

4.4 Air Quality and Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Air Quality				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
b) Violate any air quality standards or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state AAQS (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentration?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
e) Create objectionable odors that would affect a substantial amount of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Greenhouse Gas Emissions				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

4.4.1 Introduction

The purpose of the air quality analysis is to evaluate the potential for impacts associated with construction and operation of the Project. The air quality analysis will: 1) present the regulatory framework; 2) provide an overview of the technical methodology used in collecting baseline conditions and evaluating impacts; 3) examine the affected environment with respect to air quality; 4) describe the potential impact on air quality from construction and operation of the Project; 5) evaluate the level of potential impacts on air quality from construction and operation of the Project; and 6) present specifically recommended mitigation measures, if needed, to reduce potential impacts.

Recent regulatory action on both the federal and State level addresses emissions of greenhouse gases and potential global climate change impacts. Under CEQA guidelines, global climate change is addressed as a cumulative impact.

4.4.2 Environmental Setting

Climate and Meteorology

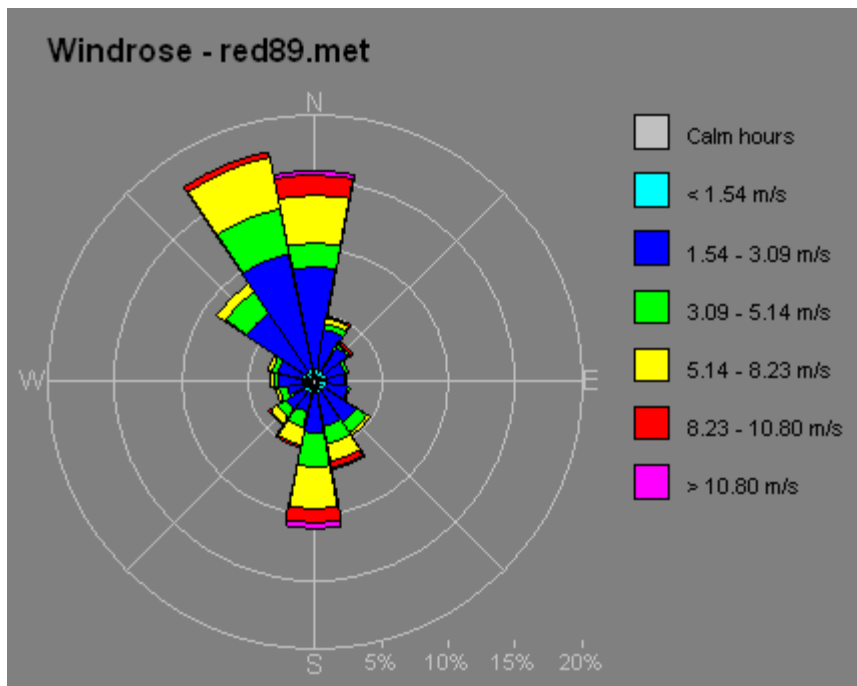
The climate of the Northeast Plateau is dominated by the strength and location of a semi-permanent, subtropical, high-pressure cell over the northeastern Pacific Ocean known as the Eastern Pacific high-pressure cell, with terrain variations creating various microclimates. The existence of mountains and hills within the basin is responsible, in large part, for the wide variations of rainfall, temperatures, and localized winds that occur throughout the region. Due to the position of the Eastern Pacific high-pressure cell, winter storms occur within the study area, and a bulk of the precipitation within the region occurs during this winter storm period. Annual rainfall is lowest in the valleys, higher in the foothills, and highest in the mountains. Weather systems in the region usually result in strong winds and unstable air masses, which lead to increased air dispersion. Dry, warm conditions are characteristic of the summer months, although thunderstorms are not uncommon.

Airflow patterns in the region are predominantly northwesterly in the spring and summer; however, seasonal variations do occur. Regional airflow patterns affect air quality by directing pollutants downwind of sources. Localized meteorological conditions, such as light winds and shallow vertical mixing, as well as topographical features, such as surrounding mountain ranges, create areas of high pollutant concentrations by hindering dispersal.

