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3 6.1 Overview

4 This chapter evaluates the Proposed Project's air quality impacts. The chapter first
5 describes the air quality regulatory and environmental settings and then evaluates the
6 project's air quality impacts. The impact evaluation begins by describing the air quality
7 significance criteria and the methodology used to evaluate significance, and then presents
8 the impact evaluation. Mitigation measures are identified for impacts that are determined to
9 be significant.

10 6.2 Regulatory Setting

11 6.2.1 Laws, Regulations, and Policies

12 Sources of air pollutant emissions in the San Diego Air Basin are regulated by the United
13 States Environmental Protection Agency (USEPA), California Air Resources Board (CARB),
14 and San Diego Air Pollution Control District (SDAPCD). In addition, the County of San Diego
15 has adopted air quality policies in its General Plan, and has published California
16 Environmental Quality Act (CEQA) Guidelines and significance criteria for air quality impact
17 analyses. The role of each regulatory agency is discussed below.

18 Federal

19 *Federal Clean Air Act*

20 The federal Clean Air Act (CAA) of 1970 and its subsequent amendments form the basis for
21 the nation's air pollution control effort. The USEPA is responsible for implementing most
22 aspects of the CAA. Basic elements of the act include the establishment of National Ambient
23 Air Quality Standards (NAAQS) for criteria air pollutants (see Table 6-2 shown below in the
24 Environmental Setting discussion), hazardous air pollutant standards, attainment plans,
25 motor vehicle emission standards, stationary source emission standards and permits, acid
26 rain control measures, stratospheric ozone protection, and enforcement provisions.

27 The CAA allows delegation of the enforcement of many of the federal air quality regulations
28 to the states. In California, the CARB is responsible for enforcing air pollution regulations. In
29 San Diego County, the SDAPCD has this responsibility. In addition, the SDAPCD and the
30 CARB are the responsible agencies for providing attainment plans and meeting attainment
31 with the NAAQS; and the USEPA reviews and approves these plans and regulations, which
32 are designed to attain and maintain attainment with the NAAQS.

33 Specific federal regulations that are applicable to the Proposed Project, either directly or
34 indirectly, and that are enforced by federal agencies are listed below.

1 ***Emission Standards for Non-Road Diesel Engines***

2 The USEPA has established a series of cleaner emission standards for new off-road diesel
3 engines culminating in the Tier 4 Final Rule of June 2004 (USEPA 2004a). The Tier 1, Tier 2,
4 Tier 3, and Tier 4 standards require compliance with progressively more stringent emission
5 standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture),
6 depending on the engine horsepower category. Tier 2 standards were phased in from 2001
7 to 2006, and the Tier 3 standards were phased in from 2006 to 2008.

8 The Tier 4 standards complement the latest 2007 and later on-road heavy-duty engine
9 standards by requiring 90 percent reductions in diesel particulate matter (DPM) and
10 nitrogen oxides (NO_x) when compared against current emission levels. The Tier 4 standards
11 are currently being phased in starting with smaller engines in 2008 until all but the very
12 largest diesel engines meet NO_x and particulate matter (PM) standards in 2015.

13 ***Non-Road Diesel Fuel Rule***

14 In May 2004, the USEPA set sulfur limits for non-road diesel fuel. Under this rule, sulfur
15 levels in non-road diesel fuel would be limited to 500 parts per million (ppm) starting in
16 2007 and 15 ppm starting in 2010 (USEPA 2004b), at which time it would be equivalent to
17 sulfur content restrictions of the California Diesel Fuel Regulations (described below).

18 ***Emission Standards for On-Road Trucks***

19 To reduce emissions from on-road, heavy-duty diesel trucks, the USEPA established a series
20 of cleaner emission standards for new engines, starting in 1988. These emission standards
21 regulations have been revised over time. The latest effective regulation, the 2007 Heavy-
22 Duty Highway Rule, provides for reductions in PM, NO_x, and non-methane hydrocarbon
23 emissions that were phased in during the model years 2007 through 2010 (USEPA 2000).

24 **State**

25 ***California Clean Air Act***

26 In California, the CARB is designated as the responsible agency for all air quality regulations.
27 The CARB, which became part of the California Environmental Protection Agency in 1991, is
28 responsible for implementing the requirements of the federal CAA, regulating emissions
29 from motor vehicles and consumer products, and implementing the California Clean Air Act
30 of 1988 (CCAA). The CCAA outlines a program to attain the California Ambient Air Quality
31 Standards (CAAQS) for ozone, nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and carbon
32 monoxide (CO) by the earliest practical date. Since the CAAQS are often more stringent than
33 the NAAQS, attainment of the CAAQS will require more emission reductions than what is
34 required to demonstrate attainment of the NAAQS. Similar to the federal requirements, the
35 State requirements and compliance dates are based on the severity of the ambient air
36 quality standard violation within a region. Additional information regarding the CAAQS are
37 provided in Table 6-2, presented below in the Environmental Setting discussion.

38 Other CARB regulations promulgated under the authority of the CCAA that are relevant,
39 directly or indirectly, to the Proposed Project are as follows:

1 **California Diesel Risk Reduction Plan**

2 CARB has adopted several regulations that are meant to reduce the health risk associated
3 with on- and off-road and stationary diesel engine operation. This plan recommends many
4 control measures with the goal of an 85 percent reduction in DPM emissions by 2020. The
5 regulations noted below, which may also serve to significantly reduce other pollutant
6 emissions, are all part of this risk reduction plan.

7 **Emission Standards for On-Road and Off-Road Diesel Engines**

8 Similar to the USEPA's regulations for on-road and off-road emissions described above, the
9 CARB has established emission standards for new on-road and off-road diesel engines.
10 These regulations have model year based emissions standards for NO_x, hydrocarbons, CO,
11 and PM.

12 **In-Use Off-Road Vehicle Regulation**

13 The State has also enacted a regulation for the reduction of DPM and criteria pollutant
14 emissions from in-use off-road diesel-fueled vehicles (Cal. Code Regs., tit. 13, Article 4.8,
15 Chapter 9, Section 2449). This regulation provides target emission rates for PM and NO_x
16 emissions from owners of fleets of diesel-fueled off-road vehicles, and applies to off-road
17 equipment fleets of three specific sizes, as follows:

- 18 ▪ Small Fleet – Fleet or municipality with equipment totaling less than or equal to
19 2,500 horsepower (hp), or municipal fleet in lower population area, captive
20 attainment fleet, or non-profit training center regardless of horsepower.
- 21 ▪ Medium Fleet – Fleet with equipment totaling 2,501 to 5,000 hp.
- 22 ▪ Large Fleet – Fleet with equipment totaling more than 5,000 hp, or all state and
23 federal government fleets regardless of total hp.

24 The target emission rates for these fleets are reduced over time. Specific regulation
25 requirements include:

- 26 ▪ Limit on idling, requiring a written idling policy, and disclosure when selling
27 vehicles;
- 28 ▪ Require all vehicles to be reported to CARB (using the Diesel Off-Road Online
29 Reporting System) and labeled;
- 30 ▪ Restrict the adding of older vehicles into fleets starting on January 1, 2014; and
- 31 ▪ Require fleets to reduce their emissions by retiring, replacing, or repowering
32 older engines, or installing Verified Diesel Emission Control Strategies (i.e.,
33 exhaust retrofits). (CARB 2014)

34 The construction contractor(s) who complete the construction activities for the Proposed
35 Project, including the Applicant if they use their own off-road equipment fleet, would have
36 to comply with the requirements of this regulation.

1 ***Heavy Duty Diesel Truck Idling Regulation***

2 This CARB rule became effective February 1, 2005, and prohibits heavy-duty diesel trucks
3 from idling for longer than five minutes at a time, unless they are queuing and provided the
4 queue is located beyond 100 feet from any homes or schools (CARB 2006).

5 ***California Diesel Fuel Regulations***

6 In 2004, the CARB set limits on the sulfur content of diesel fuel sold in California for use in
7 on-road and off-road motor vehicles (Cal. Code Regs., tit. 13, §§ 2281-2285 and Cal. Code
8 Regs., tit. 17, § 93114). Under this rule, sulfur content of diesel fuel was limited to 15 ppm
9 starting in June 2006 (CARB 2004).

10 ***Statewide Portable Equipment Registration Program (PERP)***

11 The PERP establishes a uniform program to regulate portable engines and portable engine-
12 driven equipment units (CARB 2005). Once registered in the PERP, engines and equipment units
13 may operate throughout California without the need to obtain individual permits from local air
14 districts, as long as the equipment is located at a single location for no more than 12 months.

15 **Local**

16 ***San Diego County Air Pollution Control District***

17 The SDAPCD is responsible for planning, implementing, and enforcing federal and State
18 ambient standards within San Diego County. As part of its planning responsibilities,
19 SDAPCD prepares Air Quality Management Plans and Attainment Plans as necessary based
20 on the attainment status of the air basins within its jurisdiction. The SDAPCD also is
21 responsible for permitting and controlling stationary source criteria and air toxic pollutants
22 as delegated by the USEPA. The SDAPCD has developed the following federal and State
23 attainment planning documents (SDAPCD 2016a):

- 24 ▪ Eight-Hour Ozone Attainment Plan (federal 8-hour ozone attainment plan).
- 25 ▪ Air Resources Board's Proposed State Strategy for California's 2007 State
26 Implementation Plan (federal 8-hour ozone attainment plan).
- 27 ▪ Ozone Redesignation Request and Maintenance Plan (federal 1-hour ozone
28 maintenance plan).
- 29 ▪ 2004 Revision to the California State Implementation Plan for Carbon Monoxide
30 (federal CO maintenance plan).
- 31 ▪ 2004 Triennial Revision of the Regional Air Quality Strategy for San Diego
32 County (State ozone attainment plan).
- 33 ▪ Measures to Reduce Particulate Matter in San Diego County (Health and Safety
34 Code 39614)

- 1 ▪ Redesignation Request and Maintenance Plan for the 1997 National Ozone
- 2 Standard for San Diego County.
- 3 ▪ 2009 Regional Air Quality Strategy Revision.

4 Through the attainment planning process, the SDAPCD develops the SDAPCD's Rules and
 5 Regulations to regulate sources of air pollution in San Diego County (SDAPCD 2016b). The
 6 SDAPCD rules that may be applicable to the Proposed Project are identified below.

