) became effective on June 17, 2011. This regulation requires that owners of gas insulating gear containing sulfur hexafluoride (SF_6) meet annual leakage rate limits, and requires that they measure, record, and report annual SF_6 emissions.

California Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs the Office of Planning and Research (OPR) to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

The OPR published a technical advisory on CEQA and Climate Change on June 19, 2008 (OPR 2008). The guidance did not include a suggested threshold, but stated that the OPR has asked the CARB to "recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state." The OPR does recommend that CEQA analyses include the following components:

- Identify GHG Emissions,
- Determine Significance, and
- Mitigate Impacts.

On December 30, 2009, the California Natural Resources Agency (CNRA) adopted amendments to the State CEQA Guidelines including GHG/Climate Change analysis guidelines. According to the CNRA, "due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis" (CNRA 2009). Two GHG CEQA checklist items were included as part of the Guideline amendment; they are discussed further below.

As discussed in State CEQA Guidelines Section 15064.4, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency, consistent with the provisions in Section 15064. Section 15064.4 further provides that a lead agency should make a good-faith effort, to the extent possible, on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project.

A lead agency shall have discretion to determine, in the context of a particular project, whether to:

- Use a model or methodology to quantify GHG emissions resulting from a project, and determine which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
- Rely on a qualitative analysis or performance based standards.

Section 15064.4 also advises a lead agency to consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;

- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Office of the California Attorney General

The Office of the California Attorney General (OAG) maintains a website with a list of resources that set forth potential CEQA mitigations for global climate change impacts (OAG 2015). The Attorney General has listed reference documents that local agencies may consider to offset or reduce global climate change impacts from a project. These references are examples that are not intended to be exhaustive and provide measures and policies that could be undertaken. Moreover, the measures cited may not be appropriate for every project, so the Attorney General recommends that the lead agency use its own informed judgment in deciding which measures it would analyze, and which measures it would require for a given project.

The references, provided in the Attorney General's website, list energy efficiency measures that could be undertaken or funded by a diverse range of projects, including: renewable energy, water conservation and efficiency, solid waste measures, land use measures, transportation and motor vehicles, and carbon offsets (OPR 2008; California Air Pollution Control Officers Association [CAPCOA] 2009). However, most of the listed measures would not be applicable to the Proposed Project because they are more appropriate as measures to reduce long-term operational GHG emissions. However, these and other potential GHG emissions reduction measures listed by state agencies will be evaluated for applicability.

10.2.3 Local Laws, Regulations, and Policies

The County of San Diego has adopted a General Plan that includes greenhouse gas related goals and policies (County of San Diego 2011). There are a number of climate change goals noted in the general plan, including the use of sustainable technology and products and encouraging contractors to use low-emission construction vehicles and equipment. There is also a subregional plan for the Central Mountain area, but this element does not contain any additional greenhouse gas goals or policies (County of San Diego 2015). The County recently completed an interim climate change analysis guidance document (County of San Diego 2016), and the County is currently developing final CEQA guidelines for Climate Change and a Climate Action Plan (CAP), but those guidelines and that plan have not been approved.

While the County of San Diego does not currently have an adopted CAP, the City of San Diego adopted their CAP in December 2015 and amended it in July 2016 (City of San Diego 2016). The emissions reduction strategies in this CAP, which are expected to be like the strategies that will be included in the County of San Diego's CAP, rely primarily on reducing energy consumption through energy and water efficient buildings, the use of clean and renewable energy, transportation improvements to reduce vehicle miles traveled, and waste management activities to reduce waste generation and capture associated gas generation.

Many local air pollution control agencies in California have proposed numerical or other GHG significance criteria. The San Diego Air Pollution Control District (SDAPCD), which has local

regulatory authority over the air pollutant emissions, has not established a recommended CEQA-significant emissions level and currently has no GHG emissions regulations that are relevant to the Proposed Project.

10.3 Environmental Setting

While climate change has been a concern for over two decades, efforts devoted to GHG emissions reduction and climate change research and policy have increased dramatically in recent years. Global climate change refers to the impacts that occur from the accumulation of GHGs in the atmosphere combined with other sources of atmospheric warming. GHGs occur naturally in the atmosphere and help to regulate the Earth's temperature. Without these natural GHGs, the Earth's surface would be approximately 61 degrees Fahrenheit (°F) cooler (California Environmental Protection Agency6 [CalEPA] 2006); however, emissions from fossil fuel combustion for activities such as electricity production and vehicular transportation have elevated the concentration of GHGs in the atmosphere above naturally occurring levels. Scientific evidence indicates a trend of increasing global temperatures near the Earth's surface over the past century due to increased human-induced levels of GHGs. Worldwide between 1880 and 2015, the 15 warmest years on record have all occurred since 1998. The warmest year on record was 2015, which exceeded the previous records set in 2014, 2010, and 2013 (National Oceanic and Atmospheric Administration [NOAA] 2016a). According to California Energy Commission's (CEC's) *The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California*, the American West is heating up faster than other regions of the United States (CEC 2009). The CCCC reports that, by the end of this century, average global surface temperatures could rise by 4.7°F to 10.5°F due to increased GHG emissions (CCCC 2006a).

According to NOAA, the atmospheric concentration of carbon dioxide (CO_2) measured at Mauna Loa, Hawaii in April 2016 was 407.42 parts per million (ppm) (NOAA 2016b). This is compared to the pre-industrial levels of 280 ppm +/- 20 ppm (International Panel on Climate Change [IPCC] 2007a). NOAA's Mauna Loa data also show that the mean annual CO_2 concentration growth rate is accelerating. In the 1960s, the rate of change was about 0.9 ppm per year. In the first decade of the 2000s, it was almost 2 ppm per year, and in 2015, it was over 4 ppm. The impacts of GHGs differ from criteria pollutants in that GHG emissions from a specific project do not cause direct adverse localized human health effects. Rather, the direct environmental effect of GHG emissions is the cumulative effect of an overall increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. The impacts of climate change include potential physical, economic, and social effects, such as: inundation of settled areas near the coast from rises in sea level associated with melting of land-based glacial ice sheets, exposure to more frequent and powerful climate events, changes in suitability of certain areas for agriculture, reduction in Artic sea ice, thawing permafrost, later freezing and earlier breakup of ice on rivers and lakes, a lengthened growing season, shifts in plant and animal ranges, earlier spring events such as the flowering of trees, and a substantial reduction in winter snowpack (IPCC 2007b).

California could experience unprecedented heat, longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. More specifically, it is predicted that California could witness the following events by the end of the century (CCCC 2006a):

- Temperature rises between 3°F and 10.5°F,

- 6 to 30 inches or greater rise in sea level,
- 2 to 4 times as many heat-wave days in major urban centers,
- 2 to 6 times as many heat-related deaths in major urban centers,
- 1.5 to 2.5 times more critically dry years,
- 30 to 90 percent loss in Sierra snowpack,
- 25 to 85 percent increase in days conducive to ozone formation,
- 3 to 20 percent increase in electricity demand,
- 7 to 30 percent decrease in forest yields (pine), and
- 10 to 55 percent increase in the risk of wildfires.

Similar major changes to existing weather patterns and associated impacts could occur world-wide, but these climate changes will not always result in less rainfall or warmer temperatures. In some areas, rainfall would increase and average temperatures would drop. However, it is not specifically drought or increased temperatures that create the environmental, social, and economic impacts from climate change; rather, it is the significant change from existing weather patterns and conditions that causes these impacts.

Greenhouse Gas Emissions

GHGs trap heat in the atmosphere and are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include CO_2, methane (CH_4), and nitrous oxide (N_2O). The State of California and the USEPA have identified six GHGs generated by human activity that are believed to be the primary contributors to man-made global warming: CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

- **Carbon Dioxide:** CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- **Methane:** CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices, and the decay of organic waste in municipal solid waste landfills.