Data from the Western Regional Climate Center (WRCC 2015) indicate that climate data were measured at Mount Shasta from July 1948 through December 2010. These data are representative of the region. The mean temperature for the Mount Shasta station is 49.6 degrees Fahrenheit (°F), and the mean annual precipitation is 5.48 inches. Annual temperatures in the Project area range from the mid-30s °F in winter to the mid-80s °F in summer (WRCC 2015). January is the coldest month, with an average minimum temperature of 34.4°F. July is the warmest month, with an average maximum temperature of 84.9°F. The mean precipitation measured at the Mount Shasta station is 39.94 inches.

Figure 4.4-1 presents a wind rose for Redding, which is the nearest location to the site with processed meteorological data. The wind rose shows the prevailing winds in the region.

FIGURE 4.4-1 REDDING WIND ROSE



Regulatory Setting

The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. Under the CAA, the USEPA established the National Ambient Air Quality Standards (NAAQS), which identify the emission thresholds for criteria pollutants.

Criteria pollutants regulated under these standards include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and sulfur dioxide (SO_2). O_3 is not a directly emitted pollutant, but is formed through reactions in the atmosphere between ozone “precursors” (oxides of nitrogen [NO_x] and reactive organic gases [ROG]) catalyzed by the effects of sunlight. The USEPA classifies areas as “attainment,” “nonattainment,” or “unclassified” depending on whether ambient air quality data collected in the area indicate that the area shows compliance with the NAAQS (attainment), shows noncompliance with the NAAQS (nonattainment), or whether there are insufficient data to make a determination of the area’s classification relative to the NAAQS (unclassified).

Under the CAA, states have the authority to regulate air quality, and to establish separate air quality standards that are at least as stringent as the NAAQS. The California ARB has established the California Ambient Air Quality Standards (CAAQS) under the California Clean Air Act. The NAAQS represent maximum acceptable concentrations that generally may not be exceeded more than once per year, except the annual standards, which may never be exceeded. The CAAQS represent maximum acceptable pollutant concentrations that are not to be equaled or exceeded. The NAAQS and CAAQS are summarized in Table 4.4-1.

The USEPA has transferred a number of responsibilities to the states and, in most cases, regional air quality management districts. The Lassen Substation Project would be in the southern portion of Siskiyou County, which is within the Northeast Plateau Air Basin. Within Siskiyou County, the regulatory agency with authority to regulate air quality is the Siskiyou County Air Pollution Control District (SCAPCD).

The Northeast Plateau Air Basin is classified as attainment/unclassified for the NAAQS for all criteria pollutants. The air basin is designated as nonattainment-transitional for the CAAQS for O₃ (indicating that the air basin is close to attaining the standard), and attainment/unclassified for the CAAQS for all other criteria pollutants.

TABLE 4.4-1 NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS	NATIONAL STANDARDS ^a	
			Primary ^{b,c}	Secondary ^{b,d}
Ozone (O ₃)	8-hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	Same as primary
	1-hour	0.09 ppm (180 µg/m ³)	—	—
Carbon monoxide (CO)	8-hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	—
	1-hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	—
Nitrogen dioxide (NO ₂)	Annual	0.030 ppm (56 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as primary
	1-hour	0.18 ppm (338 µg/m ³)	—	—
Sulfur dioxide (SO ₂)	24-hour	0.04 ppm (105 µg/m ³)	—	—
	3-hour	—	—	0.5 ppm (1,300 µg/m ³)
	1-hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
PM ₁₀	Annual	20 µg/m ³	—	—
	24-hour	50 µg/m ³	150 µg/m ³	Same as primary
PM _{2.5}	Annual	12 µg/m ³	12.0 µg/m ³	15 µg/m ³
	24-hour	—	35 µg/m ³	Same as primary
Lead	Rolling 3-month period	—	0.15 µg/m ³	Same as primary
	Calendar Quarter	—	1.5 µg/m ³	Same as primary
	30-day average	1.5 µg/m ³	—	—
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)	—	—
Sulfates	24-hour	25 µg/m ³	—	—
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m ³)	—	—

Notes:

(a) Standards other than the 1-hour ozone, 24-hour PM₁₀, 24-hour PM_{2.5}, and those based on annual averages are not to be exceeded more than once a year. The 8-hour ozone national standard has replaced the 1-hour ozone national standard.

(b) Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis. [ppm = parts per million; µg/m³ = micrograms per cubic meter]

(c) Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the USEPA.

(d) Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

The SCAPCD has adopted rules and regulations to regulate sources of air emissions within Siskiyou County. Most of the regulations address emissions from stationary sources and require permits to be issued for stationary sources. The SCAPCD has also adopted regulations governing agricultural burning within Siskiyou County. There are no specific local regulations governing construction projects within Siskiyou County.

In addition to regulations governing criteria pollutants, both the USEPA and the State of California have adopted regulations governing emissions of greenhouse gases (GHG). On April 17, 2009, the USEPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

The endangerment findings do not themselves impose any requirements on industry or other entities.

Mandatory GHG Reporting Rule. On March 10, 2009, in response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), the USEPA proposed a rule that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of Greenhouse Gases Rule was signed, and was published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. The rule will collect accurate and comprehensive emissions data to inform future policy decisions.

The USEPA is requiring suppliers of fossil fuels or industrial GHG, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the USEPA. The gases covered by the proposed rule are CO₂, CH₄, N₂O, HFC, PFC, SF₆, and other fluorinated gases, including nitrogen trifluoride (NF₃) and hydrofluorinated ethers (HFE).

Corporate Average Fuel Economy Standards. The federal Corporate Average Fuel Economy (CAFE) standard determines the fuel efficiency of certain vehicle classes in the United States. In 2007, as part of the Energy and Security Act of 2007, CAFE standards were increased for new light-duty vehicles to 35 miles per gallon by 2020. In May 2009, President Obama announced plans to increase CAFE standards to require light-duty vehicles to meet an average fuel economy of 35.5 miles per gallon by 2016. On April 1, 2010, the U.S. Department of Transportation and the USEPA established historic new federal rules that set the first-ever national GHG emissions standards and will significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The standards set a requirement to meet an average fuel economy of 34.1 miles per gallon by 2016. The USEPA and U.S. Department of Transportation are in the process of extending the light-duty vehicle standards to further reduce GHGs for model years 2017 – 2025. Furthermore, as of December 10, 2014, the agencies have adopted GHG emission standards for heavy-duty engines and vehicles.

The following subsections describe regulations and standards that have been adopted by the State of California to address global climate change (GCC) issues.

Executive Order S-3-05. In 2005, former Governor Schwarzenegger signed Executive Order S-3-05, which established the following GHG emission reduction goals for California: (1) by 2010, reduce GHG emissions to 2000 levels; (2) by 2020, reduce GHG emissions to 1990 levels; and (3) by 2050, reduce GHG emissions to 80 percent below 1990 levels. However, in adopting the 2006 Global Warming

Solutions Act (AB 32), discussed below, the Legislature did not adopt the 2050 horizon-year goal from Executive Order No. S-3-05.

Assembly Bill 32. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, was enacted after considerable study and expert testimony before the Legislature. The heart of AB 32 is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020 (Health & Safety Code, §38550). In order to achieve this reduction mandate, AB 32 requires the ARB to adopt rules and regulations in an open public process that achieve the maximum technologically feasible and cost-effective GHG reductions.

In response to the adoption of AB 32, in 2007, the ARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline. The ARB's adoption of this limit is in accordance with Health & Safety Code section 38550.

Further, in 2008, the ARB adopted the *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)* in accordance with Health & Safety Code section 38561. The *Scoping Plan* establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020.

In the *Scoping Plan*, the ARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU] or "No Action Taken" [NAT]). In the 2011 Final Supplement to the *Scoping Plan's* Functional Equivalent Document, the ARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, the ARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from the BAU conditions. The 2020 emissions level projection was also updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewable Portfolio Standard (12 percent to 20 percent), resulting in the ARB's determination that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.

Most recently, in 2014, the ARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)*. The stated purpose of the *First Update* is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050." The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32. The *First Update* also noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals.

In conjunction with the *First Update*, the ARB identified six key focus areas comprising major components of the State's economy to evaluate and describe the larger transformative actions that will be needed to meet the State's more expansive emission reduction needs by 2050. Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and, (6) natural and working lands. The *First Update* identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction target.

