

4. Environmental Impact Assessment

4.3 Air Quality

This section describes the air quality resources in the Proposed Project area and discusses the affected environment and regulatory setting for air quality. Potential impacts are also discussed.

4.3.1 Environmental Setting

The Proposed Project is located within the Mojave Desert Air Basin (MDAB), which covers approximately 20,000 square miles of desert in eastern Kern County and Riverside County, the northern desert portion of Los Angeles County, and most of San Bernardino County. The portion of the MDAB in which the Proposed Project is located is regulated by the Eastern Kern County Air Pollution Control District (EKCAPCD) and Mojave Desert Air Quality Management District (MDAQMD).

Away from the cooling effects of the Pacific Ocean, the MDAB's climate can be characterized as hot in summer and cold in winter. Average temperatures recorded in the City of Ridgecrest range from a low of 30° Fahrenheit (F) in December to a high of 103° F in July (weather.com). Additionally, rainfall is sparse in the City, averaging about 3.7 inches per year.

Most of the MDAB is sparsely populated, and as a result, there is less industrial growth and fewer automobiles to generate pollution than more populated areas in California. Air pollution that occurs in the MDAB is largely the result of regional pollutants transported by wind from the San Joaquin Valley and South Coast Air Basins. The primary pollutants of concern in the Proposed Project area are particulate matter (PM) with a mean diameter less than 10 microns (PM₁₀) and ozone.

It is the responsibility of the EKCAPCD and MDAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in their geographical jurisdiction. Health-based air quality standards have been established by California (California Ambient Air Quality Standards – CAAQS) and by the federal government (National Ambient Air Quality Standards – NAAQS) for the following criteria air pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), PM₁₀, particulate matter with a mean diameter of less than 2.5 microns (PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). A new standard for ozone was recently adopted by the United States Environmental Protection Agency (USEPA) and the state NO₂ standard was recently revised. Furthermore, California has additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility. Attainment of the state and federal ambient air quality standards protects sensitive receptors and the public from criteria pollutants that are known to have adverse human health effects.

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4.3.1.1 Federal and State Monitored Air Pollutants

4.3.1.1.1 Ozone (O₃)

Ground-level ozone (O₃) is an oxidant and the major component of smog. Ozone is generated by a complex series of chemical reactions between reactive organic gases (ROG) and oxides of nitrogen (NO_x) in the presence of ultraviolet radiation. The presence of both ROG and NO_x in the lower atmosphere is typically the result of incomplete combustion. The rate of ground-level ozone formation is dependent on the concentrations of ROG and NO_x, daytime wind flow patterns, mountain barriers, persistence of temperature inversions, and the intensity of sunlight. For this reason, ROG and NO_x are considered precursors to ozone, and emissions of ROG and NO_x are regulated in place of O₃.

4.3.1.1.2 Nitrogen Dioxide (NO₂)

Oxides of nitrogen (NO_x) emissions are primarily generated from the combustion of fuels. NO_x includes nitric oxide (NO) and nitrogen dioxide (NO₂). Because NO converts to NO₂ in the atmosphere over time, NO₂ is the listed criteria pollutant.

4.3.1.1.3 Carbon Monoxide (CO)

CO is a product of incomplete combustion, principally from automobiles and other mobile sources of pollution. CO emissions from wood-burning stoves and fireplaces can also be measurable contributors. Typically, peak CO levels occur during winter months, due to a combination of higher emission rates and stagnant weather conditions such as ground-level radiation inversions.

4.3.1.1.4 Sulfur Dioxide (SO₂)

SO₂ is produced when any sulfur-containing fuel is combusted. Processed natural gas contains trace amounts of sulfur, while fuel oils contain much larger amounts. SO₂ reacts in the atmosphere to form acid rain, which is destructive to lakes and streams, crops and vegetation, as well as to buildings, materials, and cultural resources.

4.3.1.1.5 Particulate Matter (PM)

PM emissions are caused by a combination of windblown fugitive or road dust, particles emitted from combustion sources (usually carbon particles), and organic sulfate and nitrate aerosols formed in the air from emitted hydrocarbons, sulfur oxides, and NO_x. Respirable particulate matter is referred to as PM₁₀, because it has a diameter size of equal to or less than 10 microns.

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Concentrations of fine particulates ($PM_{2.5}$) are also measured and reported as part of the AAQS program.

4.3.1.1.6 Lead (Pb)

Lead gasoline additives, non-ferrous smelters, and battery plants were historically significant contributors to atmospheric lead emissions. Legislation in the early 1970s required the gradual reduction of lead content in gasoline. This required reduction has dramatically reduced lead emissions from mobile and other combustion sources. In addition, unleaded gasoline was introduced in 1975. These controls have essentially eliminated violations of the lead standard for ambient air in most urban areas.

4.3.1.2 California-Only Designated Criteria Pollutants

Sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles are CAAQS-only criteria pollutants.

The USEPA compares ambient air criteria pollutant measurements with NAAQS to assess the status of air quality of regions within the states. