### Greenhouse Gas Emissions

| ***Issues (and Supporting Information Sources):*** | ***Potentially Significant Impact*** | ***Less Than Significant with Mitigation Incorporated*** | ***Less Than Significant Impact*** | ***No Impact*** |
| --- | --- | --- | --- | --- |
| **7. GREENHOUSE GAS EMISSIONS — Would the project:** |  |  |  |  |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | [ ]  | [ ]  | [x]  | [ ]  |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | [ ]  | [ ]  | [x]  | [ ]  |

#### Environmental Setting

##### Climate Change

According to the U.S. Environmental Protection Agency (USEPA), the term “climate change” refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (over several decades or longer). There is scientific consensus that climate change is occurring and that human activity contributes in some measure (perhaps substantially) to that change. Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). Emissions of GHGs, if not sufficiently curtailed, are likely to contribute further to increases in global temperatures. The potential effects of climate change in California include sea level rise and reductions in snowpack, as well as an increased number of extreme-heat days per year, high ozone days, large forest fires, and drought years (CARB, 2014). Globally, climate change could affect numerous environmental resources through potential, though uncertain, changes in future air temperatures and precipitation patterns. According to the International Panel on Climate Change (IPCC), the projected effects of climate change are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2007):

* Higher maximum temperatures and more hot days over nearly all land areas;
* Higher minimum temperatures (fewer cold days and frost days over nearly all land areas);
* Reduced diurnal temperature range over most land areas;
* Increase in heat index over most land areas; and
* More intense precipitation events.

In addition, many secondary effects are projected to result from climate change, including a global rise in sea level, ocean acidification, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. The possible outcomes and feedback mechanisms involved are not fully understood, and much research remains to be done; however, over the long term, the potential exists for substantial environmental, social, and economic consequences.

##### Greenhouse Gas Emissions

Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth’s temperature; however, emissions from human activities – such as fossil fuel-based electricity production and the use of motor vehicles – have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the Earth’s atmosphere and to global climate change.

##### Greenhouse Gas Emissions

GHG emissions that result from human activities primarily include carbon dioxide (CO2), with much smaller amounts of nitrous oxide (N2O), methane (CH4, often from unburned natural gas), sulfur hexafluoride (SF6) from high-voltage power equipment, and hydrofluorocarbons (HFCs) and [perfluorocarbons](http://en.wikipedia.org/wiki/Perfluorocarbon) (PFCs) from refrigeration/chiller equipment. Because these GHGs have different warming potentials (i.e., the amount of heat trapped in the atmosphere by a certain mass of the gas), and CO2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO2-equivalent (CO2e) emissions. For example, while SF6 represents a small fraction of the total annual GHGs emitted worldwide, this gas is very potent, with 23,900 times the global warming potential of CO2. Therefore, an emission of 1 metric ton of SF6 would be reported as 23,900 metric tons CO2e. The global warming potential of CH4 and N2O are 25 times and 298 times that of CO2, respectively (CARB, 2016a). The principal GHGs resulting from human activity that enter and accumulate in the atmosphere are described below.

###### Carbon Dioxide

CO2 is a naturally occurring gas that enters the atmosphere through natural as well as anthropogenic (human) sources. Key anthropogenic sources include the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees, wood products, and other biomass, as well as industrially relevant chemical reactions such as those associated with manufacturing cement. CO2 is removed from the atmosphere when it is absorbed by plants as part of the biological carbon cycle.

###### Methane

Like CO2, CH4 is emitted from both natural and anthropogenic sources. Key anthropogenic sources of CH4 include gaseous emissions from landfills, releases associated with mining and materials extraction industries (in particular coal mining), and fugitive releases associated with the extraction and transport of natural gas and crude oil. CH4 emissions also result from livestock and agricultural practices. Small quantities of CH4 are released during fossil fuel combustion.

###### Nitrous Oxide

N2O is also emitted from both natural and anthropogenic sources. Important anthropogenic sources include industrial activities, agricultural activities (primarily the application of nitrogen fertilizer), the use of explosives, combustion of fossil fuels, and decay of solid waste.