ARB identified new technologies that would assist the state in meeting the 2050 target. Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, the ARB recalculated the State's 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level and the revised 2020 emissions level projection identified in the 2011 Final Supplement, the ARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 percent or 16 percent) from the BAU conditions.

The *First Update* included a strong recommendation from the ARB for setting a mid-term statewide GHG emissions reduction target. The ARB specifically recommended that the mid-term target be consistent with: (i) the United States' pledge to reduce emissions 42 percent below 2005 levels (which translates to a 35 percent reduction from 1990 levels in California); and (ii) the long-term policy goal of reducing emissions to 80 percent below 1990 levels by 2050. However, to date, there is no legislative authorization for a post-2020 GHG reduction target, and the ARB has not established such a target.

Renewable Portfolio Standard. California's Renewable Portfolio Standard requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020.¹ The 33 percent standard is consistent with the Renewable Portfolio Standard goal established in the *Scoping Plan*. As interim measures, this standard requires 20 percent of retail sales to be sourced from renewable energy by 2013, and 25 percent by 2016.²

Pavley Standards. AB 1493 required the ARB to adopt regulations to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks for model years 2009–2016, which are oftentimes referred to as the "Pavley I" standards. The ARB obtained a waiver from the USEPA that allows for implementation of these regulations notwithstanding possible federal preemption concerns.

Low Carbon Fuel Standard. Executive Order S-1-07 requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by the ARB by 2020.³ In 2009, the ARB approved the Low Carbon Fuel Standard (LCFS) regulations, which became fully effective in April 2010. In 2013, an ethanol company obtained a court order compelling the ARB to remedy substantive and procedural defects under CEQA of the LCFS adoption process.⁴ However, the court allowed implementation of the LCFS to continue pending correction of the identified defects. Consequently, this analysis assumes that the LCFS will remain in effect during construction and operation of the Project.

Advanced Clean Cars Program. In 2012, the ARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for model years 2017–2025. (This program is sometimes referred to as "Pavley II.") The program combines the control of smog, soot, and GHGs with requirements for greater

¹ Initially, the Renewable Portfolio Standard provisions applied only to investor-owned utilities, community choice aggregators, and electric service providers. SBX1-2 added, for the first time, publicly owned utilities to the entities subject to the standard.

² On January 28, 2015, Assembly Member Eduardo Garcia introduced AB 197, which – if enacted – would require an electrical corporation or local publicly-owned electric utility to adopt a long-term procurement strategy to achieve a target of procuring 50 (not 33) percent of its electricity products from eligible renewable energy resources by December 31, 2030.

³ Carbon intensity is a measure of the GHG emissions associated with the various production, distribution and use steps in the "lifecycle" of a transportation fuel.

⁴ POET, LLC v. CARB (2013) 217 Cal.App.4th 1214.

numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer greenhouse gases.

Solid Waste Sources. The California Integrated Waste Management Act of 1989, as modified by AB 341, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities; (2) diversion of 50 percent of all solid waste on and after January 1, 2000; and (3) diversion of 75 percent of all solid waste on or after 2020, and annually thereafter. The California Department of Resources Recycling and Recovery (CalRecycle) is required to develop strategies, including source reduction, recycling, and composting activities, to achieve the 2020 goal.

Background Air Quality

The ARB and the SCAPCD operate a series of ambient air quality monitoring stations throughout the South Coast Air Basin (SCAB). The closest monitoring sites to the proposed Lassen Substation are in the City of Mt. Shasta and Yreka. The City of Mt. Shasta monitoring station measured PM₁₀, but ceased operation in 2009. The Yreka monitoring station measures O₃, PM₁₀, and PM_{2.5}. While exceedances of the 24-hour PM₁₀ standard were measured at City of Mt. Shasta in 2008, the measurements were likely attributable to exceptional events and did not warrant re-designation of the air basin as a nonattainment area. NO₂, SO₂, and CO are not measured in the Northeast Plateau Air Basin and these pollutants are not considered an air quality problem. Table 4.4-2 provides a summary of background air quality representative of the Project region.

