

5.3 Air Quality

AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

5.3.1 Setting

Criteria Pollutants. Air quality is determined by measuring ambient concentrations of criteria pollutants. Air pollutants are those pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Unique meteorological conditions in California and differences of opinion by medical panels established by the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (U.S. EPA) cause considerable diversity between State and Federal standards currently in effect in California. In general, the CAAQS are more stringent than the corresponding NAAQS. The standards currently in effect in California are shown in Table 5.3-1.

Table 5.3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	—
	8-hour	0.070 ppm	0.075 ppm
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³
	Annual Mean	20 µg/m ³	—
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 µg/m ³
	Annual Mean	12 µg/m ³	12.0 µg/m ³
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm	100 ppb
	Annual Mean	0.030 ppm	0.053 ppm
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	75 ppb
	24-hour	0.04 ppm	0.14 ppm
	Annual Mean	—	0.030 ppm

Notes: ppm=parts per million; ppb=parts per billion; µg/m³=micrograms per cubic meter; "—" =no standard
Source: CARB, 2013 (<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>).

Attainment Status and Air Quality Plans. The U.S. EPA, CARB, and the local air district classify an area as attainment, unclassified, or nonattainment. The classification depends on whether the monitored ambient air quality data show compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. The Proposed Project would be located within Kern County, under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD). The site would be about four miles east of the boundary of, and generally downwind from, the San Joaquin Valley Air Pollution Control District.

Table 5.3-2 summarizes attainment status for the criteria pollutants in the EKAPCD under both the federal and state standards.

Toxic Air Contaminants. Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another's.

TACs are not subject to ambient air quality standards but are regulated by each local air district using a risk-based approach. If projected emissions of a specific air toxic compound from a proposed new or stationary modified source suggest a potential public health risk, then each applicant is subject to a health risk assessment for the source in question. Such an assessment also evaluates the chronic and acute hazards and the potential increased cancer risk stemming from exposure to a change in airborne TACs. Mobile sources powered by diesel fuel emit diesel particulate matter (DPM), which is classified as a TAC because many toxic compounds adhere to diesel exhaust particles. Statewide programs for mobile sources and diesel-fired equipment set mandatory exhaust standards for manufacturers of these engines and require equipment owners or operators to register portable equipment.

Regulatory Background

Federal Clean Air Act (CAA) and California Clean Air Act. The NAAQS (Table 5.3-1) were originally established by U.S. EPA for criteria air pollutants in 1970, with a mandate for periodic updating of the standards. Criteria pollutants are the most prevalent air pollutants known to be hazardous to human health. The relevant local air district rules and regulations that enable the demonstration of attaining the standards are incorporated into the State Implementation Plan (SIP) from each local air quality management plan, as needed for each nonattainment pollutant.

Each local air district has the responsibility to develop the necessary regional air quality management plan for attaining and maintaining the ambient air quality standards. Each air district also has the authority to issue permits through its rules and regulations by requiring that new stationary sources be subject to New Source Review (NSR). The NSR program ensures that the new stationary sources would not interfere with progress to attain the ambient air quality standards. No new stationary sources would be associated with the Proposed Project or subject to permitting. Emissions from mobile and portable sources and temporary activities (such as construction) are managed through a range of State and federal programs that control mobile sources, motor vehicle emissions, and emissions from equipment powered by diesel engines.

Table 5.3-2. Attainment Status for Eastern Kern APCD

Pollutant	Federal Designation	State Designation
Ozone (1-hour)	No federal standard	Nonattainment (moderate)
Ozone (8-hour)	Nonattainment	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Attainment	Unclassified
CO	Attainment	Unclassified
NO ₂	Unclassified	Attainment
SO ₂	Unclassified	Attainment

Source: EKAPCD, 2012a. <http://www.kernair.org/Documents/EKAPCD%20Attainment%20Info%207-31-12.pdf>

U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program. The California CAA mandates CARB to achieve the maximum degree of emission reductions from all off-road mobile sources in order to attain the State ambient air quality standards. Off-road mobile sources include construction and farming equipment. Tier 1, Tier 2, and Tier 3 standards for large compression-ignition engines used in off-road mobile sources went into effect in California in 1996, 2001, and 2006 respectively. Tier 4 or Interim Tier 4 standards apply to all off-road diesel engines model year 2012 or newer. In addition, equipment can be retrofitted to achieve lower emissions using the CARB-verified retrofit technologies. The engine standards and ongoing rulemaking jointly address NOx emissions and toxic particulate matter from diesel combustion (DPM).

CARB In-Use Off-Road Diesel-Fueled Fleet Regulation. The regulations for in-use off-road diesel equipment are designed to reduce NOx and DPM from existing fleets of equipment. CARB expects to gradually enforce this rule with emissions performance requirements for large fleets starting on July 1, 2014 and for small fleets starting on January 1, 2019 (according to CARB Mail-Out #MSC 14-1, February 2014). Depending on the size of the fleet, the owner would need to ensure that the average emissions performance of the fleet meets certain state-wide standards. In lieu of improving the emissions performance of the fleet, electric systems can be installed to replace diesel equipment in the fleet average calculations. Presently, all equipment owners are subject to a five-minute idling restriction in the rule (13 California Code of Regulations, Chapter 10, Section 2449).

CARB Portable Equipment Registration Program. This program allows owners or operators of portable engines and associated equipment commonly used for construction or farming to register their units under a statewide portable program that allows them to operate their equipment throughout California without having to obtain individual permits from local air districts.

CARB Airborne Toxic Control Measures (ATCM). Diesel engines on portable equipment and vehicles are subject to various ATCM that dictate how diesel sources must be controlled statewide. For example, the ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling generally limits idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than five consecutive minutes or periods aggregating more than five minutes in any one hour (13 California Code of Regulations, Chapter 10, Section 2485). Diesel engines used in portable equipment fleets also are subject to stringent DPM emissions standards, generally requiring use of only newer engines or verified add-on particulate filters (17 California Code of Regulations Section 93116). Certain stationary compression-ignition engines running on diesel fuel, including emergency standby engines, must also control particulate matter emissions by installing verified add-on equipment (17 California Code of Regulations Sections 93115.4 and 93115.6).

Kern County General Plan. The Land Use, Open Space, and Conservation Element (Chapter 1 of the Kern County General Plan) identifies General Provisions including the following policies to protect air quality in Kern County:

- Policy 18. The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.
- Policy 19. In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that: (a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and (b) The benefits of the Proposed Project outweigh any unavoidable

able significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

- Policy 20. The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.
- Policy 21. The County shall support air districts' efforts to reduce PM10 and PM2.5 emissions.

EKAPCD Prohibitions (Regulation IV). EKAPCD Rule 401 and Rule 402 limit the emissions of visible particulate matter and wind erosion or fugitive dust from material handling and hauling, bulk storage, earthmoving, construction, and demolition. These rules prohibit any emissions of fugitive dust from construction, demolition, or other operations that remain visible in the atmosphere beyond the property line of the site of the source, except along roadways. Rule 419 prevents public nuisances.

EKAPCD Guidelines for Implementation of CEQA. The following thresholds of significance were adopted by the Kern County Air Pollution Control District Board of Directors in 1999 and remain applicable within the EKAPCD (EKAPCD, 1999). A project would have a significant air quality impact on the environment, if it would:

- Emit criteria air pollutants levels exceeding the trigger levels in EKAPCD Rule 210.1 of: 15 tons per year of PM10; 27 tons per year of SOx; or 25 tons per year of VOC or NOx;
- Emit more than 137 pounds per day of NOx or VOC from motor vehicle trips (indirect sources only);
- Cause or contribute to an exceedance of any California or National Ambient Air Quality Standard;
- Exceed the District health risk public notification thresholds; or
- Be inconsistent with adopted federal and state Air Quality Attainment Plans.

Applicant Proposed Measures

There are no applicant proposed measures for air quality.

5.3.2 Environmental Impacts and Mitigation Measures

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

LESS THAN SIGNIFICANT. The EKAPCD is the primary agency responsible for managing local air quality and administering other California and federal air pollution control programs ensuring attainment and maintenance of the ambient air quality standards. Generally, a project may be inconsistent with the applicable air quality management plan or attainment plan if it could cause population and/or employment growth or growth in vehicle-miles traveled in excess of the growth forecasts included in the attainment plan. The proposed Banducci Substation would not create any notable employment; the substation would not be staffed. Local SCE personnel would visit the substation approximately two to three times per week, generally based from the City of Tehachapi and the SCE Tehachapi Service Center, about 14 miles from the proposed substation site. Regional air quality plans and emissions inventories anticipate some growth, and this anticipated growth includes the construction of some new infrastructure, such as the Proposed Project.

Conducting project construction and operational activities in compliance with applicable EKAPCD rules and regulations would ensure that activities are consistent with EKAPCD efforts to achieve attainment and maintenance of the standards. Project-related emissions occurring in compliance with these rules and regulations would not conflict with or obstruct implementation of any applicable air quality plan. This impact would be less than significant, and no mitigation is required.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

DURING CONSTRUCTION, *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*. Emissions during the construction phase would include criteria air pollutants that could contribute to existing or projected violations of the ambient air quality standards for ozone and PM10. Construction of the proposed substation, subtransmission line segments, and other project facilities would result in air pollutant emissions from construction equipment and material handling at the various work areas and from off-site motor vehicle trips carrying workers and materials. Motor vehicles, off-road equipment, and other construction equipment would directly emit criteria air pollutants and toxic air contaminants.

The Proposed Project would develop a 3.3-acre substation, subtransmission line segments, and 30 miles of fiber optic cable on poles and in conduit. Approximately 50 construction personnel would be working on any given day over an anticipated schedule of 12 months. The equipment and workforce are itemized and detailed in Table 4-4 (Construction – Typical Equipment Use).

During construction, emissions would be generated at the proposed substation site, at staging yards, along the subtransmission line and fiber optic line work areas, and along the roadways used to access these locations. Construction emissions would be caused by exhaust from vehicles and equipment (e.g., ozone precursors [volatile organic compounds and NOx], CO, and particulate matter [PM10 and PM2.5]) and fugitive dust/particulate matter from ground-disturbing activities and travel on unpaved roads. Diesel and gasoline-powered construction equipment at work sites would include dozers, loaders, graders, backhoes, augers (drill rigs), lifts, a crane, and haul trucks for lifting, delivery, concrete, water, and work crews. Outside of work sites, exhaust emissions would be caused by vehicles transporting equipment and supplies to the sites, trucks removing debris or importing fill, and workers commuting to and from work sites. Table 5.3-3 (Estimated Construction Emissions) summarizes the estimated total construction emissions.

Table 5.3-3. Estimated Construction Emissions (tons)

Project Sources	NOx	VOC	SO ₂	PM ₁₀	PM _{2.5}
<i>Banducci Substation Construction</i>					
Off-road construction equipment	4.76	0.36	0.005	8.37	1.38
Off-site motor vehicles	0.685	0.035	0.002	0.263	0.075
Fugitive dust	—	—	—	6.62	0.99
<i>Distribution Getaway Installation</i>					
Off-road construction equipment	0.14	0.01	0.000	0.19	0.05
Off-site motor vehicles	0.002	0.000	0.000	0.002	0.001
Fugitive dust	—	—	—	0.18	0.03
<i>Subtransmission Line Segment Installation</i>					
Off-road construction equipment	1.13	0.19	0.001	2.91	0.47
Off-site motor vehicles	0.004	0.000	0.000	0.001	0.000
Fugitive dust	—	—	—	2.80	0.42

Table 5.3-3. Estimated Construction Emissions (tons)

Project Sources	NO _x	VOC	SO ₂	PM ₁₀	PM _{2.5}
Telecommunication Construction					
Off-road construction equipment	0.58	0.04	0.001	2.86	0.45
Off-site motor vehicles	0.016	0.002	0.000	0.038	0.010
Fugitive dust	—	—	—	2.84	0.43
Total Construction Emissions	7.32	0.64	0.01	27.07	4.31
Significance Threshold (tons per year)	25	25	27	15	None

Note: Based on anticipated construction schedule of 12 months; using CARB OFFROAD2011 and EMFAC2011.
Source: SCE, 2014a and 2014b. (Appendix C of Air Quality Technical Report [PEA Appendix C]; and Response to CPUC Data Request T-2 Amended).