###### Fluorinated Gases

HFCs, PFCs, and SF6 are synthetic gases emitted from a variety of industrial processes, and they contribute substantially more to the greenhouse effect on a pound for pound basis than the GHGs described previously. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in small quantities, but because of their potency they are sometimes referred to as “high global warming potential gases.” Fluorinated gases in the form of SF6 would be emitted by circuit breakers that would be associated with the Proposed Project.

##### Greenhouse Gas Sources

Anthropogenic GHG emissions in the United States are derived mostly from the combustion of fossil fuels for transportation and power production. Energy-related CO2 emissions resulting from fossil fuel exploration and use account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of CO2 emissions from burning fossil fuels. More than half of the energy-related emissions come from large stationary sources, such as power plants; approximately one-third derive from transportation; and a majority of the remaining sources include: industrial processes, agriculture, commercial, and residential (USEPA, 2016a).

Statewide emissions of GHG from relevant source categories for 2009 through 2015 are summarized in **Table 3.8-1**. Specific contributions from individual air basins, such as the San Diego County Air Basin, which encompasses the Proposed Project site, are included in the emissions inventory but are not itemized by air basin. In 2015, California produced 440.4 million gross metric tons of CO2e emissions. Transportation was the source of 39 percent of the state’s GHG emissions, followed by industrial at 23 percent, electricity generation at 19 percent, commercial and residential sources at 11 percent, and agriculture and forestry comprised the remaining 8 percent (CARB, 2017).

Table 3.8-1
California GHG Emissions (million metric tons CO2e)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Emission Inventory Category** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| Electricity Generation (In State) | 53.51 | 46.91 | 41.36 | 51.18 | 49.60 | 51.81 | 50.21 | 11.4% |
| Electricity Generation (Imports) | 48.13 | 43.67 | 46.94 | 44.15 | 40.24 | 36.56 | 33.88 | 7.7% |
| Transportation | 171.45 | 168.11 | 164.70 | 164.38 | 163.05 | 164.89 | 169.38 | 38.5% |
| Industrial  | 97.31 | 101.12 | 101.08 | 101.46 | 104.27 | 104.69 | 102.97 | 23.4% |
| Commercial | 18.64 | 20.09 | 20.73 | 21.11 | 21.64 | 21.37 | 22.17 | 5.0% |
| Residential | 30.21 | 31.26 | 32.03 | 30.04 | 31.19 | 26.26 | 26.93 | 6.1% |
| Agriculture and Forestry | 33.83 | 34.64 | 35.28 | 36.42 | 34.93 | 36.03 | 34.65 | 7.9% |
| Not Specified (Solvents & Chemicals) | 0.26 | 0.27 | 0.25 | 0.24 | 0.18 | 0.24 | 0.17 | <0.1% |
| **Total Gross Emissions** | **453.34** | **446.06** | **442.38** | **448.97** | **445.08** | **441.85** | **440.36** | **100.00%** |

NOTE: The GHG percentages of the total gross emissions for year 2015 were rounded to the nearest whole number.

SOURCE: CARB, 2017.

#### Regulatory Setting

##### Federal

###### Clean Air Act

On April 2, 2007, in *Massachusetts v. USEPA* (549 US 497), the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. On April 17, 2009, the USEPA Administrator signed proposed “endangerment” and “cause or contribute” findings for GHGs under Section 202(a) of the Clean Air Act. The USEPA found that six GHGs, taken in combination, endanger both the public health and the public welfare of current and future generations. Pursuant to 40 CFR Part 52*, Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, USEPA has mandated that Prevention of Significant Deterioration (PSD) and Title V requirements apply to facilities whose stationary source CO2e emissions exceed 100,000 tons per year (USEPA, 2016b). The Proposed Project would not trigger PSD or Title V permitting under this regulation because it would generate less than 100,000 tons of CO2e emissions per year.