TABLE 4.4-2 REPRESENTATIVE AIR QUALITY DATA FOR THE LASSEN SUBSTATION PROJECT AREA (2010-2014)

AIR QUALITY INDICATOR	2010	2011	2012	2013	2014
Ozone (O₃)⁽¹⁾					
Peak 1-hour value (ppm)	0.070	0.069	0.076	0.077	0.082
Days above state standard (0.09 ppm)	0	0	0	0	0
Peak 8-hour value (ppm)	0.067	0.061	0.071	0.071	0.065
Days above state standard (0.070 ppm)	0	0	1	1	0
Days above federal standard (0.075 ppm) ⁽¹⁾	0	0	0	0	0
Particulate matter less than or equal to 10 microns in diameter (PM₁₀)⁽²⁾					
Peak 24-hour value (µg/m ³)	25.2	28.7	53.2	54.6	90.6
Days above state standard (50 µg/m ³)	0	0	0	0	3
Days above federal standard (150 µg/m ³)	0	0	0	0	0
Annual Average value (ppm)	10.4	11.5	13.1	13.6	15.7
Particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5})					
Peak 24-hour value (µg/m ³)	17.0	15.8	29.9	43.5	71.9
Days above federal standard (35 µg/m ³)	0	0	0	2	2
Annual Average value (ppm)	*	5.5	5.6	7.8	9.0

Notes: * = not available

(1) The federal 8-hour ozone standard was previously defined as 0.08 ppm (one significant digit). Measurements were rounded up or down to determine compliance with the standard; therefore, a measurement of 0.084 ppm is rounded to 0.08 ppm. The 8-hour ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to the standard. The 8-hour ozone standard was updated in 2015 to 0.070 ppm; however, from 2010 to 2014 exceedances were based on the previous standard of 0.075 ppm.

(2) Measurements from Yreka.

Source: http://www.arb.ca.gov/adam/php_files/aqdphp/topfourdisplay.php

4.4.3 Significance Criteria

The general significance thresholds are derived from Appendix G of the CEQA guidelines, and indicate that a project could have potentially significant impacts to air quality if it could:

- 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 cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors).
- d) Expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates.
- e) Create objectionable odors affecting a substantial number of people.

A project could have potentially significant impacts in relation to greenhouse gas emissions if it could:

- a) Generate greenhouse gas 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 greenhouse gases.

4.4.4 Environmental Impacts

Air Quality

Would the Project:

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

No Impact. Siskiyou County has not adopted CEQA significance criteria for air quality. There are no numeric thresholds established for emissions from construction. The SCAPCD has adopted thresholds for stationary sources under its New Source Review rule for requiring best available control technology (BACT) and an air quality impact assessment. Those thresholds indicate that further analysis is required if a source's emissions exceed 2,500 pounds per day (lbs/day) for CO and 250 lbs/day for all other criteria pollutants. These thresholds were used to evaluate the significance of impacts from the proposed Lassen Substation.

The ARB recommended the use of a threshold of 10,000 metric tons of CO₂e emissions as a significance threshold for projects in their Climate Change Proposed Scoping Plan, which was approved by the ARB's Board in January 2009. Other agencies have used a threshold of 10,000 metric tons of CO₂e as a significance threshold under CEQA for industrial projects. This threshold was used to evaluate the significance of GHG emissions from the Lassen Substation. Construction and operation of the proposed Project would therefore not conflict or obstruct implementation of the applicable air quality plan, and there would be no impact.

b) Violate any air quality standards or contribute substantially to an existing or projected air quality violation?

No Impact. The Project includes construction of the substation, along with installation of an additional 200 feet of transmission line and replacement of approximately 36 transmission poles.

Replacement of the transmission poles would occur simultaneously with the substation construction. Emissions from the construction phase of the Project were estimated using the CalEEMod Model, Version 2013.2.2. This model is the most updated version of the land use planning model in the state of California. The CalEEMod model identifies the maximum daily emissions and it accounts for overlapping construction phases. The maximum daily emissions for each construction phase are presented in Table 4.4-3. Emissions are compared with the Siskiyou County Construction Permit Standards for Criteria Pollutants, Rule 6.1 B.1.

