

1 **4.3 Air Quality**
2

3 This section describes the environmental and regulatory settings and discusses impacts associated with
4 construction and operation of the proposed Valley-Ivyglen 115-kilovolt (kV) Subtransmission Line
5 Project (proposed Valley-Ivyglen Project) and the proposed Alberhill System Project (proposed Alberhill
6 Project) with respect to air quality. Comments received during scoping of the proposed Valley-Ivyglen
7 and Alberhill Projects expressed concern about impacts from air pollutants and fugitive dust. In addition,
8 the South Coast Air Quality Management District (SCAQMD) submitted written comments during
9 scoping of the proposed projects. The SCAQMD requested that an air quality analysis be completed in
10 accordance with SCAQMD guidelines and that SCAQMD documentation be consulted if mitigation is
11 required to avoid or reduce impacts on air quality. During previous scoping periods of the proposed
12 Valley-Ivyglen Project, comments about cumulative effects of dust from construction and local wood
13 recycling were received. These comments informed the analysis presented in this section.

14 **4.3.1 Environmental Setting**
15

16 **4.3.1.1 Climate**
17

18 Air quality is dependent on the quantities of air pollutants emitted from human-made and natural sources,
19 as well as surface topographic conditions. California is divided into 15 air basins that group counties or
20 portions of counties with similar geographic and/or meteorological features. The Valley-Ivyglen Project
21 and Alberhill Project activities would occur in rural and low-density residential areas of the Cities of Lake
22 Elsinore, Perris, Wildomar, and Menifee and in unincorporated western Riverside County, which are in
23 the eastern portion of the South Coast Air Basin (SCAB).
24

25 The topography and climate of Southern California result in a high potential for air pollution in the
26 SCAB. During the summer months, it is common for a warm air mass to descend over the cool, moist
27 marine layer. The warm upper layer caps the marine layer and prevents pollutants from dispersing
28 upward. Light winds during the summer can exacerbate the effect. Furthermore, sunlight causes
29 photochemical reactions, which result in ozone and the majority of particulate matter (PM)(SCAQMD
30 2013).
31

32 The SCAB has an arid climate and receives abundant sunshine and little rainfall, with temperatures
33 ranging from around 30 degrees Fahrenheit (°F) in the winter to over 100°F during the summer. Average
34 annual rainfall within the SCAB is less than 1 inch. The basin can experience temperature inversions—
35 increasing temperature with increasing altitude—and light winds, which together limit the vertical
36 dispersion of air contaminants (SCAQMD 2007). Most of the precipitation within and near the Lake
37 Elsinore area occurs intermittently between November and April. Additionally, cyclic land and sea
38 breezes are the primary factors affecting the region’s mild climate (City of Lake Elsinore 2011).
39

40 Locally, coastal winds within the Lake Elsinore Convergence Zone obstruct much of the inland basin air
41 pollutants from continuing south and dispersing beyond Lake Elsinore. This effect allows air pollutants to
42 accumulate within the Lake Elsinore area and surrounding communities to the north and east (City of
43 Lake Elsinore 2011).
44

45 **4.3.1.2 Criteria Air Pollutants**
46

47 The Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to set
48 National Ambient Air Quality Standards (NAAQS) for widespread pollutants that come from numerous
49 and diverse sources and are considered harmful to public health and the environment. The CAA

1 established primary and secondary NAAQS. Primary standards set limits to protect public health,
2 including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary
3 standards set limits to protect public welfare, including protection against visual impairment and damage
4 to animals, crops, vegetation, and buildings. The CAA requires periodic review of the science upon which
5 the standards are based and the standards themselves. The EPA has set NAAQS for seven principal
6 pollutants, which are called “criteria” pollutants:

- 8 • Ozone (O₃);
- 9 • Carbon monoxide (CO);
- 10 • Nitrogen dioxide (NO₂);
- 11 • Sulfur dioxide (SO₂);
- 12 • PM less than or equal to 10 microns in diameter (PM₁₀);
- 13 • PM less than or equal to 2.5 microns in diameter (PM_{2.5}); and
- 14 • Lead (Pb).

15
16 Ozone is not emitted directly from emission sources but is created near ground level by a chemical
17 reaction between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) in the presence of
18 sunlight. As a result, NO_x and VOCs are often referred to as ozone precursors and are regulated as a
19 means to prevent ground-level ozone formation. California has established California Ambient Air
20 Quality Standards (CAAQS) for the criteria pollutants above as well as for sulfates, hydrogen sulfide
21 (H₂S), vinyl chloride, and visibility-reducing particles. NAAQS and CAAQS, as well as a summary of the
22 associated health and welfare effects, are summarized in Table 4.3-1.
23

Table 4.3-1 Primary Federal and State Ambient Air Quality Standards and Associated Health Effects

Air Pollutant	Federal Standard (NAAQS) ^(1,2)	State Standard (CAAQS) ⁽³⁾	Relevant Health and Welfare Effects
	Concentration, Averaging Time	Concentration, Averaging Time	
Ozone (O ₃)	0.075 ppm, 8-hour	0.09 ppm, 1-hour 0.070 ppm, 8-hour	<ul style="list-style-type: none"> • Pulmonary function decrements and localized lung edema in humans and animals • Risk to public health implied by alterations in pulmonary morphology and host defense in animals • Increased mortality risk • Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans • Vegetation damage • Property damage
Carbon Monoxide (CO)	35 ppm, 1-hour 9 ppm, 8-hour	20 ppm, 1-hour 9.0 ppm, 8-hour	<ul style="list-style-type: none"> • Aggravation of angina pectoris and other aspects of coronary heart disease • Decreased exercise tolerance in persons with peripheral vascular disease and lung disease • Impairment of central nervous system functions • Possible increased risk to fetuses

Table 4.3-1 Primary Federal and State Ambient Air Quality Standards and Associated Health Effects

Air Pollutant	Federal Standard (NAAQS) ^(1,2)	State Standard (CAAQS) ⁽³⁾	Relevant Health and Welfare Effects
	Concentration, Averaging Time	Concentration, Averaging Time	
Nitrogen Dioxide (NO ₂) ⁽⁵⁾	100 ppb, 1-hour 0.053 ppm, Annual	0.18 ppm, 1-hour 0.030 ppm, Annual	<ul style="list-style-type: none"> • Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups • Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes • Contribution to atmospheric discoloration
Sulfur Dioxide (SO ₂) ⁽⁶⁾	75 ppb, 1-hour	0.25 ppm, 1-hour 0.04 ppm, 24-hour	<ul style="list-style-type: none"> • Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM ₁₀)	150 µg/m ³ , 24-hour	50 µg/m ³ , 24-hour 20 µg/m ³ , Annual	<ul style="list-style-type: none"> • Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease • Declines in pulmonary function growth in children • Increased risk of premature death
Suspended Particulate Matter (PM _{2.5}) ⁽⁴⁾	35 µg/m ³ , 24-hour 15 µg/m ³ , Annual	12 µg/m ³ , Annual	
Lead (Pb) ⁽⁸⁾	0.15 µg/m ³ , 3-month rolling	1.5 µg/m ³ , 30-day	<ul style="list-style-type: none"> • Learning disabilities • Impairment of blood formation and nerve conduction
Sulfates-PM ₁₀ (SO ₄ ²⁻)	N/A	25 µg/m ³ , 24-hour	<ul style="list-style-type: none"> • Decrease in lung function • Aggravation of asthmatic symptoms • Aggravation of cardio-pulmonary disease • Vegetation damage • Degradation of visibility • Property damage
Visibility-Reducing Particles ⁽⁹⁾	N/A	0.23 inverse kilometers at less than 70 percent relative humidity, 8-hour average (10 am–6 pm).	<ul style="list-style-type: none"> • Visibility impairment on days when relative humidity is less than 70 percent
Hydrogen Sulfide	N/A	0.03 ppm, 1-hour	<ul style="list-style-type: none"> • Respiratory, ocular, neurological, cardiovascular, metabolic, and reproductive effects.
Vinyl Chloride ⁽⁷⁾	N/A	0.01, 24-hour	<ul style="list-style-type: none"> • Potent carcinogen

Sources: SCAQMD 2013; CARB 2015; World Health Organization 2003; EPA 2015a

Notes:

- (1) Primary National Standards: the levels of air quality necessary, with an adequate margin of safety to protect the public health.
- (2) National standards (other than ozone, particle matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year.
 - The ozone NAAQS is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal or less than the standard.
 - For PM₁₀, the 24-hour NAAQS is attained when the expected number of days per calendar year with a 24-hour average concentration exceeding 150 µg/m³ is equal or less than one.
 - For PM_{2.5}, the 24-hour NAAQS is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
- (3) California standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles) are values not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed on Title 17 of the California Code of Regulations, Section 70200.
- (4) On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12 µg/m³. The form of the annual standards is the annual mean, averaged over 3 years.
- (5) To attain the 1-hour NO₂ primary standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour NAAQS is in parts per billion (ppb), while the CAAQS are in parts per million (ppm). To directly compare the NO₂ 1-hour NAAQS to the CAAQS, the units can be converted from ppb to ppm. In this case, the

Table 4.3-1 Primary Federal and State Ambient Air Quality Standards and Associated Health Effects

Air Pollutant	Federal Standard (NAAQS) ^(1,2)	State Standard (CAAQS) ⁽³⁾	Relevant Health and Welfare Effects
	Concentration, Averaging Time	Concentration, Averaging Time	

NAAQS of 100 ppb is identical to 0.100 ppm.

- (6) On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards for SO₂ were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. Note that the SO₂ 1-hour NAAQS is in parts per billion (ppb) while the CAAQS are in parts per million (ppm). To directly compare the SO₂ 1-hour NAAQS to the CAAQS, the units can be converted from ppb to ppm. In this case, the NAAQS of 75 ppb is identical to 0.075 ppm.
- (7) CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold of exposure for adverse health effects determines. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant.
- (8) The NAAQS for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated nonattainment for the 1978 standard. The 1978 standard for lead remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- (9) In 1989, CARB converted the general statewide 10-mile visibility standard to instrumental equivalent, which is "extinction of 0.23 per kilometer."

Key:

- CAAQS California Ambient Air Quality Standard;
- CARB California Air Resources Board
- N/A Not Applicable
- NAAQS National Ambient Air Quality Standard;
- ppm parts per million (by volume);
- ppb parts per billion (by volume);
- µg/m³ micrograms per meter cube

4.3.1.3 Ambient Air Quality in the Proposed Projects Area

The SCAQMD operates several monitoring stations within the SCAB to monitor concentrations of criteria air pollutants. The closest air quality monitoring stations within or near to the proposed projects areas are located in Lake Elsinore and Perris Valley. In addition, the Metropolitan Riverside County Station No. 1 is located approximately 15 miles from the proposed Alberhill Substation. On-road motor vehicles traveling along Interstate 15 (I-15) and other arterials and major roadways are a significant local source of air criteria pollutant emissions within the area of the proposed projects. Additionally, stationary sources, such as aggregate mining facilities and commercial automobile services, located in the proposed region also contribute to the impacts on local air quality.

Table 4.3-2 shows maximum concentration data of criteria air pollutants reported from these monitoring stations in the proposed projects area during the period of 2009 to 2013. As shown in Table 4.3-2, the project area has reported maximum concentration levels above the NAAQS for ozone and PM_{2.5}, and exceeds the CAAQS for ozone, PM₁₀ and PM_{2.5}.

The EPA compares ambient air criteria pollutant measurements with NAAQS to assess the status of air quality with respect to criteria air pollutants. Similarly, the California Air Resources Board (CARB) compares air pollutant measurements in California to CAAQS. Based on these comparisons, regions within the states of the United States and California are designated as one of the following categories:

- **Attainment:** A region is designated as in attainment if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. Attainment areas that have been recently re-designated from nonattainment due to improved air quality are also classified as a "maintenance area" for a 10-year period to ensure that the air quality improvements are maintained.

Table 4.3-2 Local Ambient Air Quality Monitoring Data

Pollutant (unit)	Averaging Period	Monitoring Location	Maximum Concentration Reported					Applicable NAAQS	Federal Designation	Applicable CAAQS	State Designation
			2009	2010	2011	2012	2013				
Ozone (ppm)	1-hour	Lake Elsinore	0.128	0.107	0.133	0.111	0.102	--	N/A	0.09 ppm	Nonattainment
		Perris Valley	0.125	0.122	0.125	0.111	0.108				
	8-hour	Lake Elsinore	0.105	0.091	0.106	0.089	0.089	0.075 ppm	Nonattainment (Extreme)	0.070 ppm	
		Perris Valley	0.108	0.107	0.094	0.093	0.090				
CO (ppm)	8-hour	Lake Elsinore	0.7	0.6	0.7	0.7	0.6	9.0 ppm	Maintenance	9.0 ppm	Attainment
NO ₂ (ppb)	1-hour	Lake Elsinore	60	51.2	50.3	48.3	46.6	100 ppb	Unclassified/Attainment	180 ppb	Attainment
	Annual	Lake Elsinore	12.9	10.1	9.6	10.2	8.4	53 ppb		30 ppb	
SO ₂ (ppb)	1-hour	Metropolitan Riverside 1	10	17.6	51.3	4.3	8.1	75 ppb	Attainment	250 ppb	Attainment
PM ₁₀ (µg/m ³)	24-hour	Perris Valley	80	51	65	62	70	150 µg/m ³	Maintenance	50 µg/m ³	Nonattainment
		Metropolitan Riverside 1	77	75	82	67	135				
	Annual	Perris Valley	34.8	28.0	29.2	26.5	33.6	---	N/A	20 µg/m ³	
		Metropolitan Riverside 1	42.5	32.8	33.7	34.5	33.8				
PM _{2.5} (µg/m ³)	24-hour	Metropolitan Riverside 1	54.5	46.5	60.8	38.1	60.3	35 µg/m ³	Nonattainment (Moderate)	---	Nonattainment
	Annual	Metropolitan Riverside 1	15.3	13.2	13.6	13.5	12.5	12.0 µg/m ³		12.0 µg/m ³	
Lead (µg/m ³)	30-day	Metropolitan Riverside 1	0.01	0.01	0.007	0.008	0.01	---	N/A	1.5 µg/m ³	Attainment
	3-month rolling	Metropolitan Riverside 1	0.01	0.01	0.007	0.007	0.009	1.5 µg/m ³	Unclassified/Attainment	---	
Sulfates (µg/m ³)	24-hour	Metropolitan Riverside 1	7.3	6.7	5.1	7.7	4.2	---	N/A	25 µg/m ³	Attainment

Source: SCAQMD 2015a; CARB 2013; EPA 2015b, 2011.

Key:

CO carbon monoxide
N/A not applicable
NO₂ nitrogen dioxide
Ppb parts per billion

ppm parts per million
PM₁₀ particulate matter with diameters less than or equal to 10 microns
PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns
SO₂ sulfur dioxide
µg/m³ micrograms per cubic meter

- 1 • **Nonattainment:** If the NAAQS or CAAQS is exceeded for a pollutant, then the region is
2 designated as in nonattainment for that pollutant. Nonattainment areas are further classified based
3 on the severity of the exceedance of the relevant standard.
- 4 • **Unclassified:** An area is designated as unclassified if the ambient air monitoring data are
5 incomplete and do not support a designation of attainment or nonattainment.
6

7 With respect to the NAAQS and CAAQS, the portions of Riverside County where the proposed projects
8 would be located are currently designated as nonattainment for ozone, PM₁₀, and PM_{2.5}. This portion of
9 Riverside County is either designated as unclassified or attainment with respect for all other NAAQS and
10 CAAQS pollutants (CARB 2013; EPA 2015). The attainment status for the proposed project area is also
11 summarized in Table 4.3-2. The area is unclassified for attainment of CAAQS for H₂S and visibility
12 reducing particles.
13

14 **Toxic Air Contaminants**

15 Toxic air contaminants (TACs) are air pollutants suspected or known to cause cancer, birth defects,
16 neurological damage, or death. Except for lead, there are no established ambient air quality standards for
17 TACs. Instead, these compounds are managed on a case-by-case basis, depending on the quantity and type
18 of emissions and proximity of potential receptors. Statewide and local programs identify industrial and
19 commercial emitters of TACs and require reduction in these emissions. Federal programs also require the
20 control of certain categories of TACs.
21

22 Diesel engines emit a complex mix of pollutants, the most visible of which are very small carbon particles,
23 or “soot,” known as diesel PM. Diesel exhaust also contains numerous cancer-causing substances, most of
24 which are readily adsorbed by soot particles. In 1998, California identified diesel PM as a TAC based on its
25 potential to cause cancer, premature death, and other health problems. Subsequent to this determination,
26 SCAQMD conducted a comprehensive urban toxic air pollution study, called MATES-II. This study
27 showed that average regional cancer risk is about 1,400 in a million, and diesel PM accounts for more than
28 70 percent of the cancer risk (SCAQMD 2003).
29

30 **Sensitive Receptors**

31 SCAQMD defines a sensitive receptor as “a person in the population who is particularly susceptible to
32 health effects due to exposure to an air contaminant.” Sensitive receptors are usually found in the following
33 places (SCAQMD 2005):
34

- Schools
- Playgrounds
- Childcare centers
- Long-term health care facilities
- Residences
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes

35 Several residences are located within a 1,640-foot radius of the proposed Alberhill Substation site and 500-
36 kV transmission lines, while a larger number of residences have been identified along the 115-kV segments
37 for the proposed projects. For the proposed Alberhill Project, if the applicant selects Import Soil Option 1,
38 nine residential receptors would be located within a 1,640-foot radius of the proposed 5.2-acre Import Soil
39 Source Area.¹ In contrast, the Import Soil Option 2 would involve the use of a truck haul route that

¹ A 500-meter radius (1,640 feet) has been established by SCAQMD as the maximum distance for evaluating impacts under the localized significance threshold methodology for TAC impacts.

1 circulates in the proximity of existing residential communities located along Lake Street, Temescal Canyon
2 Road, I-15, and Magnolia Avenue, especially at three intersections within the City of Corona (El Camino
3 Avenue, Downs Way, and Sherborn Street).² Additionally, six schools and a medical urgent care facility are
4 located within 1,640 feet of the proposed 115-kV subtransmission line routes. For the analysis of localized
5 air quality impacts, the applicant has also considered an additional receptor, a commercial facility located
6 within 1,000 feet of proposed substation site.
7

8 **4.3.2 Regulatory Setting**

9 **4.3.2.1 Federal**

10 ***Clean Air Act***

11
12
13 Under the CAA, the EPA regulates air pollution from stationary and mobile sources, establishes NAAQS,
14 and revises the plans and regulations developed by state and local agencies to meet NAAQS. Through the
15 CAA, the EPA also implements on-road and off-road engine emission reduction programs that periodically
16 phase in engine efficiency requirements and/or ancillary engine or exhaust equipment that results in cleaner
17 emissions from on- and off-road equipment. The EPA also oversees the implementation of federal programs
18 for permitting new and modified stationary sources and for controlling toxic air contaminants. States are
19 required to submit a state implementation plan (SIP) to the EPA for areas in nonattainment for NAAQS.
20 The SIP, which is reviewed and approved by the EPA, must demonstrate how state and local regulatory
21 agencies will institute rules, regulations and/or other programs to achieve attainment with NAAQS.
22

23 **4.3.2.2 State**

24 ***California Clean Air Act***

25
26 The California Clean Air Act (CCAA) outlines a statewide air pollution control program in California.
27 CARB is the primary administrator of the CCAA, while local air quality districts administer air rules and
28 regulations at the regional level. CARB is responsible for establishing CAAQS, maintaining oversight
29 authority in air quality planning, developing programs for reducing emissions from motor vehicles,
30 regulating emissions from consumer products, developing air emission inventories, collecting air quality
31 and meteorological data, and preparing the SIP. CARB uses air quality management plans prepared by local
32 air quality districts as the basis of SIP development. CARB has adopted regulations to reduce the emissions
33 from diesel exhaust for on-road vehicles and off-road equipment.
34

35 Through the CCAA, CARB administers the Off-Road Mobile Sources Emission Reduction Program to
36 reduce emissions from off-road equipment. The Off-Road Mobile Sources Emissions Reduction Program
37 establishes tiered standards for compression-ignition engines used in off-road diesel equipment throughout
38 California. CARB also implements control measures to reduce diesel PM emissions as well as NO_x from
39 in-use (existing) off-road sources. Tier 1 standards went into effect in California in 1996, and they required
40 unregulated construction equipment of model year 2000 and later to achieve NO_x, VOC, CO, and PM₁₀
41 exhaust standards. For later model years Tier 2 (2003 and later) and Tier 3 (2007 and later), the standards
42 are increasingly stringent. Owners and operators of in-use (existing) off-road diesel equipment and vehicles
43 would need to report and meet fleet emissions targets in 2010. CARB also administers the Portable
44 Equipment Registration Program, a program that evaluates portable equipment and provides a registry for
45 qualifying equipment to be exempt from obtaining separate air quality permits to operate within each
46 individual air basin.
47

² Based on Linscott, Law & Greenspan 2012 (Appendix J).

1 ***Sulfur Content in Fuel***

2 Pursuant to Title 13, section 2281 of the California Code of California Regulations (CCR), the sulfur
3 content of vehicular diesel fuel sold or supplied in California must not exceed 15 parts per million by
4 weight. As stipulated in 17 CCR 93114, non-vehicular diesel fuel is subject to the sulfur limits specified in
5 Title 13, section 2281 of the CCR.

6
7 **4.3.2.3 Regional and Local**

8
9 ***South Coast Air Quality Management District***

10 Local air districts in California are responsible for issuing stationary source air permits, developing
11 emissions inventories, and maintaining air quality monitoring stations. The CCAA designates air districts as
12 lead air quality planning agencies, requires them to prepare air quality plans, and grants them authority to
13 implement transportation control measures.

14
15 The SCAQMD is the administrator of air pollution rules and regulations within the SCAB. The SCAQMD
16 is responsible for implementing measures and local air pollution rules that ensure NAAQS and CAAQS are
17 achieved and maintained. Every three years, the SCAQMD prepares an air quality management plan
18 (AQMP) for air quality improvement to be submitted for inclusion in the California SIP. The AQMP
19 analyzes air quality at a regional level and identifies region-wide attenuation methods and policies to
20 achieve attainment levels with respect to air quality standards. Each successive iteration of the AQMP is an
21 update of the previous plan.

22
23 ***Air Quality Management Plan***

24 The SCAQMD and the Southern California Association of Governments (SCAG) develop regional air
25 quality plans for the SCAB to ensure attainment of national and state ambient air quality standards. The
26 Final 2012 AQMP was adopted by the AQMD Governing Board on December 7, 2012. The plan outlines
27 policies and practices intended to achieve attainment levels for the federal 24-hour PM_{2.5} standard and the
28 federal 8-hour ozone standard (SCAQMD 2013). Mobile sources are identified as the chief source of NO_x,
29 an ozone precursor. Measures in the plan to reduce mobile source emissions are not relevant to the proposed
30 projects but instead are used in a more general way to inform the SCAQMD's incentive programs for, e.g.,
31 repowering old equipment with lower-emitting engines. The AQMP also contains regional transportation
32 control measures such as reduction in NO_x emissions from cargo handling equipment and locomotives.
33 PM_{2.5} short-term control measures are not related to activities associated with the proposed projects, but do
34 include measures such as reducing emissions from residential wood burning, open burning, and ports.

35
36 The following measures from the AQMP are relevant to the proposed projects:

- 37
38
- 39 • **CTS-01 – Further VOC Reductions from Architectural Coatings:** This measure would regulate
40 VOC emissions from architectural coatings by, among other things, removing an exemption related
41 to coatings that come in small containers and by requiring the use of application techniques that
42 have a higher transfer efficiency. SCAQMD Rule 1113 regulates this area; compliance with CTS-
01 would occur through amending Rule 1113.

 - 43 • **CTS-02 – Further VOC Reductions from Miscellaneous Coatings, Adhesives, Solvents, and**
44 **Lubricants:** This measure would regulate VOC emissions from coatings, adhesives, solvents, and
45 lubricants. SCAQMD Rule 1144 regulates VOCs in metalworking fluids and direct-contact
46 lubricants; Rule 1168 regulates VOCs in adhesive and sealant applications; Rule 1171 regulates
47 VOCs used in solvent cleaning operations. Compliance with CTS-02 would occur through
48 amending the SCAQMD rules.

- **FUG-01 – VOC Reductions form Vacuum Trucks:** This measure seeks to reduce emissions from vacuum trucks (which are often used to transport gasoline). The only current regulation of vacuum truck emissions is related to use of vacuum trucks for tank and pipeline degassing control devices. Compliance would occur through establishing a new rule or regulation related to use of control technology.

Rule 403: Fugitive Dust Regulations

Rule 403 prohibits construction activities from generating visible dust in the atmosphere beyond the property line of the emission source. This rule also requires construction activities to use the best available control measures to minimize fugitive dust emissions from each source type within the active operation. The purpose of Rule 403 is to reduce the amount of PM in the ambient air as a result of man-made sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Fugitive dust emissions result from a variety of construction activities, including backfilling, clearing, demolition, earth-moving, stockpiling, landscaping, and vehicle traffic. The range of applicable best available control measures includes the use of water, chemical stabilizers, or covers for disturbed areas and materials transported off site, as well as limits to traffic speeds on unpaved roads.

Riverside County

The Air Quality Element of the Riverside County General Plan includes policies and programs focused on the two main sources of air pollutant emissions in the County: motor vehicles and stationary sources (e.g., electrical power-generating facilities, manufacturing, fabrication, miscellaneous industrial processes, and combustion of natural gas). The General Plan includes a number of policies applicable to the proposed project that address impacts on sensitive receptors, mobile pollution sources, and stationary pollution sources relevant to the proposed projects, such as (County of Riverside 2014):

- **Policy AQ 3.4:** *Encourage employee rideshare and transit incentives for employers with more than 25 employees at a single location.*
- **Policy AQ 4.7:** *To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD [Mojave Desert Air Quality Management District], SOCAB [South Coast Air Basin], the Environmental Protection Agency and the California Air Resources Board.*
- **Policy AQ 4.9:** *Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.*
- **Policy AQ 17.1:** *Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles to the extent possible.*

City of Lake Elsinore

The City of Lake Elsinore General Plan establishes the following air quality goals that are relevant to the proposed projects (City of Lake Elsinore 2011):

- **Goal 1:** *Continue to coordinate with the Air Quality Management District and the City's Building Department to reduce the amount of fugitive dust that is emitted into the atmosphere from unpaved areas, parking lots, and construction sites.*
- **Goal 2:** *Work with regional and state governments to develop effective mitigation measures to improve air quality.*

1 **City of Menifee**

2 The City of Menifee General Plan Open Space and Conservation Element includes the following goals and
3 policies that are relevant to the proposed project (City of Menifee 2013):
4

- 5 • *Goal OSC-9: Reduced impacts to air quality at the local level by minimizing pollution and*
6 *particulate matter.*
- 7 • *Policy OCS-9.1: Meet state and federal clean air standards by minimizing particulate matter*
8 *emissions from construction activities.*
- 9 • *Policy OCS-9.2: Buffer sensitive land uses, such as residences, schools, care facilities, and*
10 *recreation areas from major air pollutant emission sources, including freeways, manufacturing,*
11 *hazardous materials storage, wastewater treatment, and similar uses.*
- 12 • *Policy OCS-9.3: Comply with regional, state, and federal standards and programs for control of all*
13 *airborne pollutants and noxious odors, regardless of source.*
14

15 **City of Wildomar**

16 At the time of preparation of this document, the City of Wildomar had not adopted a general plan.
17 Wildomar was incorporated in 2008 and adopted all County of Riverside ordinances at that time. County
18 ordinances remain in effect until the city enacts ordinances to supersede them; the City of Wildomar has
19 adopted a zoning ordinance. Policies listed above under the Riverside County General Plan as applicable to
20 the proposed Alberhill Project also apply to the project components located in the City of Wildomar. No
21 components of the Valley-Ivyglen Project would be located in Wildomar.
22

23 **City of Orange**

24 The applicant would install a new microwave dish antenna on an existing tower at the applicant's Serrano
25 Substation in the City of Orange. The following policy in the City's General Plan is relevant to the proposed
26 project (City of Orange 2010):
27

- 28 • *Policy 2.1: Cooperate with the South Coast Air Quality Management District and other regional*
29 *agencies to implement and enforce regional air quality management plans.*
30

31 **4.3.3 Methodology and Significance Criteria**

32
33 Impacts pertaining to air quality were evaluated according to significance criteria presented in Appendix G
34 of the California Environmental Quality Act (CEQA) Guidelines. For the purposes of this document, the
35 proposed projects would cause a significant impact if they would:
36

- 37 a) Conflict with or obstruct implementation of the applicable air quality plan;
- 38 b) Violate any air quality standard or contribute substantially to an existing or projected air quality
39 violation;
- 40 c) Result in cumulatively considerable net increase of any criteria pollutant for which the project
41 region is nonattainment under an applicable federal or state ambient air quality standard (including
42 releasing emissions that exceed quantitative thresholds for ozone precursors);
- 43 d) Expose sensitive receptors to substantial pollutant concentrations; or
- 44 e) Create objectionable odors affecting a substantial number of people.
45

1 **4.3.4 Environmental Impacts and Mitigation Measures (Valley-Ivyglen Project)**

2
3 **4.3.4.1 Project Commitments (Valley-Ivyglen Project)**

4
5 The applicant has committed to implementing the following project commitment as part of the design of the
6 proposed Valley-Ivyglen Project.

- 7
8 • **Project Commitment J: Air Emissions Controls.** The applicant would implement the following
9 fugitive dust control measures for the Valley-Ivyglen Subtransmission Project:
- 10 - Water three times per day or as needed during excavation, bulldozing, scraping, and grading
11 activities, in order to ensure compliance with SCAQMD Rule 403, Fugitive Dust.
 - 12 - Water storage piles twice a day, resulting in a 50% fugitive dust control efficiency.
 - 13 - Limit vehicle speeds on unpaved roads to 15 miles per hour, per SCAQMD's Table XI-A,
14 Mitigation Measure Examples: Fugitive Dust from Construction and Demolition (Rev. 4/2007).

15
16 **4.3.4.2 Impacts Analysis (Valley-Ivyglen Project)**

17
18 **Impact AQ-1 (VIG): Conflict with or obstruct implementation of the applicable air quality plan.**
19 *NO IMPACT*

20
21 **Construction**

22 The South Coast AQMP outlines the SCAQMD's long-term strategies designed to reach attainment status
23 for the federal 24-hour PM_{2.5} standard and the federal 8-hour ozone standard. Most control measures relate
24 either to control of stationary sources or to actions the SCAQMD or other agencies will take to incentivize
25 emissions reductions. Three VOC-reducing policies could relate to construction of the proposed Valley-
26 Ivyglen Project since the project could involve architectural coatings, adhesives, solvents, and vacuum
27 trucks (for fuel transport). Any of the three relevant AQMD control measures (CTS-01, CTS-02, and FUG-
28 01) would be developed into SCAQMD rules or regulations. SCE would be required to comply with all
29 relevant SCAQMD rules and regulations as they become enforceable. Construction of the proposed Valley-
30 Ivyglen Project would not conflict with or obstruct implementation of the AQMP and would therefore have
31 no impact in this area.

32
33 **Operation and Maintenance**

34 Operation and maintenance of the proposed Valley-Ivyglen Project would not create permanent full-time or
35 part-time employment positions during construction that would result in an increase in population or require
36 new housing that would result in a new emissions source. Emissions from vehicles used during operation
37 and maintenance would be within the AQMP's projections. Operation and maintenance of the proposed
38 Valley-Ivyglen Project would not conflict with or obstruct implementation of the AQMP and would
39 therefore have no impact in this area.

40
41 **Impact AQ-2 (VIG): Violate any air quality standard or contribute substantially to an existing or**
42 **projected air quality violation.**
43 *SIGNIFICANT WITH MITIGATION*

44
45 **Methodology**

46 The SCAQMD (2015b) has developed air quality significance thresholds to assist CEQA analyses.
47 SCAQMD regional air quality significance thresholds are summarized in Table 4.3-3.

Table 4.3-3 SCAQMD Regional Air Quality Significance Thresholds

Pollutant	Construction	Operations
NO _x ⁽¹⁾	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
CO ⁽¹⁾	550 lbs/day	550 lbs/day
PM ₁₀ ⁽²⁾	150 lbs/day	150 lbs/day
PM _{2.5} ⁽²⁾	55 lbs/day	55 lbs/day
Lead	3 lbs/day	3 lbs/day
SO _x	150 lbs/day	150 lbs/day

Source: SCAQMD 2015b

Notes:

(1) SCAQMD is in attainment for NO₂ and CO. Project impacts would be significant if they cause or contribute to an exceedance of attainment standards.

(2) Ambient air quality threshold based on SCAQMD Rule 403.

Key:

- µg/m³ micrograms per cubic meter
- CO carbon monoxide
- lbs pounds
- NO_x oxides of nitrogen
- NO₂ nitrogen dioxide
- PM₁₀ particulate matter with diameters less than or equal to 10 microns
- PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns
- SCAQMD South Coast Air Quality Management District
- SO_x sulfur dioxide

1
2
3
4
5

Construction

Criteria air pollutants would be generated during construction activities that use heavy equipment, on-road vehicles, and off-road vehicles. Such activities include:

- Grading
- Vegetation clearing
- Excavating
- Worker transport
- Equipment and material deliveries
- Pole installation

6
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13

Estimates of maximum daily criteria air pollutant emissions that would result from project construction without emission control measures (uncontrolled emissions) and with Project Commitment J (controlled emissions) are summarized in Table 4.3-4. Estimated maximum daily emissions are intended to represent peak values based on the combination of overlapping construction activities that yield the highest emissions. Detailed calculations and assumptions for all construction activities and operational sources are presented in Appendix C.

Table 4.3-4 Maximum Daily Unmitigated Construction Emissions (Valley-Ivyglen Project)

Item	Peak Daily Air Pollutant Emissions (pounds/day) ⁽¹⁾					
	VOC	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Uncontrolled Maximum Daily Project Emissions ⁽²⁾	41	175	290	13	633	110
Exceeds Regional Thresholds (Yes/No)⁽³⁾	No	No	Yes	No	Yes	Yes
Controlled Maximum Daily Project Emissions ⁽²⁾	41	175	290	13	269	49

Table 4.3-4 Maximum Daily Unmitigated Construction Emissions (Valley-Ivyglen Project)

Item	Peak Daily Air Pollutant Emissions (pounds/day) ⁽¹⁾					
	VOC	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Exceeds Regional Thresholds (Yes/No) ⁽³⁾	No	No	Yes	No	Yes	No

Source: SCE 2014

Notes:

(1) Emissions estimates have been rounded for reporting purposes.

(2) Maximum daily emissions estimates indicate the sum of emissions generated from the most emissions-intensive set of activities that could occur concurrently during construction of the proposed 115-kV subtransmission lines and telecommunications lines.

(3) SCAQMD Regional Air Quality Significance Thresholds are listed in Table 4.3-3.

Key:

CO carbon monoxide

kV kilovolt

lbs pounds

NO_x oxides of nitrogen

PM₁₀ particulate matter with diameters less than or equal to 10 microns

PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns

ROW right-of-way.

SCAQMD South Coast Air Quality Management District

SO₂ sulfur dioxide

VOC volatile organic compound

1
2 Uncontrolled maximum daily project emissions would exceed significance thresholds for NO_x, PM₁₀, and
3 PM_{2.5}. Project Commitment J would reduce PM_{2.5} emissions to below the SCAQMD significance
4 thresholds, as shown in Table 4.3-4, and PM_{2.5} emissions would be less than significant after
5 implementation of this measure. However, PM₁₀ and NO_x emissions would remain significant after
6 implementation of Project Commitment J.

7
8 Mitigation Measure (MM) AQ-1 would reduce NO_x emissions, and MM AQ-2 would offset any remaining
9 NO_x emissions. NO_x emissions would be less than significant with implementation of these measures.

10
11 MM AQ-1 would reduce PM₁₀ emissions from combustion engines. It is uncertain how much of a reduction
12 in exhaust emission PM₁₀ would be obtained through MM AQ-1, since the amount of Tier 4 engines that
13 would be used is not known.

14
15 MM AQ-3 would reduce some emissions of fugitive PM₁₀, but these reductions would not reduce PM₁₀
16 emissions below the regional threshold of significance for PM₁₀. The SCAQMD does offer emission
17 reduction credits for PM₁₀ emissions; however, these emissions reduction credits are prohibitively
18 expensive (see SCAQMD 2015c) and therefore infeasible. PM₁₀ emissions would therefore remain
19 significant after mitigation.

20
21 **Operation and Maintenance**

22 Criteria air pollutants would be generated during operation of the proposed Valley-Ivyglen Project. The
23 applicant would inspect the proposed 115-kV subtransmission lines at least once a year by driving and/or
24 flying along the line routes. Similarly, the telecommunications components would require routine
25 maintenance once per year. Combustion exhaust emissions would be generated from vehicles used during
26 these routine inspection and maintenance activities.

27
28 A summary of estimated maximum unmitigated daily operational emissions of criteria air pollutants is
29 presented in Table 4.3-5. The applicant has not proposed control measures for operational emissions.
30 Detailed calculations and assumptions for all operational sources are presented in Appendix C.

1

Table 4.3-5 Maximum Daily Unmitigated Operational Emissions⁽¹⁾

Emission Source	VOC (lbs/day)	CO (lbs/day)	NO _x (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
Motor Vehicle Exhaust	0.08	0.73	0.07	0.00	0.02	0.00
Fugitive Dust / Paved and Unpaved Roads	--	--	--	--	2.38	0.23
Maximum Daily Emissions⁽²⁾	0.08	0.73	0.07	0.00	2.40	0.23
SCAQMD Regional Thresholds	55	550	55	150	150	55
Exceeds Regional Thresholds (Yes/No)	No	No	No	No	No	No

Source: SCE 2014

Notes:

- (1) Operational emissions from the proposed Valley-Ivyglen Project were assumed equivalent to those estimated for the proposed Alberhill Project 115-kV subtransmission line inspections.
- (2) 115-kV subtransmission and telecommunication line inspections were assumed to occur on the same day. Maintenance inspections were assumed to occur once a year.

Key:

- CO carbon monoxide
- kV kilovolt
- lbs pounds
- NO_x oxides of nitrogen
- PM₁₀ particulate matter with diameters less than or equal to 10 microns
- PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns
- SCAQMD South Coast Air Quality Management District
- SO₂ sulfur dioxide
- VOC volatile organic compound

2

3

Mitigation Measures

4

MM AQ-1: Minimize NO_x and PM emissions from off-road diesel powered construction equipment.

5

To the extent available, the applicant shall utilize off-road diesel-powered construction equipment with engines greater than 150 horsepower that comply with Tier 4 interim or Tier 4 road emission standards (Tier 4 Standards). In the event that equipment with a Tier 4 Standards compliant engine is not available, that equipment shall be operated with tailpipe retrofit controls that reduce NO_x and PM to no more than Tier 3 emission standards (Tier 3 Standards) levels.

6

7

Equipment with a non-Tier 4 Standards compliant engine shall be utilized only when the applicant has made an unsuccessful good faith effort to locate equipment with a Tier 4 Standards compliant engine in the Valley-Ivyglen Project and Alberhill System Project vicinity (defined as within 200 miles of the applicable project site). Each such good faith effort shall be documented with written correspondence (or signed statement and electronic mail) by the appropriate construction contractor, along with written correspondence from at least two construction equipment rental firms within the defined vicinity confirming the unavailability of equipment with a Tier 4 Standards compliant engine.

8

9

The applicant shall make available to the California Public Utilities Commission (CPUC) a copy of the certified tier specification, best available control technology documentation, and/or CARB or SCAQMD operating permit for each piece of construction equipment, as applicable, at the time the equipment is mobilized.

10

11

In addition, the applicant shall:

12

- Maintain construction equipment according to manufacturing specifications and use low-emissions equipment;
- Reduce emissions of PM and other pollutants by using, whenever feasible, alternative clean fuel technology to power vehicles and equipment instead of gasoline- or diesel-powered engines (e.g.,

13

14

15

16

17

1 electric, hydrogen fuel cell, propane, natural gas, or compressed natural gas-powered equipment
2 with oxidation catalysts);

- 3 • Ensure that all construction equipment is properly tuned and maintained and shut off when not in
4 direct use;
- 5 • Prohibit engine tampering to increase horsepower;
- 6 • Locate engines, motors, and equipment as far as possible from residential areas and other sensitive
7 receptors, such as schools, daycare centers, and hospitals;
- 8 • Provide carpool shuttles and vans to transport construction workers to and from construction sites
9 to minimize private vehicle use;
- 10 • Minimize construction-related transport of workers and equipment including trucks; and
- 11 • Require that on-road vehicles utilized during construction be less than 10 years old.

12
13 **MM AQ-2: Oxides of Nitrogen (NO_x) Credits.** The remaining emissions of NO_x resulting from
14 construction of the proposed projects shall be mitigated through the purchase of Regional Clean Air
15 Incentive Market Trading Credits (RTCs) for every pound of NO_x in excess of the SCAQMD regional
16 significance threshold of 100 pounds per day, as measured per project. The total amount of NO_x RTCs to be
17 purchased shall be calculated once the construction schedules for each project are finalized. The applicant
18 shall purchase and submit documentation of purchase of the required RTCs to the SCAQMD prior to the
19 start of construction of each project. The applicant shall also track actual daily emissions during
20 construction of each project according to a monitoring plan, which shall require keeping records of
21 equipment and vehicle usage for each project.

22 **MM AQ-3: Additional Fugitive Dust Controls.** During construction activities, the applicant shall
23 implement the following measures to minimize impacts due to fugitive dust emissions:

- 24 • Use a gravel apron, to reduce mud/dirt trackout from unpaved truck exit routes. Dimensions of such
25 apron shall be 25 feet long by the width of the exit road.
- 26 • Ensure minimum soil moisture of 12 percent for earthmoving activities by use of a moveable
27 sprinkler system or a water truck. Moisture content shall be measured using a moisture probe onsite
28 and reported to the CPUC on a monthly basis.
- 29 • Apply chemical soil stabilizers on inactive construction areas or disturbed lands within construction
30 areas that are unused for at least four consecutive days.
- 31 • All trucks hauling dirt, sand, soil, or other loose materials shall be tarped with a fabric cover and
32 maintain a freeboard height of 12 inches.
- 33
- 34

35 **Impact AQ-3 (VIG): Result in a cumulatively considerable net increase of any criteria pollutant for**
36 **which the project region is nonattainment under an applicable federal or state**
37 **ambient air quality standard (including releasing emissions which exceed**
38 **quantitative thresholds for ozone precursors).**
39 *SIGNIFICANT WITH MITIGATION*
40

41 The project area is in nonattainment for O₃, PM₁₀, and PM_{2.5}. The proposed Valley-Ivyglen Project would
42 result in a cumulatively considerable net increase of these pollutants if it would conflict with an air quality
43 management plan or exceed regional significance thresholds. Air quality management plans and regional
44 significance thresholds are appropriate for analysis of cumulative impacts because they take into
45 consideration the entire air basin and other projects and activities occurring in the basin.

1
2 **Construction**

3 As discussed in Impact AQ-1 (VIG), construction of the proposed Valley-Ivyglen Project would not conflict
4 with the SCAQMD AQMP. As discussed in Impact AQ-2 (VIG), construction emissions would exceed
5 significance thresholds for NO_x (an ozone precursor), PM₁₀, and PM_{2.5}. With implementation of Project
6 Commitment J, emissions of PM_{2.5} would be reduced to below significance thresholds. PM₁₀ and NO_x
7 would remain significant after implementation of Project Commitment J. MM AQ-1 and MM AQ-2 would
8 reduce NO_x emissions to less than significant. MM AQ-1 and MM AQ-3 would reduce PM₁₀ emissions, but
9 not to less than significant levels. Thus, construction of the proposed project would result in a cumulatively
10 considerable net increase of PM₁₀. PM₁₀ construction emissions would remain cumulatively significant after
11 mitigation.

12
13 **Operation and Maintenance**

14 As discussed in Impact AQ-1 (VIG), operation of the proposed Valley-Ivyglen Project would not conflict
15 with the SCAQMD AQMP. As discussed in Impact AQ-2 (VIG), operation and maintenance emissions
16 would not exceed SCAQMD significance thresholds for NO_x, PM₁₀, or PM_{2.5}. Operation and maintenance
17 of the proposed project would not result in a cumulatively considerable net increase of a criteria pollutant
18 for which the area is in nonattainment. Therefore, these impacts would be less than significant.

19
20 **Mitigation Measures**

21 **MM AQ-1: Minimize NO_x and PM emissions from off-road diesel powered construction equipment.**

22
23 **MM AQ-2: Oxides of Nitrogen (NO_x) Credits.**

24 **MM AQ-3: Additional Fugitive Dust Controls.**

25
26 **Impact AQ-4 (VIG): Expose sensitive receptors to substantial pollutant concentrations**
27 *LESS THAN SIGNIFICANT*

28 **Methodology**

29 The SCAQMD has developed a localized significance threshold (LST) methodology to analyze localized
30 impacts on ambient air quality. LST analyses were conducted using LST mass rate look-up tables provided
31 in SCAQMD guidance. The LST methodology determines significance levels by modeling hypothetical 1-,
32 2-, and 5-acre sites. This methodology applies to on-site emissions and impacts from NO_x, CO, PM₁₀, and
33 PM_{2.5} concentrations; it does not apply to emissions from on-road vehicles. The determination made from
34 the LST methodology provides a means of conducting a screening analysis to assess whether a significant
35 impact could result from project construction activities.

36
37 Since construction activities would occur at different locations throughout the length of the proposed 115-
38 kV subtransmission and telecommunication line construction, the LST analyses were performed for the
39 activity with the potential to cause the greatest amount of emissions at any location for the proposed
40 Valley-Ivyglen Project: tubular steel pole (TSP) foundation construction. Equipment exhaust and fugitive
41 dust emissions for a 1-acre emission source area was assumed based on the estimated daily land disturbance
42 required for TSP foundations. Distances to the closest receptors were verified based on aerial images and
43 current project information. Although distances to sensitive receptors change depending on the project
44 component location, the 25-meter distance to nearest receptor is the most conservative option allowed by
45 the LST methodology and, therefore, was used for all of the LST analyses. The proposed Valley-Ivyglen
46 Project would be located in the Perris Valley and Lake Elsinore Source Receptor Areas (Zones 24 and 25).
47 The LSTs used for the proposed projects impact analysis are shown in Table 4.3-6.

Table 4.3-6 Localized Significance Thresholds for the Valley-Ivyglen Project

Distance to Nearest Receptor (meters)	Pollutant (pounds per day)					
	NO _x	CO	PM ₁₀ - Construction	PM ₁₀ - Operation	PM _{2.5} - Construction	PM _{2.5} - Operation
1 acre (Perris Valley Source Area)						
25	118	602	4	1	3	1
1 acre (Lake Elsinore Source Area)						
25	162	750	4	1	3	1

Source: SCAQMD 2009

Key:

CO carbon monoxide

NO_x oxides of nitrogen

PM₁₀ Particulate matter less than or equal to 10 microns in diameter

PM_{2.5} Particulate matter less than or equal to 2.5 microns in diameter

The SCAQMD's significance threshold for TACs, including carcinogens and noncarcinogens, is:

- Maximum Incremental Cancer Risk \geq 10 in 1 million;
- Cancer Burden $>$ 0.5 excess cancer cases (in areas \geq 1 in 1 million); or
- Hazard Index \geq 1.0 (project increment)

Construction

Criteria air pollutants would be generated during construction activities that use heavy equipment, on-road vehicles, and off-road vehicles. Such activities include:

- Grading
- Vegetation clearing
- Excavating
- Worker transport
- Equipment and material deliveries
- Pole installation

Emissions generated from construction activities are anticipated to cause temporary increases in ambient air pollutant concentrations in the vicinity of the proposed Valley-Ivyglen Project construction sites and along the access and spur roads used by project vehicles. The results of the LST analyses are presented in Table 4.3-7. A detailed summary of the calculations used to estimate emissions from TSP foundation excavation is provided in Attachment B1.

Table 4.3-7 Localized Significance Threshold Analysis for Unmitigated Construction Activities

Proposed Valley-Ivyglen Project Component	Maximum Daily Onsite Emissions ⁽¹⁾			
	CO (lbs/day)	NO _x (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
115-kV Subtransmission Lines	7	10	1.3	0.5
SCAQMD Localized Significance Thresholds ⁽²⁾	602	118	4	3
Exceeds Thresholds (Yes/No)	No	No	No	No

Sources: SCE 2014

Notes:

(1) Only on-site emissions were considered for this analysis. Off-site delivery vehicle emissions were not included in these calculations.

(2) Based on a 1-acre emission source area with the closest receptor located 25 meters (82 feet) from the construction area.

Key:

CO carbon monoxide

Table 4.3-7 Localized Significance Threshold Analysis for Unmitigated Construction Activities

Proposed Valley-Ivyglen Project Component	Maximum Daily Onsite Emissions ⁽¹⁾			
	CO (lbs/day)	NO _x (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)

kV kilovolt
 lbs pounds
 NO_x oxides of nitrogen
 PM₁₀ particulate matter with diameters less than or equal to 10 microns
 PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns
 SCAQMD South Coast Air Quality Management District

1
 2 The results of the LST analyses indicate that CO, NO_x, and PM_{2.5} emissions from construction activities
 3 would not exceed SCAQMD LSTs. Impacts related to exposure to substantial pollutant concentrations
 4 would be less than significant, and no mitigation would be needed.
 5
 6 Sensitive receptors near the construction site would be exposed to TACs. Construction in any one area
 7 would occur for a minimal amount of time, since construction would be spread throughout a linear
 8 alignment. Construction in any one location would be temporary, which would further reduce the exposure
 9 to TACs caused by the proposed project. The proposed project would not result in chronic exposure to a
 10 new source of TACs. The increased cancer risk from exposure to construction activities would be far below
 11 the SCAQMD significance threshold. Therefore, impacts would be less than significant.
 12

13 **Operation and Maintenance**

14 Criteria air pollutants would be generated during operation of the proposed Valley-Ivyglen Project. The
 15 applicant would inspect the proposed 115-kV subtransmission lines at least once a year by driving and/or
 16 flying the line routes. Similarly, the telecommunications components would require routine maintenance
 17 once per year. Combustion exhaust emissions would be generated from vehicles used during routine
 18 inspection and maintenance activities.
 19

20 Emissions of criteria pollutants and TACs during operation and maintenance would be substantially lower
 21 than the emissions for project construction, as shown for regional thresholds in Impact AQ-2 (VIG), due to
 22 the greatly reduced level of activities. Construction air quality impacts are less than significant; therefore,
 23 operation and maintenance impacts related to exposure to substantial pollutant concentrations would also be
 24 less than significant.
 25

26 **Impact AQ-5 (VIG): Create objectionable odors affecting a substantial number of people.**
 27 *LESS THAN SIGNIFICANT WITH MITIGATION*
 28

29 **Methodology**

30 The SCAQMD significance threshold for odor impacts is based on whether a project creates an odor
 31 nuisance pursuant to SCAQMD Rule 402. Rule 402 prohibits “discharge from any source whatsoever such
 32 quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to
 33 any considerable number of persons or to the public, or which endanger the comfort, repose, health or
 34 safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or
 35 damage to business or property.”
 36

37 **Construction**

38 Exhaust from construction vehicles and equipment for the proposed Valley-Ivyglen Project would
 39 temporarily create odors due to the combustion of diesel fuel and gasoline. Sensitive receptors would be
 40 present as close as 20 feet from potential work areas along the 115-kV subtransmission line. Sensitive

1 receptors would be present as close as 26 feet from a staging area. According to a study conducted by
2 Colucci and Barnes (1970), perception of diesel exhaust emission averaged about 29 feet for an idling bus
3 and about 36 feet for an accelerating bus. Engines in buses are comparable to engines in heavy equipment,
4 suggesting a similar perception related to diesel exhaust from project equipment. Odors from newer
5 equipment are likely to travel an even lower distance due to improvement in technologies since the time of
6 this study. There would not be a substantial number of receptors within 29 feet of pole work areas, and
7 work at pole sites would last for less than one week. The closest sensitive receptor to a staging area would
8 be the Southern California Online Academy of the Lake Elsinore Unified School district, which is about 28
9 feet from the staging area perimeter. All other yards would be more than 36 feet from a sensitive receptor.
10 The closest portion of Southern California Online Academy to staging yard VIG13 would include
11 basketball courts. Depending on the intensity of heavy vehicle use in the area adjacent to the basketball
12 courts, objectionable odors may affect a substantial number of people and result in a significant impact.
13 MM AQ-4 would be implemented to reduce the impacts to less than significant.
14

15 **Operation and Maintenance**

16 Operation and maintenance of the proposed 115-kV subtransmission line and telecommunications line
17 routes would require only a few vehicles for relatively short time periods. Vehicles would generate
18 intermittent and infrequent odors, typically from gasoline rather than diesel. Activities would take place in
19 small areas. Operation and maintenance would not subject a substantial number of receptors to
20 objectionable odors, and impacts would be less than significant.
21

22 **Mitigation Measure**

23 **MM AQ-4: Odor Reduction at Staging Yard VIG13.** At Staging Yard VIG13, heavy equipment use shall
24 be conducted at least 36 feet away from the Southern California Online Academy property.
25

26 **4.3.5 Environmental Impacts and Mitigation Measures (Alberhill Project)**

27 **4.3.5.1 Project Commitments (Alberhill Project)**

28 The applicant has committed to implementing the following as part of the design of the proposed Alberhill
29 Project. See Section 2.6, "Project Commitments," for a complete description of each project commitment.
30

- 31 • **Project Commitment J: Air Emissions Controls.** The applicant would implement the following
32 fugitive dust control measures for the Alberhill System Project:
33
 - 34 - Water three times per day or as needed during excavation, bulldozing, scraping, and grading
35 activities, in order to ensure compliance with SCAQMD Rule 403, Fugitive Dust.
 - 36 - Limit vehicle speed limits on unpaved roads to 15 mph, per SCAQMD's Table XI-A,
37 Mitigation Measure Examples; Fugitive Dust from Construction and Demolition (Rev.
38 4/2007)..
 - 39 - Water storage piles twice a day, resulting in a 50% fugitive dust control efficiency.
40

41 **4.3.5.4 Impacts Analysis (Alberhill Project)**

42 **Impact AQ-1 (ASP): Conflict with or obstruct implementation of the applicable air quality plan.**
43 *NO IMPACT*

44 **Construction**

45 The South Coast AQMP outlines the SCAQMD long-term strategies designed to reach attainment status for
46 the federal 24-hour PM_{2.5} standard and the federal 8-hour ozone standard. Most control measures relate
47
48

1 either to control of stationary sources or to actions the SCAQMD or other agencies will take to incentivize
2 emissions reductions. Three VOC-reducing policies could relate to construction of the proposed Alberhill
3 Project, since the project could involve architectural coatings, adhesives, solvents, and vacuum trucks (for
4 fuel transport). Any of the three relevant AQMD control measures (CTS-01, CTS-02, or FUG-01) would be
5 developed into SCAQMD rules or regulations. SCE would be required to comply with all relevant
6 SCAQMD rules and regulations as they become enforceable. Construction of the proposed Alberhill Project
7 would not conflict with or obstruct implementation of the AQMP and therefore would have no impact in
8 this area.

10 **Operation and Maintenance**

11 Operation and maintenance of the Alberhill Project would not create permanent full-time or part-time
12 employment positions during construction that would result in an increase in population or require new
13 housing that would result in a new emissions source. Emissions from vehicles used during operation and
14 maintenance would be within AQMP projections. Operation and maintenance of the proposed Alberhill
15 Project would not conflict with or obstruct implementation of the AQMP and therefore would have no
16 impact in this area.

18 **Impact AQ-2 (ASP): Violate any air quality standard or contribute substantially to an existing or
19 projected air quality violation.
20 SIGNIFICANT WITH MITIGATION**

22 **Methodology**

23 The SCAQMD (2015b) has developed air quality significance thresholds to assist CEQA analyses.
24 SCAQMD regional air quality significance thresholds are summarized in Table 4.3-3, above.

26 **Construction**

27 Criteria air pollutants would be generated during construction activities that use heavy equipment, on-road
28 vehicles, and off-road vehicles. Such activities include:

- Grading
- Vegetation clearing
- Excavating
- Substation Construction
- Worker transport
- Equipment and material deliveries
- Pole and tower installation

30 Estimates of maximum daily criteria air pollutant emissions that would result from project construction
31 without emission control measures (uncontrolled emissions) and with Project Commitment J (controlled
32 emissions) are summarized in Tables 4.3-8 and 4.3-9. Estimated maximum daily emissions are intended to
33 represent peak values based on the combination of overlapping construction activities that yield the highest
34 emissions. Emissions represent the suite of scenarios that may occur for construction of the proposed
35 project (refer to Section 2.4.6.2, "Fill, grading, Drainage, and Surface Materials," for a discussion of soil
36 source options and to Section 2.4.5.5, "500-kV Tower Construction (Alberhill Project)," for discussion of
37 helicopter and conventional construction methods for the 500-kV transmission line). Detailed calculations
38 and assumptions for all construction activities and operational sources are presented in Appendix C.

41 **Conventional Method**

42 Uncontrolled maximum daily project emissions would exceed significance thresholds under the
43 conventional scenario and both import soil options for VOC, NO_x, PM₁₀, and PM_{2.5}, as shown in Table 4.3-

1 8. The applicant’s Project Commitment J would reduce PM₁₀ and PM_{2.5} emissions, as shown in Table 4.3-8,
2 but PM₁₀ and PM_{2.5} emissions would still be above the SCAQMD thresholds. Impacts would still be
3 significant. To further reduce criteria pollutant emissions, the applicant would implement MM AQ-1, MM
4 AQ-2, and MM AQ-3.
5

Table 4.3-8 Maximum Daily Criteria Air Pollutant Construction Emissions (Alberhill Project, Conventional Method Scenario)

Item	Peak Daily Air Pollutant Emissions (lbs/day) ^(1,2)					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Import Soil Option 1: 5.2-Acre Source Area (On-Site Borrow Site)						
Uncontrolled Maximum Daily Project Emissions ⁽³⁾	94	338	1,090	38	878	120
Controlled Maximum Daily Project Emissions ⁽³⁾	94	338	1,090	38	445	76
Import Soil Option 1 Exceeds Regional Thresholds (Yes/No)⁽⁴⁾	Yes	No	Yes	No	Yes	Yes
Import Soil Option 2: Local Quarry						
Uncontrolled Maximum Daily Project Emissions ⁽³⁾	91	324	1,074	38	896	115
Controlled Maximum Daily Project Emissions ⁽³⁾	91	324	1,074	38	434	69
Import Soil Option 2 Exceeds Regional Thresholds (Yes/No)⁽⁴⁾	Yes	No	Yes	No	Yes	Yes

Source: SCE 2011

Notes:

(1) Emission values have been rounded for reporting purposes.

(2) The emissions considered in this analysis include the emissions generated by demolition activities conducted by the applicant at the proposed Alberhill Substation site in September and December 2011 to comply with County of Riverside code enforcement.

(3) Peak daily emissions estimates indicate the sum of emissions generated from the concurrent construction of the proposed substation, 500-kV transmission lines, 115-kV subtransmission lines, and telecommunications lines.

(4) SCAQMD Regional Air Quality Significance Thresholds are listed in Table 4.3-3.

Key:

- CO carbon monoxide
- kV kilovolt
- lbs pounds
- NO_x oxides of nitrogen
- PM₁₀ particulate matter with diameters less than or equal to 10 microns
- PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns
- SO_x oxides of sulfur
- VOC volatile organic compound

6
7 MM AQ-1 would reduce NO_x emissions, and MM AQ-2 would offset any remaining NO_x emissions. NO_x
8 emissions would be less than significant with implementation of these measures.
9

10 MM AQ-1 would reduce PM₁₀ and PM_{2.5} emissions from combustion engines. It is uncertain how much of a
11 reduction in exhaust emission PM₁₀ and PM_{2.5} would be obtained through MM AQ-1, since the number of
12 Tier 4 engines that would be used is not known. MM AQ-3 would reduce some emissions of fugitive PM₁₀
13 and PM_{2.5}, but these reductions would not reduce PM₁₀ and PM_{2.5} emissions to levels below the regional
14 thresholds of significance for these pollutants. The SCAQMD does offer emission reduction credits for
15 PM₁₀ emissions; however, these emissions reductions credits are prohibitively expensive (see SCAQMD
16 2014). PM₁₀ and PM_{2.5} emissions would therefore remain significant after mitigation.
17

18 MM AQ-1 would reduce VOC emissions, and MM AQ-5 would offset any remaining VOC emissions.
19 VOC emissions would be less than significant with implementation of these measures.
20

1 *Helicopter Construction*

2 Uncontrolled maximum daily project emissions would exceed significance thresholds under the helicopter
3 use scenario and both import soil options for VOC, NO_x, PM₁₀, and PM_{2.5}, as shown in Table 4.3-9. The
4 applicant’s Project Commitment J would reduce PM₁₀ and PM_{2.5} emissions, as shown in Table 4.3-9, but
5 PM₁₀ and PM_{2.5} emissions would still be above the SCAQMD thresholds. To further reduce criteria
6 pollutant emissions, the applicant would implement MM AQ-1, MM AQ-2, and MM AQ-3.
7

Table 4.3-9 Maximum Daily Criteria Air Pollutant Construction Emissions (Alberhill Project, Helicopter Use Scenario)⁽¹⁾

Proposed Alberhill Project Component	VOC (lbs/day)	CO (lbs/day)	NO _x (lbs/day)	SO _x (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
Import Soil Option 1: 5.2-Acre Source Area (On-site Borrow Site)						
Uncontrolled Maximum Daily Project Emissions ⁽³⁾	131	452	1,092	38	966	132
Controlled Maximum Daily Project Emissions ⁽³⁾	131	452	1,092	38	476	79
Import Soil Option 1 Exceeds Regional Thresholds (Yes/No)	Yes	No	Yes	No	Yes	Yes
Import Soil Option 2: Local Quarry						
Uncontrolled Maximum Daily Project Emissions ⁽³⁾	128	438	1,076	38	964	125
Controlled Maximum Daily Project Emissions ⁽³⁾	128	438	1,076	38	475	75
Import Soil Option 2 Exceeds Regional Thresholds (Yes/No)	Yes	No	Yes	No	Yes	Yes

Source: SCE 2011

Notes:

- (1) Emissions estimates assumes the use of additional heavy- and medium-duty helicopters for 500-kV transmission line construction. Emission values have been rounded for reporting purposes.
- (2) The emissions considered in this analysis include the emissions generated by demolition activities conducted by the applicant at the proposed Alberhill Substation site in September and December 2011 to comply with County of Riverside code enforcement.
- (3) Peak daily emissions estimates indicate the sum of emissions generated from the concurrent construction of the proposed substation, 500-kV transmission lines, 115-kV subtransmission lines, and telecommunications lines.

Key:

- CO carbon monoxide
- kV kilovolt
- lbs pounds
- NO_x oxides of nitrogen
- PM₁₀ particulate matter with diameters less than or equal to 10 microns
- PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns
- SCAQMD South Coast Air Quality Management District
- SO_x oxides of sulfur
- VOC volatile organic compound

8
9 MM AQ-1 would reduce actual NO_x emissions, and MM AQ-2 would offset any remaining NO_x emissions.
10 NO_x emissions would be less than significant with implementation of these measures.

11
12 MM AQ-1 would reduce PM₁₀ and PM_{2.5} emissions from combustion engines. It is uncertain how much of a
13 reduction in exhaust emission PM₁₀ and PM_{2.5} would be obtained through MM AQ-1, since the number of
14 Tier 4 engines that would be used is not known. MM AQ-3 would reduce some emissions of fugitive PM₁₀
15 and PM_{2.5}, but these reductions would not reduce PM₁₀ and PM_{2.5} emissions to levels below the regional
16 thresholds of significance for these pollutants. The SCAQMD does offer emission reduction credits for
17 PM₁₀ emissions; however, these emissions reductions credits are prohibitively expensive (see SCAQMD
18 2014). PM₁₀ and PM_{2.5} emissions would therefore remain significant after mitigation.