###### 40 CFR Part 98. Use of Electric Transmission and Distribution Equipment

Pursuant to federal regulations (i.e., 40 CFR Part 98, Subpart DD) operators of certain electrical facilities, such as SF6-containing circuit breakers, are required to report SF6 emissions to the USEPA (USEPA, 2016c). SF6-containing circuit breakers associated with the Proposed Project would be subject to reporting under this regulation.

##### State

A variety of statewide rules and regulations mandate the quantification and, if emissions exceed established thresholds, the reduction of GHGs. CEQA requires Lead Agencies to evaluate project-related GHG emissions and the potential for projects to contribute to climate change and to provide appropriate mitigation in cases where the Lead Agency determines that a project would result in a significant addition of GHGs to the atmosphere.

###### Executive Order S-3-05

In June 2006, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which established 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.

This executive order does not contain any requirements that directly pertain to the Proposed Project; however, future actions taken by the State of California to implement these goals may affect the Proposed Project, depending on the specific implementation measures that are developed.

###### Assembly Bill 32

California Assembly Bill (AB) 32, *the Global Warming Solutions Act of 2006*, required the California Air Resources Board (CARB) to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt regulations that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and CARB is authorized to enforce compliance with the program. Under AB 32, CARB also was required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. CARB established this limit in December 2007 at 427 million metric tons of CO2e. This is approximately 30 percent below forecasted “business-as-usual” emissions of 596 million metric tons of CO2e in 2020, and about 10 percent below average annual GHG emissions during the period of 2002 through 2004 (CARB, 2009). In the interest of achieving the maximum technologically feasible and cost-effective GHG emission reductions, AB 32 permits the use of market-based compliance mechanisms and requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts.

###### Climate Change Scoping Plan (AB 32 Scoping Plan)

In December 2008, CARB approved the AB 32 Scoping Plan outlining the State’s strategy to achieve the 2020 GHG emissions limit. The Scoping Plan estimates a reduction of 174 million metric tons CO2e (about 191 million tons) from the transportation, energy, agriculture, forestry, and high climate-change-potential sectors, and proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California’s energy sources, save energy, create new jobs, and enhance public health. The Scoping Plan must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal. Appendices C and E of the adopted 2008 AB 32 Scoping Plan include a list of 39 recommended action measures to reduce GHG emissions (CARB, 2009). Of these measures, only one is directly relevant to the Proposed Project. Measure H-6, High GWP Gases was designed to reduce emissions of SF6 within the electric utility sector and at particle accelerators by requiring the use of best achievable control technology for the detection and repair of leaks, and the recycling of SF6.

CARB released its first Scoping Plan Update in May 2014 (CARB, 2014). There are no recommended actions identified in the Scoping Plan Update that are directly applicable to the Proposed Project.

###### California Renewable Energy Programs

In 2002, California initially established its Renewables Portfolio Standard (RPS), with the goal of increasing the percentage of renewable energy in the State's electricity mix to 20 percent by 2017. State energy agencies recommended accelerating that goal, and California Executive Order S-14-08 (November 2008) required California utilities to reach the 33 percent renewable electricity goal by 2020, consistent with the AB 32 Scoping Plan. In April 2011, Senate Bill 2 of the First Extraordinary Session (SB X1-2) was signed into law. SB X1-2 expressly applies the new 33 percent RPS by December 31, 2020, to all retail sellers of electricity and establishes renewable energy standards for interim years prior to 2020. In May 2017, Senate Bill 100, The California Clean Energy Act of 2017, was proposed. If approved this would establish a target of 100 percent renewable energy in the state by 2045.

###### Mandatory Reporting Requirements

Pursuant to California Code of Regulations Title 17, Sections 95100 through 95158, operations of large industrial stationary combustion and process emissions sources that emit 10,000 metric tons CO2e or more per calendar year are required to report and verify their GHG emissions to CARB. As indicated in **Table 3.8-3**, the total amortized GHG emissions for the Proposed Project would be 391 metric tons per year, which is below the AB 32 reporting threshold; therefore, the Proposed Project would not be subject to the AB 32 mandatory reporting requirements.