- **Nitrous Oxide:** N_2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

- **Fluorinated Gases:** HFCs, PFCs, and SF_6 are synthetic, powerful climate-change gases that are emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in smaller quantities than other gases, but because they are more potent climate-changers than

other gases, they are sometimes referred to as high "Global Warming Potential" (GWP) gases.

GHGs have varying amounts of GWP; GWP is the ability of a gas or aerosol to trap heat in the atmosphere. By convention, CO_2 is assigned a GWP of 1. In comparison, SF_6 has a GWP of 23,500 (IPCC Fifth Assessment Report basis), which means that it has a global warming effect 23,500 times greater than CO_2 on an equal-mass basis (The Climate Registry [TCR] 2015). To account for their GWP, GHG emissions are often reported as CO_2 equivalent (CO_2e). The CO_2e for a source is calculated by multiplying each GHG emission by its GWP, and then adding the results together to produce a single, combined emission rate representing all GHGs.

GHG emissions in the United States and California come mostly from energy use. Energy-related CO_2 emissions resulting from fossil fuel exploration and use, primarily in the form of CO_2 emissions from burning fossil fuels, account for approximately three-quarters of the human-generated GHG emissions in the United States. More than half of the energy-related emissions within the United States come from large stationary sources, such as power plants; approximately a third comes from transportation; while agriculture and forestry and other land uses (residential and commercial) make up a majority of the remainder of sources (USEPA 2014). The United States and California emissions of GHGs in 1990 and later years are summarized in Table 10-1.

Table 10-1 United States and California Greenhouse Gas Emissions (million metric tons CO_2e)

Inventory Sector [a]	1990	2005	2008	2009	2010	2011	2012
United States Emissions [b]							
Electric Power Industry	1,866.1	2,445.7	2,401.8	2,187.0	2,302.5	2,200.9	2,064.9
Transportation	1,553.2	2,012.3	1,916.5	1,839.1	1,853.5	1,832.2	1,815.5
Industry	1,527.9	1,403.5	1,367.6	1,217.2	1,297.3	1,290.5	1,273.9
Agriculture	518.1	583.6	615.3	605.3	600.9	612.7	614.1
Commercial	385.3	370.4	379.2	381.9	376.6	378.4	353.2
Residential	345.4	371.3	365.4	357.9	359.9	353.9	322.0
U.S. Territories	33.7	58.2	49.8	47.9	58.0	57.9	57.9
United States Total	**6,229.6**	**7,244.9**	**7,095.5**	**6,636.3**	**6,848.6**	**6,726.6**	**6,501.5**
State of California Emissions [c]							
Electricity Generation	110.6	119.4	129.7	113.4	102.6	98.7	105.8
Transportation	150.7	187.8	176.9	170.4	169.4	167.2	166.6
Industry and Construction	103.7	92.4	92.0	88.5	93.5	96.1	97.8
Commercial	14.4	12.6	12.9	13.0	13.4	13.6	13.4
Residential	29.7	28.0	28.8	28.5	29.2	29.6	27.3

Inventory Sector [a]	1990	2005	2008	2009	2010	2011	2012
Agriculture, Forestry and Other Land Uses	16.9	36.4	37.8	36.3	35.9	37.1	37.8
Other	1.3	11.6	12.0	12.0	12.0	12.3	12.1
California Total	**433.3**	**488.2**	**490.1**	**462.1**	**456.0**	**454.6**	**460.8**

Source: USEPA 2014; CARB 2007 (for California 1990); CARB 2015.

Notes:

(a) Sectors are as provided in each of the references used, with the in-state and out–of-state electricity generation values totaled.

(b) Does not include the emissions sinks presented in this reference.

(c) Emissions are the non-excluded emissions totals, not including emissions sinks, where from the CARB, 2015 reference subcategories including industry and agriculture have been grouped together to minimize the other category.