TABLE 4.4-3 MAXIMUM DAILY CONSTRUCTION EMISSIONS, LBS/DAY

EMISSION SOURCE	EMISSIONS, LBS/DAY ¹					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
House Demolition						
Heavy Equipment	3.72	44.59	20.48	0.05	1.81	1.62
Hauling	0.02	0.14	0.18	0.00	0.01	0.01
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.07	0.09	1.02	0.00	0.10	0.03
Total Daily	3.83	44.90	21.86	0.05	1.93	1.66
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
LASSEN SUBSTATION						
Construction Management						
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.02	0.02	0.25	0.00	0.02	0.01
Total Daily	0.04	0.10	0.43	0.00	0.03	0.01
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Lassen Substation - Survey						
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.05	0.07	0.76	0.00	0.08	0.02
Total Daily	0.07	0.15	0.94	0.00	0.09	0.02
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Site Preparation/Grading						
Fugitive Dust	-	-	-	-	2.97	1.62
Heavy Equipment	5.26	58.65	32.58	0.06	2.58	2.37
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.09	0.12	1.27	0.00	0.13	0.04
Total Daily	5.37	58.85	34.03	0.06	5.69	4.03
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Material Haul						
Fugitive Dust	-	-	-	-	0.04	0.004
Heavy Equipment	3.24	38.28	16.73	0.03	1.67	1.53
Worker Vehicles	0.05	0.07	0.76	0.00	0.08	0.02
Total Daily	3.29	38.35	17.49	0.03	1.79	1.55
<i>Significance Threshold</i>	250	250	2500	250	250	250

EMISSION SOURCE	EMISSIONS, LBS/DAY ¹					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
Above Threshold?	No	No	No	No	No	No
Access Road Construction						
Fugitive Dust	-	-	-	-	2.97	1.62
Heavy Equipment	3.75	40.42	23.09	0.03	1.97	1.81
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.05	0.07	0.76	0.00	0.08	0.02
Total Daily	3.82	40.57	24.03	0.03	5.03	3.45
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Concrete Placement and Framework						
Heavy Equipment	2.18	24.59	11.71	0.03	0.91	0.84
Construction Trucks	0.02	0.07	0.15	0.00	0.01	0.00
Worker Vehicles	0.08	0.10	1.10	0.00	0.13	0.04
Total Daily	2.28	24.76	12.96	0.03	1.05	0.88
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Steel Installation						
Heavy Equipment	2.16	24.19	10.86	0.03	1.07	0.99
Construction Trucks	1.48	7.07	15.03	0.02	0.71	0.29
Worker Vehicles	0.08	0.10	1.10	0.00	0.13	0.04
Total Daily	3.72	31.36	26.99	0.05	1.91	1.32
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Equipment Installation						
Heavy Equipment	1.13	12.90	6.36	0.01	0.65	0.60
Construction Trucks	1.48	7.07	15.03	0.02	0.71	0.29
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	2.67	20.05	22.27	0.03	1.46	0.92
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Bus Work						
Heavy Equipment	1.50	12.79	7.19	0.01	0.62	0.59
Construction Trucks	0.02	0.07	0.15	0.00	0.01	0.00
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	1.58	12.94	8.22	0.01	0.73	0.62
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Testing and Energization						
Construction Trucks	0.02	0.07	0.15	0.00	0.01	0.00
Worker Vehicles	0.03	0.04	0.44	0.00	0.05	0.01
Total Daily	0.05	0.11	0.59	0.00	0.06	0.02
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Fencing						
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	0.06	0.08	0.88	0.00	0.10	0.03