7 **SDAPCD Rule 50 – Visible Emissions**

8 This rule prohibits discharge of air contaminants or other material that are as dark or
 9 darker in shade as that designated No. 1 on the Ringelmann Chart or that obscure an
 10 observer's view.

11 **SDAPCD Rule 51 – Nuisance**

12 This rule prohibits discharge of air contaminants or other material that cause injury,
 13 detriment, nuisance, or annoyance to any considerable number of persons or to the public;
 14 or that endanger the comfort, repose, health, or safety of any such persons or the public; or
 15 that cause, or have a natural tendency to cause, injury or damage to business or property.

16 **SDAPCD Rule 55 – Fugitive Dust Control**

17 The purpose of this rule is to control the amount of PM entrained in the atmosphere from
 18 man-made sources of fugitive dust. The rule limits visible dust opacity and visible dust
 19 plumes beyond property lines, and requires control of track-out onto paved roads.

20 **SDAPCD Rule 67.0 – Architectural Coatings**

21 Architectural coating Rule 1113 that limits the volatile organic compound (VOC) content of
 22 paints applied to various surfaces that would be applicable to any construction painting
 23 operation.

24 **SDAPCD Regulation II – Permits**

25 The rules under this regulation require the permitting of stationary sources, require new
 26 emission sources use best available control technology to control criteria pollutant
 27 emissions, and require offsetting of emissions if permitted emissions would exceed
 28 designated thresholds. There is the potential that portable internal combustion engines
 29 being used during Project construction would require permits from SDAPCD if they are not
 30 permitted under the CARB PERP program.

31 ***County of San Diego***

32 The County of San Diego has adopted a General Plan that includes air quality related goals
 33 and policies (County of San Diego 2011). There are a number of air quality goals noted in
 34 the general plan, including the use of sustainable technology and products and encouraging
 35 contractors to use low-emission construction vehicles and equipment. There also is a
 36 subregional plan for the Central Mountain area which has several general policies and goals
 37 that seek to minimize the air quality impacts from new commercial, industrial, and private
 38 and public residential treatment centers (County of San Diego 2015).

1 The County of San Diego also has developed CEQA guidance documents that provide report
 2 format and content requirements and significance thresholds for air quality analysis
 3 (County of San Diego 2007a, 2007b). These documents have been used to establish the
 4 significance criteria used to evaluate Proposed Project impacts.

5 **6.3 Environmental Setting**

6 **6.3.1 Regional Climate and Meteorology**

7 The Proposed Project is located in the Cuyamaca Mountains, within the Mountain Empire
 8 area of southeastern San Diego County. The Project site is within the San Diego Air Basin
 9 and under the jurisdiction of the SDAPCD. Table 6-1 presents a monthly climate summary
 10 for the nearby community of Descanso.

11 **Table 6-1. Descanso Monthly Average Temperatures and Precipitation**

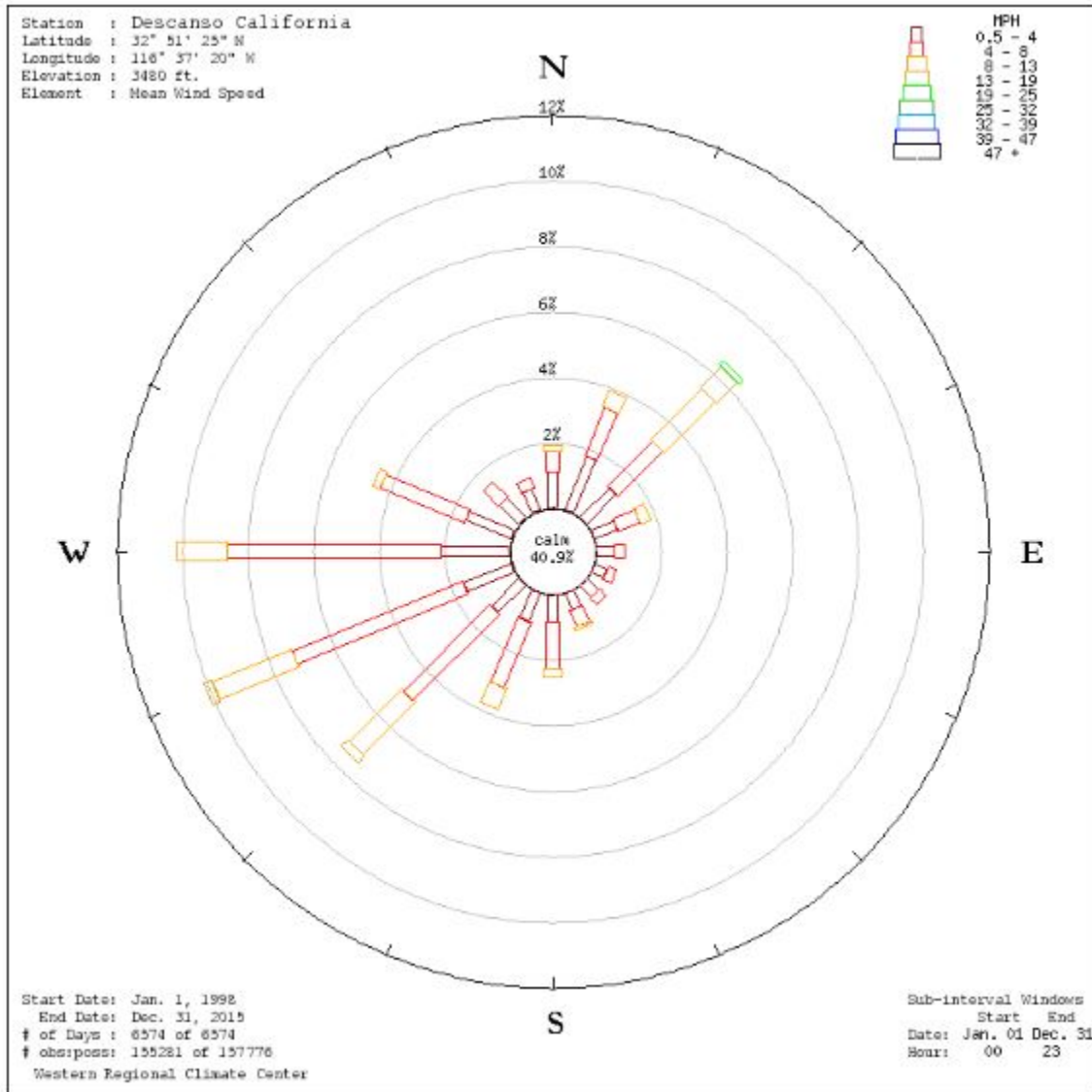
Month	Temperature (°F)		Precipitation
	High	Low	
January	60	30	5.74
February	62	32	5.56
March	64	35	5.85
April	69	38	1.78
May	75	42	0.65
June	85	46	0.16
July	92	52	0.40
August	93	53	0.65
September	88	48	0.67
October	79	39	0.90
November	68	32	2.36
December	61	28	3.19