MM AQ-1 would reduce VOC emissions and MM AQ-5 would offset any remaining VOC emissions. VOC emissions would be less than significant with implementation of MM these measures.

Operation and Maintenance

Criteria air pollutants would be generated during operation of the proposed Alberhill Project. The proposed Alberhill Substation would be unstaffed and remotely monitored by an automated system. It is assumed that maintenance personnel would visit the proposed substation site once per week. Substation operations would not require personnel in addition to the applicant’s existing staff in the region, and no permanent vehicles would be stationed at the proposed substation. The applicant would inspect the proposed 500-kV transmission and 115-kV subtransmission lines at least once per year by driving and/or flying the line routes. Similarly, the telecommunications components would require routine maintenance once per year. Routine substation maintenance would include equipment testing, equipment monitoring, and repair. An emergency generator at the proposed substation would be run at regular intervals for routine maintenance purposes. Combustion exhaust emissions would be generated from vehicles used during routine inspection and maintenance activities.

A summary of estimated maximum unmitigated daily operational emissions of criteria air pollutants is presented in Table 4.3-10. The applicant has not proposed control measures for operational emissions. Detailed calculations and assumptions for all operational sources are presented in Appendix C.

Table 4.3-10 Maximum Daily Criteria Air Pollutant Operational Emissions

Emission Source	VOC (lbs/day)	CO (lbs/day)	NO _x (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
Maximum Daily Emissions ⁽¹⁾	0.26	1.72	1.83	0.01	2.49	0.24
SCAQMD Regional Thresholds	55	550	55	150	150	55
Exceeds Regional Thresholds (Yes/No)	No	No	No	No	No	No

Source: SCE 2011

Note:

(1) 500-kV transmission, 115-kV subtransmission, and telecommunication line inspections would occur on the same day as visits to the proposed substation site. Daily emissions from these activities were included in the daily operational emissions estimates.

Key:

- CO carbon monoxide
- lbs pounds
- NO_x oxides of nitrogen
- PM₁₀ particulate matter with diameters less than or equal to 10 microns
- PM_{2.5} particulate matter with diameters less than or equal to 2.5 microns
- SO₂ sulfur dioxide
- SCAQMD South Coast Air Quality Management Plan
- VOCs volatile organic compounds

Mitigation Measures

MM AQ-1: Minimize NO_x and PM emissions from off-road diesel powered construction equipment.

MM AQ-2: Oxides of Nitrogen (NO_x) Credits.

MM AQ-3: Additional Fugitive Dust Controls.

MM AQ-5: Volatile Organic Compounds Credits. The remaining emissions of VOC/reactive organic gas (ROG) resulting from construction of the proposed Alberhill Project shall be mitigated through the purchase of Emissions Trading Credits (ETCs) for every pound of VOC/ROG in excess of the SCAQMD regional significance threshold of 100 pounds per day, as measured. The total amount of VOC/ROG ETCs to be purchased shall be calculated once the construction schedule is finalized. The applicant shall purchase and submit documentation of purchase of the required ETC to the SCAQMD prior to the start of construction.

1 The applicant shall also track actual daily emissions during construction according to a monitoring plan,
2 which shall require keeping records of equipment and vehicle usage for the project.
3

4 **Impact AQ-3 (ASP): Result in a cumulatively considerable net increase of any criteria pollutant for**
5 **which the project region is nonattainment under an applicable federal or state**
6 **ambient air quality standard (including releasing emissions which exceed**
7 **quantitative thresholds for ozone precursors).**
8 *SIGNIFICANT WITH MITIGATION*
9

10 The project area is in nonattainment for O₃, PM₁₀, and PM_{2.5}. The proposed Alberhill Project would result in
11 a cumulatively considerable net increase of these pollutants if it would conflict with an air quality
12 management plan or exceed regional significance thresholds. Air quality management plans and regional
13 significance thresholds are appropriate for analysis of cumulative impacts because they take into
14 consideration the entire air basin and other projects and activities occurring in the basin.
15

16 **Construction**

17 As discussed in Impact AQ-1 (ASP), construction of the proposed Alberhill Project would not conflict with
18 the SCAQMD AQMP. As discussed in Impact AQ-2 (ASP), construction emissions would exceed
19 significance thresholds for NO_x and VOC (ozone precursors), PM₁₀, and PM_{2.5} for all possible
20 combinations of construction approaches. Implementation of Project Commitment J would not reduce
21 emissions for any of these criteria pollutants to below significance thresholds.
22

23 MM AQ-1 and MM AQ-2 would reduce NO_x emissions to less than significant. MM AQ-1 and MM AQ-5
24 would reduce VOC levels to less than significant.
25

26 MM AQ-1 and MM AQ-3 would reduce PM_{2.5} and PM₁₀ emissions, but not to less than significant levels.
27 Thus, construction of the proposed project would result in a cumulatively considerable net increase of PM₁₀
28 and PM_{2.5}. PM₁₀ and PM_{2.5} construction emissions would remain cumulatively significant after mitigation.
29

30 **Operation and Maintenance**

31 As discussed in Impact AQ-1 (ASP), operation of the proposed project would not conflict with the
32 SCAQMD AQMP. As discussed in Impact AQ-2 (ASP), operation and maintenance emissions would not
33 exceed SCAQMD significance thresholds for NO_x, VOC, PM₁₀, or PM_{2.5}. Operation and maintenance of
34 the proposed project would not result in a cumulatively considerable net increase of a criteria pollutant for
35 which the area is in nonattainment. Therefore, these impacts would be less than significant.
36

37 **Mitigation Measures**

38 **MM AQ-1: Minimize NO_x and PM emissions from off-road diesel powered construction equipment.**

39
40 **MM AQ-2: Oxides of Nitrogen (NO_x) Credits.**

41
42 **MM AQ-3: Additional Fugitive Dust Controls.**

43
44 **MM AQ-5: Volatile Organic Compounds (VOC) Credits.**
45

Impact AQ-4 (ASP): Expose sensitive receptors to substantial pollutant concentrations
SIGNIFICANT WITH MITIGATION

Methodology

The SCAQMD has developed an LST methodology to analyze localized impacts on ambient air quality. LST analyses were conducted using LST mass rate look-up tables provided in SCAQMD guidance. The LST methodology determines significance levels by modeling hypothetical 1-, 2-, and 5-acre sites. This methodology applies to on-site emissions and impacts from NO_x, CO, PM₁₀, and PM_{2.5} concentrations; it does not apply to emissions from on-road vehicles. The determination made from the LST methodology provides a means of conducting a screening analysis to assess whether a significant impact could result from project construction activities.

Since construction activities would occur at different locations spread out over different areas, LST analyses were performed using the maximum on-site emission rate for a specific construction activity that occurs at a single location for each project component. For construction activities, the equipment exhaust and fugitive dust emissions include in the LST analysis were limited to those generated on site (i.e., emissions from off-site travel were not included as they occur at a different location). Thus, the emission rates used in the LST analysis are different than the maximum daily emission rates for all concurrent construction activities. Air pollutants would be emitted from on-site construction equipment (e.g., excavators, cranes, backhoes, scrapers, and dozers), and PM₁₀/PM_{2.5} emissions would also be generated as fugitive dust during on-site vehicle use and traffic on project access roads.

The size of the emission source for each project component was estimated based on the construction activities that would occur concurrently at the single location and the equipment associated with these activities. For construction of the substation, including the communications tower, a 5-acre emissions source area was assumed given that all construction activities would overlap in the same area. A 1-acre emission source area was assumed for the subtransmission and transmission line construction based on the estimated daily land disturbance for removal of existing poles and H-frames, installation of new structures, and areas for wire stringing.

Distances to the closest sensitive receptors (as required for the LST analyses) were evaluated based on aerial images and the latest information about components of the proposed Alberhill Project. Although distances to sensitive receptors change depending on the project component location, the 25-meter distance to nearest receptor is the most conservative option allowed by the LST methodology and therefore, was used for all of the LST analyses. The proposed Alberhill Project would be located in the Lake Elsinore Source Area (Zone 25). The LSTs used for the proposed project’s impact analysis are shown in Table 4.3-11.

Table 4.3-11 Localized Significance Thresholds for the Alberhill Project

Distance to Nearest Receptor, meters	Pollutant (pounds per day)					
	NO _x	CO	PM ₁₀ - Construction	PM ₁₀ - Operation	PM _{2.5} - Construction	PM _{2.5} - Operation
1 acre (Lake Elsinore Source Area)						
25	162	750	4	1	3	1

Table 4.3-11 Localized Significance Thresholds for the Alberhill Project

Distance to Nearest Receptor, meters	Pollutant (pounds per day)					
	NO _x	CO	PM ₁₀ - Construction	PM ₁₀ - Operation	PM _{2.5} - Construction	PM _{2.5} - Operation
5 acre (Lake Elsinore Source Area)						
25	375	1,965	13	4	8	2

Source: SCAQMD 2009

Key:

CO carbon monoxide
NO_x oxides of nitrogen

PM₁₀ Particulate matter less than or equal to 10 microns in diameter
PM_{2.5} Particulate matter less than or equal to 2.5 microns in diameter

SCAQMD’s significance threshold for TACs, including carcinogens and noncarcinogens, is as follows:

- Maximum Incremental Cancer Risk \geq 10 in 1 million;
- Cancer Burden $>$ 0.5 excess cancer cases (in areas \geq 1 in 1 million); or
- Hazard Index \geq 1.0 (project increment)

Construction

Criteria air pollutants would be generated during construction activities that use heavy equipment, on-road vehicles, and off-road vehicles. Such activities include:

- Grading
- Vegetation clearing
- Excavating
- Substation construction
- Worker transport
- Equipment and material deliveries
- Pole installation

Emissions generated from construction activities are anticipated to cause temporary increases in ambient air pollutant concentrations in the vicinity of the proposed Alberhill Project construction sites and along the access and spur roads used by project vehicles. The results of the LST analyses are presented in Table 4.3-12. A detailed summary of the calculations used to estimate emissions from TSP foundation excavation is provided in Attachment C4.