Emissions for each type of activity and each type of source are calculated based on the various components of the Proposed Project and types of equipment specified in the Project Description (Section 4.11). The emission estimates rely on factors from the CARB OFFROAD2011 and EMFAC2011 models and U.S. EPA emission factors (SCE, 2014a). Construction-related emissions would be spread over a development schedule of one year. Based on the construction activity forecast, PM10 could be emitted at levels exceeding the threshold for the construction duration of the Proposed Project.

Project construction activities would need to be conducted in compliance with applicable EKAPCD rules and regulations. EKAPCD Rule 402 requires use of Reasonably Available Control Measures to minimize fugitive dust emissions, and examples of these measures appear as suggestions tabulated in EKAPCD Rule 402. The EKAPCD also provides suggested construction mitigation measures that should be used where applicable and feasible (EKAPCD, 2012b). Undertaking project construction without implementing the feasible and recommended dust control measures could disrupt EKAPCD efforts to attain the PM10 CAAQS and maintain the NAAQS, resulting in a significant impact.

Mitigation is available to ensure that project construction activities would be conducted in a manner consistent with EKAPCD Rule 402 and that the dust control measures recommended by EKAPCD are made enforceable. Implementation of Mitigation Measure AQ-1 (Implement EKAPCD Dust Control Measures) would ensure that construction does not violate the ambient air quality standards for PM10 or contribute substantially to existing violations. Implementing the mitigation would reduce construction-related emissions to levels that would not substantially contribute to any air quality violations, and this impact would be less than significant.

Mitigation Measure for Construction-Phase Air Quality

MM AQ-1 Implement EKAPCD Dust Control Measures. SCE shall implement the following measures during site preparation and construction:

- All soil excavated or graded should be sufficiently watered or treated with non-toxic soil stabilizers to prevent excessive dust. Watering should occur as needed with complete coverage of disturbed soil areas. Watering should be a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations.
- All clearing, grading, earth moving and excavation activities should cease: during periods of winds greater than 20 mph (averaged over one hour), if disturbed material is easily windblown; or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures, or neighboring property.

- All fine material transported offsite should be sufficiently watered, treated with non-toxic soil stabilizers, or securely covered to prevent excessive dust.
- If more than 5,000 cubic yards of fill material will be imported to or exported from the site, then all haul trucks should be required to exit the site via an access point where a gravel pad or grizzly has been installed.
- Areas disturbed by clearing, earth moving, or excavation activities should be minimized at all times.
- Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.
- Where acceptable to the fire department, weed control should be accomplished by mowing instead of discing, thereby, leaving the ground undisturbed and with a mulch covering.
- Once initial leveling has ceased all inactive soil areas within the construction site should either be seeded and watered until plant growth is evident, treated with a dust palliative, or watered twice daily until soil has sufficiently crusted to prevent fugitive dust emission.
- All active disturbed soil areas should be sufficiently watered or treated with non-toxic soil stabilizers to prevent excessive dust, but no less than twice per day.
- Onsite vehicle speed should be limited to 15 mph.
- All areas with vehicle traffic should be paved, treated with dust palliatives, or watered a minimum of twice daily.
- Streets adjacent to the project site should be kept clean and accumulated silt removed.
- Access to the site should be by means of an apron into the project from adjoining surfaced roadways. The apron should be surfaced or treated with dust palliatives. If operating on soils that cling to the wheels of the vehicles, a grizzly or other such device should be used on the road exiting the project, immediately prior to the pavement, in order to remove most of the soil material from the vehicle's tires.