###### Market-Based “Cap-and-Trade” Compliance Mechanism

AB 32 allows the use of market-based compliance mechanisms to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts. In response, CARB adopted a cap-and-trade program that covers major sources of GHG emissions such as refineries and power plants. The program includes an annual emissions cap that declines over time. CARB’s cap-and-trade program applies to facilities that would emit 25,000 metric tons or more of CO2e per year. Since the total amortized GHG emissions for the Proposed Project are estimated at 412 metric tons per year, the cap-and-trade program would not apply to the Proposed Project (see Section 3.7.4 for a discussion and breakdown of the construction-related and operational GHG emissions associated with the Proposed Project).

###### Senate Bill 97

In 2007, the California State Legislature passed SB 97, which required amendment of the CEQA Guidelines to incorporate analysis of, and mitigation for, GHG emissions from projects subject to CEQA. The amendments took effect March 18, 2010. The amendments added Section 15064.4 to the CEQA Guidelines, specifically addressing the potential significance of GHG emissions. Section 15064.4 calls for a “good faith effort” to “describe, calculate or estimate” GHG emissions and indicates that the analysis of the significance of any GHG impacts should include consideration of the extent to which the project would:

* Increase or reduce GHG emissions;
* Exceed a locally applicable threshold of significance; or
* Comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.”

The CEQA Guidelines also state that a project may be found to have a less-than-significant impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. §15064(h)(3)). Importantly, however, the CEQA Guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

***Executive Order B-30-15***

In April 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Reaching this emission reduction target will make it possible for California to reach its ultimate goal of reducing emissions 80 percent under 1990 levels by 2050, as identified in Executive Order S-3-05. Executive Order B-30-15 also specifically addresses the need for climate adaptation and directs state government to:

* Incorporate climate change impacts into the State's 5-Year Infrastructure Plan;
* Update the Safeguarding California Plan, 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;
* Factor climate change into state agencies' planning and investment decisions; and
* Implement measures under existing agency and departmental authority to reduce GHG emissions (Office of the Governor, 2015).

Executive Order B-30-15 requires CARB to update the AB 32 Climate Change Scoping Plan to incorporate the 2030 target. The 2030 Draft Scoping Plan (Draft Scoping Plan) will serve as the framework to define the State’s climate change priorities for the next 15 years and beyond. In June 2016, CARB released the 2030 Target Scoping Plan Update Concept Paper to describe potential policy concepts to achieve the 2030 target that can be incorporated in the Draft Scoping Plan. The concept paper presents four potential high-level concepts for achieving the needed GHG reductions (CARB, 2016b).

Regulation for Reducing SF6 Emissions from Gas Insulated Switchgear

The purpose of this regulation (17 Cal. Code Regs. §95350 et seq.) is to achieve GHG emission reductions by reducing SF6 emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions rates, which are reduced each year until 2020, after which annual emissions must not exceed 1.0 percent of the total SF6 capacity of all of the owner’s active gas-insulated switchgear equipment. As defined by the regulation, the annual emissions rate equals the gas-insulated switchgear owner’s total annual SF6 emissions from all active gas-insulated switchgear equipment divided by the average annual SF6 nameplate capacity of all active gas-insulated switchgear equipment. Owners must regularly inventory gas-insulated switchgear equipment, measure quantities of SF6, and maintain records of these for at least three years. Additionally, by June 1st each year, owners also must submit an annual report to CARB’s Executive Officer for emissions that occurred during the previous calendar year (CARB, 2016c).

##### Local

There are no local adopted policies or goals for reducing GHG emissions that would be directly applicable to the Proposed Project.

#### Applicant Proposed Measures

With regard to GHG emissions, SDG&E has not proposed any applicant proposed measures for the Proposed Project.

#### Environmental Impacts and Mitigation Measures

a) Whether the Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment: *LESS THAN SIGNIFICANT IMPACT*.