Table 4.3-12 Localized Significance Threshold Analysis for Unmitigated Construction Activities

Construction Activities ⁽²⁾	Maximum Daily Onsite Emissions (lbs/day) ⁽¹⁾			
	CO	NO _x	PM ₁₀	PM _{2.5}
<u>Agricultural Water Pipeline Relocation</u>				
SCAQMD Localized Significance Thresholds ⁽³⁾	8,628	562	148	68
Uncontrolled emissions	5	6	40	4
<i>Exceeds Thresholds (Yes/No)</i>	No	No	No	No
Controlled emissions	5	6	18	2
<i>Exceeds Thresholds (Yes/No)</i>	No	No	No	No
<u>Alberhill Substation and Telecommunications (Import Soil Option 1)</u>				
SCAQMD Localized Significance Thresholds ⁽⁴⁾	11,795	765	177	85
Uncontrolled emissions	65	110	299	38

Table 4.3-12 Localized Significance Threshold Analysis for Unmitigated Construction Activities

Construction Activities ⁽²⁾	Maximum Daily Onsite Emissions (lbs/day) ⁽¹⁾			
	CO	NO _x	PM ₁₀	PM _{2.5}
Exceeds Thresholds (Yes/No)	No	No	Yes	No
Controlled emissions	65	110	141	20
Exceeds Thresholds (Yes/No)	No	No	No	No
<u>Alberhill Substation and Telecommunications (Import Soil Option 2)</u>				
SCAQMD Localized Significance Thresholds ⁽⁵⁾	11,795	765	177	85
Uncontrolled emissions	38	58	280	30
Exceeds Thresholds (Yes/No)	No	No	Yes	No
Controlled emissions	38	58	128	15
Exceeds Thresholds (Yes/No)	No	No	No	No
<u>500-kV Transmission Lines (Conventional Method)</u>				
SCAQMD Localized Significance Thresholds ⁽⁶⁾	1,786	280	27	7
Uncontrolled emissions	37	579	23	12
Exceeds Thresholds (Yes/No)	No	Yes	No	Yes
Controlled emissions	37	579	12	12
Exceeds Thresholds (Yes/No)	No	Yes	No	Yes
<u>500-kV Transmission Lines (Helicopter Construction)</u>				
SCAQMD Localized Significance Thresholds ⁽⁶⁾	1,786	280	27	7
Uncontrolled emissions	46	106	77	8
Exceeds Thresholds (Yes/No)	No	No	Yes	Yes
Controlled emissions	46	106	38	4
Exceeds Thresholds (Yes/No)	No	No	Yes	No
<u>115-kV Subtransmission</u>				
SCAQMD Localized Significance Thresholds ⁽⁷⁾	661	162	13	3
Uncontrolled emissions	27	67	23	2
Exceeds Thresholds (Yes/No)	No	No	Yes	No
Controlled emissions	27	67	11	2
Exceeds Thresholds (Yes/No)	No	No	No	No

Sources: SCE 2011

Key: CO = carbon monoxide, PM₁₀ = particulate matter with diameters less than or equal to 10 microns, PM_{2.5} = particulate matter with diameters less than or equal to 2.5 microns, NO_x = oxides of nitrogen, SCAQMD = South Coast Air Quality Management District, lbs = pounds

Notes:

- 1 Only on-site emissions were considered for this analysis. Offsite delivery vehicle emissions were not included in these calculations.
- 2 Demolition activities took place at the horse ranch in September and December 2011 per permits issued by the County of Riverside Transportation and Land Management Agency to comply with County code enforcement. The applicant has updated maximum daily emissions estimates based on the daily project journals provided by the contractor.
- 3 Based on a 5-acre emission source area with the closest receptors located 270 meters and 420 meters (885 feet and 1,400 feet) from the substation property line. Maximum on-site emissions include those that would be generated by the microwave tower foundation and construction. These activities would occur within the Alberhill Substation property line.
- 4 Based on a 1-acre emission source area with the closest receptors located 885 feet and 1,400 feet from the substation property line. Maximum on-site emissions include those that would be generated by the microwave tower foundation and construction. These

Table 4.3-12 Localized Significance Threshold Analysis for Unmitigated Construction Activities

Construction Activities ⁽²⁾	Maximum Daily Onsite Emissions (lbs/day) ⁽¹⁾			
	CO	NO _x	PM ₁₀	PM _{2.5}

activities would occur within the Alberhill Substation property line.

⁵ Based on a 5-acre emission source area with the closest receptors located 885 feet and 1,400 feet from the substation property line. Closest receptor for the Import Soil Option 1 is located 885 feet from the proposed onsite soil source area.

⁶ Based on a 1-acre emission source area with the closest receptor located 175 meters (570 feet) from the closest tower location (two residences located in proximity to towers VA2 and VA3).

⁷ Based on a 1-acre emission source area with the closest receptor located 25 meters (82 feet) from the construction area.

1
2 As shown in Table 4.3-13, uncontrolled emission from the following activities would exceed SCAQMD
3 LSTs, resulting in a significant impact:

- 4
- 5 • Alberhill Substation and Telecommunications (Import Soil Option 1): PM₁₀
- 6 • Alberhill Substation and Telecommunications (Import Soil Option 2): PM₁₀
- 7 • 500-kV Transmission Lines (Conventional Method): NO_x, PM_{2.5}
- 8 • 500-kV Transmission Lines (Helicopter Construction): PM₁₀, PM_{2.5}
- 9 • 115-kV Subtransmission Lines: PM₁₀

10
11 The applicant's Project Commitment J would reduce the following impacts to below the SCAQMD LSTs,
12 which would result in less than significant impacts:

- 13
- 14 • Alberhill Substation and Telecommunications (Import Soil Option 1): PM₁₀
- 15 • Alberhill Substation and Telecommunications (Import Soil Option 2): PM₁₀
- 16 • 500-kV Transmission Lines (Helicopter Construction): PM_{2.5}
- 17 • 115-kV Subtransmission Lines: PM₁₀

18
19 Emissions of the following pollutants would remain above the LSTs after implementation of Project
20 Commitment J:

- 21
- 22 • 500-kV Transmission Lines (Conventional Method): NO_x, PM_{2.5}
- 23 • 500-kV Transmission Lines (Helicopter Construction): PM₁₀

24
25 These impacts would still be significant after implementation of Project Commitment J.

26
27 MM AQ-1 would further reduce NO_x emissions. NO_x emissions after Project Commitment J are more than
28 double the LST. It is uncertain how much NO_x emission would be avoided through MM AQ-1 since the
29 degree of implementation of Tier 4 engines is dependent on availability. Thus, the NO_x impact during 500-
30 kV transmission line construction using the conventional method would remain significant after mitigation.

31
32 MM AQ-1 would reduce PM_{2.5} and PM₁₀ emissions, respectively, from combustion engines during
33 construction of 500-kV transmission lines using the conventional method of construction and during
34 construction of 500-kV transmission lines using helicopter construction. It is uncertain how much of a
35 reduction in exhaust emission PM₁₀ and PM_{2.5} would be obtained through MM AQ-1, since the amount of
36 Tier 4 engines that would be used is not known.

37

1 MM AQ-3 would reduce some emissions of fugitive PM₁₀ and PM_{2.5}, but these reductions would not reduce
2 emissions to levels below localized significance thresholds. Emissions of PM_{2.5} from combustion engines
3 during construction of 500-kV transmission lines using the conventional method of construction and
4 emissions of PM₁₀ during construction of 500-kV transmission lines using helicopter construction therefore
5 would remain significant after mitigation.

6
7 Sensitive receptors near construction site would be exposed to TACs. Construction in any one area would
8 occur for a minimal amount of time, since construction would be spread throughout a linear alignment.
9 Construction in any one location would be temporary and would further reduce the exposure to TACs
10 caused by the proposed project. The proposed project would not result in chronic exposure to a new source
11 of TACs. The increased cancer risk from exposure to construction activities would therefore be far below
12 the SCAQMD significance threshold. Impacts would be less than significant.

13 14 **Operation and Maintenance**

15 Criteria air pollutants would be generated during operation of the proposed Alberhill Project. The proposed
16 Alberhill Substation would be unstaffed and remotely monitored by an automated system. It is assumed that
17 maintenance personnel would visit the proposed substation site once per week. Substation operations would
18 not require personnel in addition to the applicant's existing staff in the region, and no permanent vehicles
19 would be stationed at the proposed substation. The applicant would inspect the proposed 500-kV
20 transmission and 115-kV subtransmission lines at least once per year by driving and/or flying the line
21 routes. Similarly, the telecommunications components would require routine maintenance once per year.
22 Routine substation maintenance would include equipment testing, equipment monitoring, and repair. An
23 emergency generator at the proposed substation would be run at regular intervals for routine maintenance
24 purposes. Combustion exhaust emissions would be generated from vehicles used during these routine
25 inspection and maintenance activities.

26
27 Emissions of criteria pollutants and TACs during operation and maintenance would be substantially lower
28 than the emissions for project construction, as shown for regional thresholds in Impact AQ-2 (ASP), due to
29 the greatly reduced level of activities. Construction air quality impacts are less than significant; therefore,
30 operation and maintenance impacts related to exposure to substantial pollutant concentrations would also be
31 less than significant.

32 33 **Mitigation Measures**

34 **MM AQ-1: Minimize NOx and PM emissions from off-road diesel powered construction equipment.**

35
36 **MM AQ-3: Additional Fugitive Dust Controls.**

37
38 **Impact AQ-5 (ASP): Create objectionable odors affecting a substantial number of people.**
39 *LESS THAN SIGNIFICANT*

40 41 **Methodology**

42 The SCAQMD significance threshold for odor impacts is whether the project creates an odor nuisance
43 pursuant to SCAQMD Rule 402. Rule 402 prohibits "discharge from any source whatsoever such quantities
44 of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any
45 considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of
46 any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to
47 business or property."
48

1 **Construction**

2 Exhaust from construction vehicles and equipment would temporarily create odors due to the combustion of
3 diesel fuel and gasoline. Only two residences would be located within 100 feet of the proposed 500-kV
4 transmission line construction, while all receptors located in the vicinity of the Alberhill Substation site are
5 located over 1,000 feet from the proposed work areas. Sensitive receptors are as close as 20 feet from
6 potential work areas along the 115-kV subtransmission line. Sensitive receptors are as close as 70 feet from
7 a staging area. Perception of diesel exhaust emission averaged about 29 feet for an idling bus and about 36
8 feet for an accelerating bus (Colucci and Barnes 1970). Engines in buses would be comparable to engines in
9 heavy equipment. Odors from newer equipment are likely to travel an even lower distance due to
10 improvement in technologies since the time of this study. There are not a substantial number of receptors
11 within 29 feet of pole work areas, and work at pole sites would last for less than 1 week. There are no
12 sensitive receptors within 36 feet of the 500-kV transmission line, Alberhill Substation site, or staging
13 yards. Impacts would be less than significant.
14

15 **Operation and Maintenance**

16 Equipment used at the proposed Alberhill Substation would not create objectionable odors during
17 operations. Operation and maintenance of the proposed 115-kV subtransmission line, 500-kV transmission
18 line, and telecommunications line routes would require only a few vehicles for relatively short time periods.
19 Vehicles would generate intermittent and infrequent odors, typically from gasoline rather than diesel.
20 Activities would take place in small areas, often far from sensitive receptors. Operation and maintenance
21 would not subject a substantial number of receptors to objectionable odors and impacts would be less than
22 significant.
23

24 **4.3.6 References**

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