DURING OPERATION, LESS THAN SIGNIFICANT. There would be very limited emissions resulting from equipment used in operation and maintenance of the proposed substation and related facilities. During operations, emissions would result from vehicles used for periodic visits, inspections, and routine maintenance or as needed during an emergency. Local SCE personnel would visit the substation approximately two to three times per week, usually based from the City of Tehachapi, which is about 15 miles from the proposed substation site. Each substation visit would involve about 60 miles traveled, and each inspection of the subtransmission line would involve about 72 miles traveled (SCE, 2014a). Because the substation would not be staffed, there would be no vehicular emissions associated with regular commuting to and from the substation. Estimated operational emissions are shown in Table 5.3-4 (Emissions During Operations).

Table 5.3-4. Emissions During Operations (lb/day)

Project Sources	NOx	VOC	SO₂	PM₁₀	PM_{2.5}
Subtransmission Line Inspection	0.02	0.006	0.001	0.007	0.003
Substation Site Visit	0.02	0.005	0.0004	0.006	0.003
Typical Operations, Total Emissions	0.04	0.011	0.001	0.014	0.006
Significance Threshold (lb/day)	137	137	None	None	None

Source: SCE, 2014a. (Appendix D of Air Quality Technical Report [PEA Appendix C]).

As shown in Table 5.3-4, the typical daily emissions during operation of the Proposed Project would be well below the applicable significance thresholds. Therefore, the air quality impact from the operational phase of the project would be less than significant.

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

DURING CONSTRUCTION, LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Proposed Project would occur in a region that is nonattainment for ozone and PM10, as Table 5.3-2 shows. Concurrent construction of other projects in close proximity to project activities could result in increased local air quality impacts for the duration of simultaneous construction activities; however, this would be limited to the circumstances of an approved or proposed project occurring in the same timeframe and location as the project. Simultaneous construction activities occurring in close proximity to the proposed work sites would also need to comply with EKAPCD rules regarding dust control. Table 5.3-3 shows that construction-related ozone precursors would not be at a cumulatively considerable level. With Mitigation Measure AQ-1 (Implement EKAPCD Dust Control Measures), the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutants for which the project region is nonattainment.

DURING OPERATION, LESS THAN SIGNIFICANT. Operational emissions would result from limited vehicle use related to periodic maintenance, repair, and inspection of the project components. The associated emission levels (Table 5.3-4) would be below the EKAPCD thresholds, and these emissions would not result in a cumulatively considerable net increase of any criteria pollutant.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

LESS THAN SIGNIFICANT. Sensitive receptors include residential areas, schools, day care centers, and other places where people reside, including prisons. The proposed substation site would be approximately 1.6 miles from the nearest location of sensitive receptors, the California Correctional Institution; the nearest residential development would be in the community of Stallion Springs, approximately 2 miles from the site. Three residences are within 0.5 miles of the substation site, with the nearest being 0.25 miles to the south on Pellister Road.

Construction of subtransmission and telecommunication facilities would occur near sensitive receptors along the linear routes of these project components. Installing these utilities could expose sensitive receptors to construction-related emissions (Table 5.3-3), including emissions of DPM and other toxic air contaminants common to diesel equipment exhaust, which would expose receptors to increased health risk and hazards. The construction-related emissions would be short-term, and no single location would be exposed to increased pollutant concentrations for more than a few days as construction crews move along the linear routes. Although overall substation and other project-related construction would require one year, construction at any one work site would last a much shorter time. The limited duration

and limited quantities of construction emissions ensure that no individual receptor would be exposed to substantial pollutant concentrations.

During project operations, emissions would result from limited use of vehicles for routine maintenance, repair, and inspection (see Table 5.3-4) that would not expose sensitive receptors to substantial concentrations of air pollutants.

e. Would the project create objectionable odors affecting a substantial number of people?

LESS THAN SIGNIFICANT. The project would not include any sources likely to create objectionable odors. Project construction would involve the temporary use of vehicles and construction equipment and materials, including solvents or coatings, that may generate intermittent, minor odors. Emissions of this nature would occur briefly during construction and would cease as the construction activity would move through phases and between work areas. There would be no notable impact of objectionable odors affecting a substantial number of people. This impact would be less than significant.

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