EMISSION SOURCE	EMISSIONS, LBS/DAY ¹					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Marshalling Yard						
Worker Vehicles	0.03	0.04	0.44	0.00	0.05	0.01
Total Daily	0.03	0.04	0.44	0.00	0.05	0.01
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Right-of-Way Restoration and Cleanup						
Fugitive Dust	-	-	-	-	2.94	1.61
Heavy Equipment	2.58	28.78	18.28	0.03	1.22	1.12
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	2.64	28.86	19.16	0.03	4.26	2.76
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
TRANSMISSION/DISTRIBUTION LINE CONSTRUCTION						
Construction Management						
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.02	0.02	0.25	0.00	0.02	0.01
Total Daily	0.04	0.10	0.43	0.00	0.03	0.01
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Survey						
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.06	0.07	0.76	0.00	0.08	0.02
Total Daily	0.08	0.15	0.94	0.00	0.09	0.02
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Access Road Construction						
Fugitive Dust	-	-	-	-	2.99	1.62
Heavy Equipment	3.75	40.42	23.09	0.03	1.97	1.81
Construction Trucks	0.02	0.08	0.18	0.00	0.01	0.00
Worker Vehicles	0.04	0.05	0.51	0.00	0.05	0.01
Total Daily	3.81	40.55	23.78	0.03	5.02	3.44
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Auger Holes, Direct Imbed Poles						
Heavy Equipment	2.89	29.66	14.62	0.04	1.34	1.27
Worker Vehicles	0.08	0.10	1.10	0.00	0.13	0.04
Total Daily	2.97	29.76	15.72	0.04	1.47	1.31
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Material Haul						
Fugitive Dust	-	-	-	-	0.05	0.005
Heavy Equipment	3.24	38.28	16.73	0.03	1.67	1.53
Worker Vehicles	0.05	0.07	0.76	0.00	0.08	0.02
Total Daily	3.29	38.35	17.49	0.03	1.80	1.56

EMISSION SOURCE	EMISSIONS, LBS/DAY ¹					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Structure Assembly and Installation						
Heavy Equipment	3.27	36.88	17.57	0.05	1.37	1.26
Construction Trucks	1.48	7.07	15.03	0.02	0.71	0.29
Worker Vehicles	0.08	0.10	1.10	0.00	0.13	0.04
Total Daily	4.83	44.05	33.70	0.07	2.21	1.59
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Structure Erection						
Heavy Equipment	3.27	36.88	17.57	0.05	1.37	1.26
Construction Trucks	1.48	7.07	15.03	0.02	0.71	0.29
Worker Vehicles	0.08	0.10	1.10	0.00	0.13	0.04
Total Daily	4.83	44.05	33.70	0.07	2.21	1.59
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Underground Distribution Line						
Fugitive Dust	-	-	-	-	0.01	0.001
Heavy Equipment	0.85	8.83	7.27	0.01	0.53	0.49
Construction Trucks	0.02	0.07	0.15	0.00	0.01	0.00
Worker Vehicles	0.12	0.16	1.76	0.00	0.21	0.06
Total Daily	0.99	9.06	9.18	0.01	0.76	0.55
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Wire Installation						
Heavy Equipment	9.68	110.05	56.16	0.11	4.99	4.59
Construction Trucks	1.51	7.21	15.33	0.02	0.73	0.29
Worker Vehicles	0.12	0.16	1.76	0.00	0.21	0.06
Total Daily	11.31	117.42	73.25	0.13	5.93	4.94
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Right of Way Restoration and Cleanup						
Fugitive Dust	-	-	-	-	2.94	1.61
Heavy Equipment	2.58	28.78	18.28	0.03	1.22	1.12
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	2.64	28.86	19.16	0.03	4.26	2.76
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
DEMOLITION OF MT. SHASTA SUBSTATION						
Equipment Removal						
Fugitive Dust	-	-	-	-	0.38	0.06
Heavy Equipment	2.14	24.92	12.23	0.03	1.05	0.96
Hauling	0.11	0.85	1.12	0.00	0.09	0.04
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	2.31	25.85	14.23	0.03	1.62	1.09
<i>Significance Threshold</i>	250	250	2500	250	250	250