Source: Intellicast, 2016.

1 The Project area experiences cool winters and warm summers, with significant drops in
2 overnight temperatures that are influenced by the Project site's elevation, which is
3 approximately 3,000 feet above sea level. As shown in Table 6-2, average summer (June to
4 September) high and low temperatures in the study area range from 93 degrees Fahrenheit
5 (°F) to 46°F. Average winter (December to March) high and low temperatures range from
6 64°F to 28°F. The average annual precipitation is approximately 28 inches, and small
7 amounts of snow can fall in the winter, with over 85 percent of the annual precipitation
8 occurring between November and April. Summer precipitation is higher than in San Diego
9 County coastal locations due to a greater influence from the Southwest summer monsoon
10 season. Regardless, the months of May through October still all average less than an inch of
11 rain. Little precipitation occurs in Southern California during summer because high-
12 pressure cells block migrating storm systems over the eastern Pacific.

13 As depicted in Figure 6-1 using a wind rose for the nearby Descanso Western Regional
14 Climate Center meteorological station, the typical wind speeds and directions for the Project
15 area, show a weak predominant onshore flow from the west and west southwest and
16 another weak offshore flow from the northeast, and a very large number of calm wind
17 hours. This wind rose is based on data gathered between 1998 through 2015.

1 **Figure 6-1. Windrose from Descanso (1998-2015)**



2 *Source: Western Regional Climate Center, 2016.*

3 **Air Pollutants and Monitoring Data**

4 Air pollutants are defined as two general types: (1) “criteria” pollutants, representing six
 5 pollutants for which national and state health- and welfare-based ambient air quality
 6 standards have been established; and (2) toxic air contaminants (TACs), which may lead to
 7 serious illness or increased mortality even when present at relatively low concentrations.
 8 An additional potential air quality-related concern is Valley Fever.
 9

10 **Criteria Pollutants**

11 USEPA, CARB, and the local air districts classify an area as either attainment, unclassified, or
 12 nonattainment, depending on whether the monitored ambient air quality data shows
 13 compliance, insufficient data available, or non-compliance with the ambient air quality

1 standards (AAQS), respectively. The NAAQS and CAAQS relevant to the Project are provided
 2 in Table 6-2.

3 **Table 6-2. National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
Ozone (O ₃)	1-hour	0.09 ppm	--	Breathing difficulties, lung tissue damage
	8-hour	0.070 ppm	0.075 ppm	
Respirable particulate matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 µg/m ³	--	
Fine particulate matter (PM _{2.5})	24-hour ^a	--	35 µg/m ³	Increased respiratory disease, lung damage, cancer, premature death
	Annual ^b	12 µg/m ³	12 µg/m ³	
Carbon monoxide (CO)	1-hour	20 ppm	35 ppm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9.0 ppm	9 ppm	
Nitrogen dioxide (NO ₂)	1-hour	0.18 ppm	0.100 ppm ³	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	
Sulfur dioxide (SO ₂)	1-hour	0.25 ppm	0.075 ppm ^c	Increases lung disease and breathing problems for asthmatics
	3-hour	--	0.5 ppm	
	24-hour	0.04 ppm	--	

Sources: CARB 2001, 2016a.

Notes:

ppm = parts per million; µg/m³ = micrograms per cubic meter; "--" = no standards

(a) The federal 24-hour PM_{2.5} standard is based on the 98th percentile of maximum daily monitored values.

(b) The federal standard shown is the primary standard, the secondary standard is 15 µg/m³.

(c) The new federal 1-hour NO₂ and SO₂ standards are based on the 98th and 99th percentile of daily hourly maximum values, respectively.