Approach to Analysis

Climate change impacts are global, and therefore inherently cumulative in nature; no typical single project would result in emissions of a magnitude that would be significant on a project basis. As such, the assessment of significance in this IS/MND is based on a determination of whether the GHG emissions from the Proposed Project represent a cumulatively considerable contribution to climate change. The Proposed Project would result in GHG emissions from both short-term construction and long-term operations and maintenance activities.

The San Diego Air Pollution Control District (SDAPCD) has not formally adopted a CEQA significance threshold for GHG emission; however, the County of San Diego recommends the use of a screening threshold of 900 metric tons per CO2e per year (County of San Diego, 2015). The California Air Pollution Control Officers Association has indicated that this threshold would capture more than 90 percent of development projects. A 90 percent emissions capture rate means 90 percent of the total emissions from all development projects would be subject to analysis in an environmental document prepared pursuant to CEQA, potentially including analysis of feasible alternatives and imposition of feasible mitigation measures. Since Executive Order B-3-05 GHG emissions reductions goal of lowering GHG emissions to 80 percent below 1990 levels by 2050 is roughly equivalent to reducing emissions by 81 percent below current levels, the CPUC has determined that the GHG significance threshold of 900 metric tons per year is based on substantial evidence and, therefore, has determined that it is appropriate for use in this analysis.

This GHG significance threshold is intended for long-term operational GHG emissions, but for construction related GHGs, the County recommends that total emissions from construction be amortized over 20 years representing the life of the project and added to operational emissions and then compared to the operation-based significance threshold (County of San Diego, 2015). Similar to the County’s recommended approach for construction emissions, this analysis amortizes Proposed Project construction emissions over a 20‑year project lifetime, adds them to the operational emissions, and then compares the combined emissions to the significance threshold of 900 metric tons CO2e per year.

The Project’s potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions is assessed by examining any potential conflicts with the GHG reduction goals set forth in Executive Order S-3-05, Executive Order B-30-15, and AB 32, including the potential for the Proposed Project to conflict with the recommended actions identified by CARB in its Climate Change Scoping Plan and/or any associated adopted regulations.

Construction Emissions

Construction of the Proposed Project would generate GHG emissions over a construction period of approximately 30 months. Exhaust emissions would result from construction equipment and machinery as well as from vehicular traffic generated by construction activities. As part of the CPUC’s Permit to Construct application process, SDG&E provided construction-related GHG emissions estimates for the construction activities that would be associated with the Proposed Project (see Appendix C, *Air Quality and Greenhouse Gas Emissions Calculations*). SDG&E estimated Proposed Project emissions using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. This version of CalEEMod calculates the construction equipment exhaust emissions based on CARB’s OFFROAD2011equipment emission and load factors. See Appendix C for all emission factors and assumptions used to estimate GHG emissions that would be associated with construction of the Proposed Project.

SDG&E's emissions calculations were independently reviewed on behalf of the CPUC and, with the corrections noted, were found suitable for this analysis. The short-term construction emissions estimates provided by SDG&E (SDG&E, 2016) do not include indirect emissions estimates associated with the proposed use of 10 million gallons of water for potable uses, dust suppression, concrete mixing, and other construction activities. Therefore, SDG&E’s emissions estimates were supplemented to include construction-related indirect short-term electricity usage-related GHG emissions associated with proposed water use using emission and use factors established by the California Energy Commission (CEC) and The Climate Registry (CEC, 2005; TCR, 2016). In addition, during the peak of construction traffic (see Table 2-14) there would be 30 one-way heavy truck haul trips per day associated with underground trenching work for the conduit substructure. These trips were not accounted for in SDG&E’s emissions estimates (ESA, 2017b), so the emissions that would be associated with those trips were estimated using CARB EMFAC2014 (v1.0.7) emission rates for heavy duty trucks, and incorporated them into the overall emission estimates. See Appendix C for all emission factors and assumptions used to estimate GHG emissions that would be associated with construction of the Proposed Project.

**Table 3.8-2** presents the total estimated GHG construction emissions that would be associated with the Proposed Project generated by off-road construction equipment, on-road vehicles, and water use. Approximately 2,464 metric tons of CO2e would be generated during the Proposed Project’s 30-month construction phase.