EMISSION SOURCE	EMISSIONS, LBS/DAY ¹					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
Above Threshold?	No	No	No	No	No	No
Foundation Removal						
Fugitive Dust	-	-	-	-	0.79	0.12
Heavy Equipment	2.97	32.20	17.70	0.04	1.49	1.37
Hauling	0.23	1.78	2.35	0.01	0.19	0.07
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	3.26	34.06	20.93	0.05	2.57	1.59
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
Grading						
Fugitive Dust	-	-	-	-	2.96	1.62
Heavy Equipment	2.97	32.59	21.27	0.03	1.52	1.39
Worker Vehicles	0.06	0.08	0.88	0.00	0.10	0.03
Total Daily	3.03	32.67	22.15	0.03	4.58	3.04
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
MAXIMUM DAILY EMISSIONS						
2016	19.68	216.88	117.67	0.19	19.39	14.08
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No
2017	18.30	199.21	111.16	0.21	18.51	13.27
<i>Significance Threshold</i>	250	250	2500	250	250	250
Above Threshold?	No	No	No	No	No	No

¹Fugitive dust emissions from site preparation, grading, and underground distribution line construction have been based on the total size of the substation site (4.5 acres) for the substation; the total length of the transmission line (approximately 7000 feet) times 50 feet for a total of 8 acres; the total length of the distribution line (approximately 1200 feet); and the size of the existing substation (0.5 acres).

As shown in Table 4.4-3, emissions are below the emission thresholds, and Project construction would not result in a significant air quality impact. Project construction would therefore not violate any adopted air quality standards or result in a cumulatively considerable increase in any nonattainment pollutants.

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

Less than Significant Impact. Emissions during Project operation would be confined to emissions from vehicles associated with inspection and maintenance of the substation. Emissions would be lower than emissions associated with construction as presented in Table 4.4-3. Operational emissions would therefore not violate any adopted air quality standards or result in a cumulatively considerable increase in any nonattainment pollutants.

Project construction would result in temporarily increased emissions of fugitive dust during grading activities. Fugitive dust emissions would be controlled through implementation of standard dust control measures, and would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentration?

No Impact. As stated above, construction and operation of the proposed Project would not result in any violation of applicable air quality standards, including substantial pollutant concentrations to sensitive receptors. Pollutants would disperse quickly from the site, and the construction activities are short term (6 to 12 months). Because of the short-term and temporary nature of construction, no impact would occur.

e) Create objectionable odors that would affect a substantial amount of people?

No Impact. Operation of the proposed substation would not result in the creation of objectionable odors. During construction, emissions would be generated from vehicles and equipment, but these emissions would be temporary in nature and below any adopted air quality standards. In addition, Project construction would occur in a rural residential area, and would not affect a substantial number of people. No impact would occur.

Greenhouse Gas Emissions

Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Project construction and operation have the potential to contribute GHG emissions and could contribute to global climate change impacts. Given the nature of the Project, the main source of GHGs would be from construction of the substation. Operational emissions are minor in comparison with construction emissions. Construction GHG emissions were estimated using the same approach as criteria pollutants. GHG emission estimates are presented in Table 4.4-4. As shown in Table 4.4-4, total GHG emissions of 1,690 metric tons are below the 10,000 metric ton of CO₂e threshold, and would not result in a cumulatively considerable contribution of GHG. Impacts would be less than significant.

TABLE 4.4-4 TOTAL CONSTRUCTION GHG EMISSIONS, METRIC TONS/YEAR

CO ₂	CH ₄	N ₂ O	CO ₂ e
1,796	0.4438	0.00	1,805

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. Siskiyou County has not adopted CEQA significance criteria for greenhouse gases. There are no numeric thresholds established for emissions from construction. The SCAPCD has adopted thresholds for stationary sources under its New Source Review rule for requiring BACT and an air quality impact assessment. Those thresholds indicate that further analysis is required if a source's emissions exceed 2,500 lbs/day for CO and 250 lbs/day for all other criteria pollutants. These thresholds were used to evaluate the significance of impacts from the proposed Lassen Substation.

The ARB recommended the use of a threshold of 10,000 metric tons of CO₂e emissions as a significance threshold for projects in their Climate Change Proposed Scoping Plan, which was approved by the ARB's Board in January 2009. Other agencies have used a threshold of 10,000

metric tons of CO₂e as a significance threshold under CEQA for industrial projects. This threshold was used to evaluate the significance of GHG emissions from the Lassen Substation, and potential impacts were found to be less than significant. Thus, the proposed Project would not conflict with applicable plans, policies, or regulations for reducing emissions of greenhouse gases, and no impact would occur.