4 Table 6-3 summarizes the federal and State attainment status of criteria pollutants for the
 5 San Diego Air Basin based on the NAAQS and CAAQS, respectively. For simplification, the
 6 attainment status, is noted as attainment in the table if it has been identified as
 7 unclassifiable/attainment or some similar status that is not either nonattainment or
 8 attainment/maintenance.

1 **Table 6-3. Attainment Status for the San Diego Air Basin**

Pollutant	Attainment Status	
	Federal	State
O ₃	Nonattainment	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Attainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment

Sources: CARB 2016b; USEPA, 2016.

2 Table 6-4 summarizes the historical air quality data for the Project area collected at the
 3 nearest representative air quality monitoring station in San Diego County. The air
 4 monitoring station used to provide ozone, PM_{2.5}, and NO₂ concentrations is located at the
 5 Alpine-Victoria Avenue monitoring station in Alpine, which is located approximately six
 6 miles west northwest of the Project area. This inland monitoring station is the most
 7 representative of the Project area. PM₁₀ concentrations listed in the table are from the El
 8 Cajon-Redwood Avenue and El Cajon-Floyd Smith Drive monitoring stations. The El Cajon
 9 monitoring station location was moved to the current Floyd Smith Drive location in 2014
 10 resulting in insufficient data for 2014. Sulfur dioxide and carbon monoxide monitoring have
 11 been discontinued within San Diego County. Table 6-4 presents the maximum pollutant
 12 levels measured from the most representative monitoring stations from 2013 through
 13 2015.

14 **Table 6-4. Background Ambient Air Quality Data**

Pollutant	Averaging Time	Maximum Concentration (ppm or µg/m ³) ^a		
		2013	2014	2015
O ₃	1-hour	0.095	0.092	0.097
	8-hour	0.083	0.082	0.085
PM ₁₀	24-hour	41.1	—	50.3
	Annual	24.1	—	22.3
PM _{2.5}	24-hour 98 th Percentile	20.1	17.4	—
	Annual	7.9	8.1	—
NO ₂	1-hour	0.040	0.030	0.048
	1-hour 98 th Percentile	0.026	0.025	0.026
	Annual	0.006	0.005	0.006

Source: CARB 2016c.

Pollutant	Averaging Time	Maximum Concentration (ppm or $\mu\text{g}/\text{m}^3$) ^a		
		2013	2014	2015

Notes:

ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; “—” = no data or insufficient annual coverage currently available.

(a) Gaseous pollutant (ozone, SO_2 , and NO_2) concentrations are shown in ppm and particulate (PM_{10} and $\text{PM}_{2.5}$) concentrations are shown in $\mu\text{g}/\text{m}^3$. The values provided may depict either “state” or “federal” maximum values depending on the AAQS that is applicable, or to provide complete data where otherwise missing the “state” or “federal” values.

1 The ambient air quality data indicate that in the three years of data shown, the local Project
 2 area had experienced exceedances of the State and federal ozone standards and the state
 3 PM_{10} standards, but experienced no exceedances of the federal PM_{10} , or federal or State
 4 $\text{PM}_{2.5}$ and NO_2 standards.

5 Toxic Air Contaminants

6 TACs are compounds that are known or suspected to cause adverse long-term (cancer and
 7 chronic) and/or short-term (acute) health effects. The Health and Safety Code defines a TAC
 8 as an air pollutant which may cause or contribute to an increase in mortality or serious
 9 illness, or which may pose a present or potential hazard to human health. Individual TACs
 10 vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a
 11 hazard that is many times greater than another’s. There are almost 200 compounds
 12 designated in California regulations as TACs (Cal. Code of Regs., tit. 17, §§ 93000-93001).
 13 The list of TACs also includes the substances defined in federal statute as hazardous air
 14 pollutants pursuant to Section 112(b) of the federal CAA (42 U.S. Code § 7412(b)). Some of
 15 the TACs are groups of compounds which contain many individual substances (e.g., copper
 16 compounds, polycyclic aromatic compounds). TACs are emitted from mobile sources,
 17 including diesel engines; industrial processes and stationary sources, such as dry cleaners,
 18 gasoline stations, paint and solvent operations, and stationary fossil fuel-burning
 19 combustion. Ambient TACs concentrations tend to be highest in urbanized and industrial
 20 areas near major TACs emissions sources or near major mobile TACs emissions sources,
 21 such as heavily traveled highways or major airports/seaports. Unlike for criteria pollutants,
 22 regular monitoring and reporting of all ambient TACs concentrations, such as DPM
 23 concentrations, is not performed in San Diego County. Generally, TACs do not have ambient
 24 air quality standards. The three TACs that do have State ambient air quality standards (lead,
 25 vinyl chloride, and hydrogen sulfide) are pollutants that are in attainment of the State
 26 standards in San Diego County and that are not relevant to the air pollutant emissions
 27 sources for this Project.

28 Valley Fever

29 Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of
 30 the most studied and oldest known fungal infections. Valley Fever varies with the season
 31 and most commonly affects people who live in hot dry areas with alkaline soil. This disease
 32 affects both humans and animals, and is caused by inhalation of arthroconidia (spores) of
 33 the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the
 34 existence of the fungus in most soil areas is temporary. The cocci fungus lives as a
 35 saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its
 36 nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and

1 moisture conditions are favorable, the fungus “blooms” and forms many tiny spores that lie
2 dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-
3 disturbing activities and become airborne. Agricultural workers, construction workers, and
4 other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an
5 elevated risk of contracting Valley Fever (California Department of Public Health [CDPH]
6 2013).