For comparison with the emission data given in Table 10-1, the estimated global emissions of CO_2e in 2012 are 53,937 million metric tons (Emission Database for Global Atmospheric Research, European Commission [EDGAR] 2016). This indicates that the United States, which has about 4.4 percent of the global population, emits roughly 12 percent of the total global GHG emissions. California, which has approximately 0.51 percent of the global population, emits just less than 0.85 percent of the total global GHG emissions, which is approximately 40 percent lower per capita than the overall United States average.

A critical interpretation of the data provided in Table 10-1, along with knowledge regarding other current events, regulatory actions, and population levels, provides for several potential conclusions regarding the California and United States GHG emission trends, such as:

- After peaking earlier in the first decade of this millennia, emissions from electricity generation are dropping, which is likely due to both the increased use of natural gas, reduced reliance on coal, and the increase in renewable power (e.g., solar, wind).
- Transportation emissions are also dropping after peaking in the first decade of this millennia, likely primarily due to the impact of increased vehicle fuel efficiency standards.
- Commercial and agricultural emissions in general are increasing along with the increase in population.
- GHG emissions can fluctuate from year to year, where such fluctuations may be based on economic conditions, severe weather conditions, or other factors that relate to fuel consumption and consumer habits.
- California has a significantly lower per capita GHG emissions footprint than the United States average.

GHG emissions for the Proposed Project would include both direct and indirect emissions that occur as a result of Project actions. Direct emissions from construction activities include GHG emissions generated from construction equipment and vehicles. Direct emissions from

operation activities include a small amount of GHG emissions generated from operations and maintenance activities and from leaks of SF_6 from the new gas insulated electrical equipment.

Indirect GHG emissions sources can take many forms. Some of these forms include increase or decrease in electricity or water use, loss of natural CO_2 uptake from developing formerly vegetated areas, and material recycling. For the Proposed Project, the indirect GHG emissions would be minor, as there is little or no net anticipated electricity use for the Project and water use would primarily be in the form of the temporary use of water for fugitive dust control during construction. The purpose of the Project is to improve local grid reliability and efficiency, which should reduce electricity generation needs.

10.4 Impact Analysis

10.4.1 Methodology

The assessment of environmental impacts and determination of necessary mitigation measures has been completed independently based on a critical analysis of the information provided by NextEra Energy Transmission West, LLC (NEET West) in their Proponent's Environmental Assessment (PEA). The PEA includes air pollutant and GHG emissions calculations, which are provided in the PEA Appendix C (NEET West 2015). The PEA emissions estimates were later revised for the Two-Pole Interconnection Configuration (SWCA 2016).

The greenhouse gas emissions estimate was completed by NEET West using the approved California Emissions Estimator Model (CalEEMod) based on assumptions regarding the equipment and vehicle trips required for construction and operation. The review of the emissions estimate, the assumptions associated with the efficacy of the applicant proposed measure (APM) to reduce air pollutant emissions, and the findings presented for greenhouse gas emissions in the air quality analysis provided in the PEA are discussed further Section 10.3, "Environmental Impacts."

10.4.2 Criteria for Determining Significance

Based on Appendix G of the State CEQA Guidelines and professional expertise, it was determined that the Proposed Project would result in a significant impact related to greenhouse gas emissions if it would:

A. Generate a substantial amount of GHG emissions; or

B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs.

County of San Diego Significance Thresholds

The County of San Diego recently published interim CEQA guidelines that include GHG emissions significance thresholds for certain development projects (County of San Diego 2016), but this guidance does not include significance thresholds for industrial projects like the proposed project. However, this guidance does recommend use of a screening level emissions rate that is based on the CAPCOA recommended quantitative threshold of 900

metric tons per year of CO_2e (CAPCOA 2008). to determine if additional project analysis and mitigation is required. This screening level threshold, in comparison to the project's annual operating emissions plus the project-life amortized construction emissions, is being used as a very conservative GHG emissions significance threshold for this Project.