Table 3.8-2
Proposed Project construction GHG Emissions

|  |  |  |
| --- | --- | --- |
| Construction Phase | Construction Year | Total |
| 2018 | 2019 | 2020 | 2021 |
| Phase 1 | 409 | 424 | 9 | 0 | 842 |
| Phase 2 | 0 | 0 | 598 | 0 | 598 |
| Phase 3 | 11 | 0 | 0 | 0 | 11 |
| Phase 4 | 10 | 1 | 0 | 0 | 11 |
| Phase 5 | 0 | 0 | 138 | 0 | 138 |
| Phase 6 | 0 | 56 | 0 | 0 | 56 |
| Phase 7 | 0 | 102 | 0 | 0 | 102 |
| Phase 8 | 9 | 0 | 0 | 0 | 9 |
| Phase 9 | 0 | 21 | 0 | 0 | 21 |
| Phase 10 | 0 | 639 | 0 | 0 | 639 |
| Staging Yard Preparation | 5 | 0 | 0 | 0 | 5 |
| Demobilization | 0 | 0 | 0 | 3 | 3 |
| Water Use |  |  |  |  | 30 |
| Total | 444 | 1,242 | 745 | 3 | 2,464 |

SOURCE: SDG&E, 2016 and ESA, 2017 (see Appendix C).

Operation and Maintenance Emissions

The Proposed Project would require no change to SDG&E’s existing operation and maintenance activities, and would result in a negligible net change in long-term vehicle or equipment exhaust emissions. However, GHG emissions associated with operation of the Proposed Project would result from 13 new SF6-insulated 69 kV circuit breakers and five 230 kV circuit breakers at Artesian Substation. Annual SF6 emissions for the Proposed Project were estimated based on a leak rate of 1.0 percent of the total SF6 capacity,[[1]](#footnote-2) and that the 18 new circuit breakers would be installed that would have a combined SF6 capacity of 289 pounds. The annual SF6 emissions that would be associated with the Proposed Project would be equivalent to approximately 268 metric tons CO2e per year (SDG&E, 2016).

Total Amortized Annual Emissions

As indicated in Table 3.8-2,total GHG construction emissions would be approximately 2,464 metric tons CO2e. These emissions amortized over a 20-year period equal approximately 123 metric tons per year. As presented in **Table 3.8-3**, *Proposed Project Amortized Annual Emissions*, adding 123 metric tons of CO2e to the operational emissions of 268 metric tons CO2e per year equals a total Proposed Project GHG emissions rate of approximately 391 metric tons CO2e per year, which would be substantially less than the significance threshold of 900 metric tons CO2e per year. Therefore, the Proposed Project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. Impacts would be less than significant.

Table 3.8-3
Proposed Project Amortized Annual Emissions

|  |  |
| --- | --- |
| Emissions Source | CO2e metric tons/year |
| Construction emissions: total amortized (20 year period) | 123 |
| SF6 Circuit Breaker Emissions | 268 |
| **Total** | **391** |
| Significance threshold | 900 |
| Significant impact? | No |

SOURCE: SCE, 2016 and ESA, 2017; see Appendix C for all emissions estimates.

b) Whether the Project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases: *LESS THAN SIGNIFICANT IMPACT*.

Construction, operation, and maintenance of the Proposed Project would result in increased GHG emissions compared to baseline conditions; however, the emissions would not exceed regional or quantitative thresholds developed to comply with AB 32 and the Climate Change Scoping Plan. As discussed above and in further detail below, the Proposed Project also would not conflict with GHG reduction goals set forth in Executive Order S-3-05, Executive Order B-30-15, or AB 32, including the 39 Recommended Actions identified by CARB in its Climate Change Scoping Plan. The impact would be less than significant under this criterion.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. A leak rate of 1.0 percent is considered to be a conservative assumption because the leakage rate for current SF6 –containing circuit breaker designs is under 0.5 percent per year (Siemens, 2017). [↑](#footnote-ref-2)