7 Most people exposed to the CI spores will not develop the disease. Of 100 persons who are
8 infected, approximately 40 will exhibit some symptoms and 2 to 4 will have the more
9 serious disseminated forms of the disease. After recovery, nearly all, including the
10 asymptomatic, develop a life-long immunity to the disease (Guevara 2014). African-
11 Americans, Asians, women in the 3rd trimester of pregnancy, and persons whose immunity
12 is compromised are most likely to develop the most severe form of the disease (Centers for
13 Disease Control [CDC] 2013). In addition to humans, a total of 70 different animal species
14 are known to be susceptible to Valley Fever infections, including dogs, cats, and horses; with
15 dogs being the most susceptible (Los Angeles County Public Health [LACPH] 2007).

16 The Project is located in an area designated as suspected endemic for Valley Fever by the
17 Center for Disease Control (CDC 2013). Annual case reports for 2000 through 2013 from the
18 California Department of Public Health indicate that San Diego County has reported incident
19 rates for Valley Fever that range from a rate of 1.8 to 4.8 cases per year per 100,000
20 population (CDPH 2011, 2015). These incidence rates for San Diego County have been
21 below the State average incidence rates and have been well below the worst-case annual
22 rates for other counties within the State during this period, which occurred within the San
23 Joaquin Valley, where there have been over 300 cases per 100,000 population in some
24 calendar years. Given the low incidence rate in San Diego County as a whole, and the fact
25 that the fugitive dust causing activities associated with the Project would occur in an area
26 that is not located near a large number of people (i.e., receptors), the potential for the
27 Project construction activities to encounter and disperse CI spores and create the potential
28 for additional Valley Fever infections is considered negligible.

29 ***Sensitive Receptors***

30 The impact of air pollutant emissions on sensitive members of the general population is a
31 special concern. Sensitive receptor groups include children and infants, pregnant women,
32 the elderly, and the acutely and chronically ill. According to County of San Diego CEQA
33 guidance (County of San Diego 2007b), sensitive receptor locations include schools, daycare
34 centers, retirement homes, hospitals, and residences.

35 Recreational land uses are considered moderately sensitive to air pollution. Although
36 exposure periods are generally short, exercise places a high demand on respiratory
37 functions, which can be impaired by air pollution. In addition, noticeable air pollution can
38 detract from the enjoyment of recreation. Residential areas can also be sensitive to air
39 pollution due to high exposure periods for individuals that do not leave their residences
40 often. Industrial and commercial areas are considered the least sensitive to air pollution.
41 Exposure periods are relatively short and intermittent, as the majority of the workers tend
42 to stay indoors most of the time. In addition, the working population is generally the
43 healthiest segment of the public.

1 A land use survey was conducted to identify sensitive receptors (e.g., schools, hospitals,
2 recreational facilities, local residences) in the general vicinity of the Proposed Project. The
3 Project area is generally surrounded by open space; there are no residences or other
4 properties located within a half mile of the site, and perhaps a dozen residences located
5 between one-half and one mile from the site. The closest known school and hospital are
6 located more than 5 and 15 miles from the project site, respectively. The project site is in an
7 area that would including hiking and cycling activity, but there no known fixed recreation
8 areas within a mile of the site.

9 **6.4 Impact Analysis**

10 **6.4.1 Methodology**

11 The assessment of environmental impacts and determination of necessary mitigation
12 measures has been completed based on an independent critical analysis of the information
13 provided by NextEra Energy Transmission West, LLC (NEET West) in the Proponent's
14 Environmental Assessment (PEA), including the air pollutant emissions calculations
15 provided in the PEA Appendix C (NEET West 2015) and later revised for the Two-Pole
16 Interconnection Configuration (SWCA 2016).

17 The air pollutant emissions estimate was completed using the approved California
18 Emissions Estimator Model (CalEEMod) based on assumptions regarding the equipment
19 and vehicle trips required for construction and operation. The review of the emissions
20 estimate, the assumptions associated with the efficacy of the Applicant proposed measures
21 (APM) to reduce air pollutant emissions, and the findings presented in the air quality
22 analysis provided in the PEA are discussed further in Section 6.3, "Environmental Impacts."

23 **6.4.2 Criteria for Determining Significance**

24 According to Appendix G of the State CEQA Guidelines and SDAPCD guidance, a significant
25 impact would occur with respect to air quality if the Proposed Project would:

- 26 A. Conflict with or obstruct implementation of the applicable air quality plan.
- 27 B. Violate any air quality standard established by USEPA or CARB, or contribute
28 substantially to an existing or projected air quality violation.
- 29 C. Result in a cumulatively considerable net increase of any criteria pollutant for which the
30 project region is non-attainment under an applicable federal or state ambient air quality
31 standard (including releasing emissions which exceed quantitative thresholds for ozone
32 precursors), in comparison to the relevant County of San Diego thresholds shown in
33 Table 6-5.
- 34 D. Expose sensitive receptors to substantial air pollutant concentrations.
- 35 E. Create objectionable odors affecting a substantial number of people.