10.4.3 Environmental Impacts

Impact GHG-1: Project GHG Emissions Exceeding County of San Diego GHG Emission Significance Criteria (Less than Significant)

The Proposed Project would generate GHG emissions through construction activities and operations and maintenance activities. The period of construction would be short-term (approximately 6.5 months), and construction-phase GHG emissions would occur directly from the off-road heavy-duty equipment and on-road motor vehicles used during construction. Equipment and vehicles would be needed to mobilize the crew, equipment, and materials to prepare the construction sites, and to construct the facility and other Project elements. Operation emissions would be minimal, and would result from vehicle and equipment emissions required for intermittent maintenance activities that would occur at this unmanned site. Indirect GHG emissions would result from the use of water and electricity. The indirect GHG emissions from water use, which would be minor for this project, have not been calculated.

The estimated Project GHG emissions compared to the County of San Diego GHG emissions significance threshold are provided in Table 10-2. The construction emissions are based on the emissions presented in Appendix E, *Air Quality and Greenhouse Gas Emissions Calculations*, which includes updating the construction schedule start date.

Table 10-2 Greenhouse Gas Emissions Estimate

Construction Emissions Source	GHG Emissions (Metric Tons CO_2e)
Total Construction	2,085
Operation Emissions Source	
Motor Vehicles [a]	106.6
Energy Consumption [b]	322.6
SF_6 Equipment Leaks	8.6
Operation Annual Subtotal	**437.8**
Amortized Annual Construction Emissions [c]	69.5
Total Direct/Indirect Annualized Emissions	**507.3**
County of San Diego Significance Threshold	900
Exceed Significance Threshold	No

Source: Appendix E; NEET West 2015; SWCA 2016; County of San Diego 2016.

Notes:
(a) These emissions, which are provided as 365 times the daily emissions, are overestimated for this intermittent emissions source.

Construction Emissions Source	GHG Emissions (Metric Tons CO_2e)

(b) Energy consumption as calculated by CalEEMod, which is a generic calculation based on the project footprint. It is likely that the project will result in an overall reduction in electricity consumption and net reduction in energy based GHG emissions.
(c) Amortized emissions are the operation emissions plus the annualized construction emissions over the Project life (30 years).

The conservative estimate of total project life annualized GHG emissions are estimated to be approximately 500 metric tons of CO2e per year, and would therefore be well below the County of San Diego's recommended GHG emissions significance threshold of 900 tons per year of CO_2e. Additionally, the Project's purpose is to improve the efficiency and reliability of the local electricity distribution system. Any gains in electricity distribution efficiency could reduce the GHG emissions from additional electricity generation; however, these indirect emissions reductions that would be attributable to the Project cannot be estimated. The Project's total direct and indirect GHG emissions have been determined to be less than significant.

Impact GHG-2: Conflict with Greenhouse Gas Emissions Reduction Plans, Policies, or Regulations (Less than Significant)

The Project's GHG emissions are expected to be minimal both during construction and operation of the Project. In addition, with implementation of APM AIR-5, NEET West will ensure that SF_6 containing equipment leaks are minimized and that they comply with the applicable SF_6 regulations. Estimated GHG emissions of the Proposed Project would be well below the threshold of federal and State mandatory reporting regulations. The level of the Project's GHG emissions would be too low to be subject to 40 Code of Federal Regulations Part 52 and the State cap-and-trade regulations.

The Proposed Project, which includes the building of the new Suncrest Reactive Power Support Facility and a transmission connection to the Suncrest Substation, would be built to conform to all applicable energy efficiency building regulations, such as Title 24 requirements. The Proposed Project would also improve the capacity, reliability, and efficiency of the overall electrical transmission system, which would help meet the goal of reducing electricity sector GHG emissions. The project would conform with the emissions reduction strategies in the City of San Diego's CAP and would be expected to conform with the emissions reduction strategies that will be part of the future County of San Diego CAP. There are no other federal, State, or local GHG emissions reduction regulations, policies, or plans that would directly apply to the Project's construction or operation. Therefore, the Proposed Project would not conflict with any applicable plan, policy or regulation related to reducing GHGs, including those in the County of San Diego's General Plan, and would therefore have a less-than-significant impact.

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