1 County of San Diego Significance Thresholds

2 The County of San Diego has published CEQA guidelines that includes screening-level
3 thresholds (SLTs) for air quality impacts analysis (County of San Diego 2007b). The relevant
4 thresholds are provided in Table 6-5.

5 **Table 6-5. Screening-Level Thresholds for Air Quality Impact Analysis**

Pollutant	Total Emissions		
	Lbs. per Hour	Lbs. per Day	Tons per Year
Respirable particulate matter (PM ₁₀)	---	100	15
Fine particulate matter (PM _{2.5})	---	55	10
Oxides of Nitrogen (NO _x)	25	250	40
Oxides of Sulfur (SO _x)	25	250	40
Carbon monoxide (CO)	100	550	100
Volatile Organic Compounds (VOCs)	---	75	13.7

Source: County of San Diego 2007b.

6 The SLTs that are most relevant to the Proposed Project, which would be constructed in less
7 than a year, would be the hourly and daily thresholds for construction and the annual
8 thresholds for long-term operation.

9 6.4.3 Environmental Impacts

10 Impact AQ-1: Conflict with or Obstruct Implementation of Applicable Air 11 Quality Plan (Less than Significant)

12 The Proposed Project would be built and operated in compliance with all SDAPCD rules and
13 regulations developed to help implement the applicable air quality plans, and would also
14 comply with all applicable State and federal air quality regulations. The SDAPCD air quality
15 plans do not call for any additional future emission reduction regulations that would affect
16 the Project's emissions sources, which are primarily construction off-road equipment and
17 on-road vehicle emissions sources and operations and maintenance (O&M) on-road vehicle
18 sources that are not regulated by SDAPCD. The Proposed Project also would not conflict
19 with any County of San Diego General Plan air quality goals or policies. Additionally, the
20 Proposed Project would not cause or induce growth beyond the assumptions within the
21 applicable air quality plans or otherwise obstruct implementation of the applicable air
22 quality plans. Impacts would be less than significant.

1 **Impact AQ-2: Cause or Substantially Contribute to a Violation of Ambient**
 2 **Air Quality Standards (Less than Significant)**

3 The Proposed Project's construction air pollutant emissions would occur for a short period
 4 and would be well below the magnitude that would cause air quality standard violations or
 5 contribute substantially to existing or projected air quality standard violations that are
 6 measured in San Diego County. Additionally, operations emissions would be negligible.
 7 Therefore, impacts would be less than significant. Also, please see the emissions analysis
 8 provided below under Impact AQ-3.

9 **Impact AQ-3: Create Emissions During Construction that Exceed County of**
 10 **San Diego Significance Thresholds (Less than Significant with Mitigation**
 11 **Incorporated)**

12 The applicant's emissions estimate was reviewed and that review determined that in
 13 general the estimate uses reasonable assumptions. There are a few discovered issues that
 14 may overestimate emissions, such as a likely overestimation of use for off-road trucks, and a
 15 few discovered issues that could underestimate emissions, such as not assuming any
 16 unpaved road travel. However, the overall combined effect of these discovered issues would
 17 not affect the findings presented below. The applicant's unmitigated construction emissions
 18 estimate, correcting for a construction start date in spring of 2017, is provided in Table 6-6.

19 **Table 6-6. Unmitigated Construction Emissions**

	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions (lbs/day) ^a	22.2	130.5	246.2	0.36	16.7	10.1
Significance Thresholds	75	550	250	250	100	55
Significant?	No	No	No	No	No	No
Annual Emissions (tons/year) ^{a,b}	1.4	8.6	15.6	0.02	1.0	0.7
Significance Thresholds	13.7	100	40	40	15	10
Significant?	No	No	No	No	No	No

Source: SWCA 2016 (as revised in Appendix D); County of San Diego 2007b.

Notes:

(a) Does not assume implementation of APM AIR-4.

(b) Assumes the worst case that the 10.5-month project construction schedule is completed in one calendar year.

20 The uncontrolled emissions estimate shown above in Table 6-6 assumes the application of
 21 APMs AIR-1 and AIR-2, but not APMs AIR-3 and AIR-4 (see Chapter 2, *Project Description*).

22 The State of California has regulations restricting idling time for off-road equipment and on-
 23 road vehicles. Therefore, APM AIR-3 is both unnecessary and would not provide additional
 24 emissions control. The control factor assigned to this measure in the PEA, 10 percent
 25 reduction of tailpipe emissions, is not considered valid due to these regulations being in
 26 place, and more importantly due to the fact that CalEEMod emissions estimate would not

1 assume excessive idling times for either off-road equipment or on-road vehicles that would
2 allow this measure to affect the emissions estimate.

3 APM AIR-4 is only minimally effective at controlling off-road equipment emissions, because
4 specifying an off-road equipment fleet with Tier 2 engines in off-road equipment operating
5 in 2017 or 2018 is essentially the same thing as specifying an uncontrolled fleet average.
6 Therefore, given the issues with both of the APMs used to reduce construction equipment
7 tailpipe emissions, the applicant's mitigated emissions estimate is not considered valid and
8 has not been presented.

9 While the uncontrolled NO_x emissions were determined to be marginally below the daily
10 emissions significance threshold, changes in the project's work task schedule, equipment
11 size, or equipment engine tier level assumption could cause emissions to exceed this
12 threshold. Therefore, in order to ensure that the daily NO_x emissions would be below the
13 County of San Diego emissions significance threshold and have a margin of safety, which
14 would allow for additional task overlap and construction schedule compression, it is
15 considered prudent to increase the off-road equipment mitigation to require USEPA/CARB
16 Tier 3 or better compliant engines. Tier 3 engines have been required for new
17 equipment/engines since 2006 to 2008, so this additional level of mitigation is not a
18 burdensome requirement. **Mitigation Measure AQ-1 (Off-Road Equipment Control)** is
19 proposed to address this mitigation recommendation. The mitigated construction emissions
20 estimate, which is provided in Appendix E, *Air Quality and Greenhouse Gas Emissions*
21 *Calculations*, is provided in Table 6-7.

22 **Table 6-7. Mitigated Construction Emissions**

	VOC	CO ^a	NO _x	SO _x	PM10	PM2.5
Maximum Daily Emissions (lbs/day)	8.2	173.4	154.8	0.36	9.4	7.0
Significance Thresholds	75	550	250	250	100	55
Significant?	No	No	No	No	No	No
Annual Emissions (tons/year) ^b	0.5	10.9	9.6	0.02	0.7	0.5
Significance Thresholds	13.7	100	40	40	15	10
Significant?	No	No	No	No	No	No

Source: Appendix D; County of San Diego, 2007b.

Notes:

(a) CalEEMod has a discontinuity regarding controlled CO emissions, which due to the fact that the off-road equipment database (CARB's OFFROAD database) no longer provides CO emissions estimates, can show higher controlled CO emissions than uncontrolled CO emissions.

(b) Assumes the worst case that the 10.5-month project construction schedule is completed in one calendar year.

23 Comparing Table 6-7 with Table 6-6 shows a sizable reduction in the estimated maximum
24 daily NO_x emissions, along with sizable reductions in estimated VOC and exhaust PM
25 emissions. After implementation of Mitigation Measure AQ-1 the project's emission would
26 be well below all County of San Diego emissions significance thresholds and impacts would
27 be less than significant.

Mitigation Measure AQ-1: Off-Road Equipment Control.

NEET West or their contractor(s) shall implement the following measure:

- All off-road equipment engines that are 50 horsepower or greater shall meet or exceed USEPA/ CARB Tier 3 emissions standards.
- Exceptions to the Tier 3 requirement shall be allowed for specialty equipment that will be used for no more than 5 days; provided that a due diligence search, which includes at least three (3) appropriate equipment rental firms could not procure the necessary equipment type with a Tier 3 compliant or better engine.

Impact AQ-4: Create Emissions During Operation that Exceed County of San Diego Significance Thresholds (Less than Significant)

The applicant’s emissions estimate was reviewed and that review determined that in general, the estimate uses reasonable assumptions for the project’s very limited daily operating emissions. The emissions estimate likely overestimates the annual emissions where maintenance events would be intermittent in nature, while it conservatively assumes them to be daily year-round. The project would not have any stationary emissions sources and the station would not be manned. The applicant’s unmitigated construction emissions estimate is provided in Table 6-8.

Table 6-8. Unmitigated Operation Emissions

	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions (lbs/day)	2.85	3.55	1.01	0.01	0.59	0.18
Significance Thresholds	75	550	250	250	100	55
Significant?	No	No	No	No	No	No
Annual Emissions (tons/year)	0.52	0.63	0.18	0.00	0.10	0.03
Significance Thresholds	13.7	100	40	40	15	10
Significant?	No	No	No	No	No	No

Source: NEET West 2015; County of San Diego 2007b.

The uncontrolled emissions estimate shown in Table 6-8 demonstrates that the project’s operating emissions are well below County of San Diego emissions significance thresholds. Therefore, Project operation emissions would be less than significant.

Impact AQ-5: Expose Sensitive Receptors to Substantial Pollutant Concentrations (Less than Significant)

Due to the limited construction duration, the limited construction emissions, and the sparsely populated area surrounding the project site, there is very low potential for fugitive dust or DPM to impact sensitive receptors during construction. The total Project construction DPM emissions are not of a magnitude and duration that could create

1 significant air toxic risks to the nearest receptors, and implementation of Mitigation
2 Measure AQ-1 would also provide a substantial reduction in the DPM emissions that occur
3 on the project site during construction. Compliance with the SDAPCD rules and regulations
4 and implementation of the applicant APMs would reduce the fugitive dust emissions during
5 Project construction and associated impacts to sensitive receptors. The Proposed Project's
6 operating emissions would be negligible and would not have the potential to impact
7 sensitive receptors. Therefore, the Project's construction and operation air pollutant
8 emissions would not expose sensitive receptors to substantial pollutant concentrations and
9 would result in a less-than-significant impact.

10 **Impact AQ-6: Create Objectionable Odors that Could Affect a Substantial**
11 **Number of People (Less than Significant)**

12 Some objectionable odors may be temporarily created during construction-related
13 activities, such as from diesel exhaust and asphalt paving activities. However, these odors
14 would dissipate quickly, would only occur proximate to the work areas for a short time, and
15 would not affect a substantial number of people in the sparsely populated project site area.
16 Therefore, any impacts from objectionable odors would be less than significant.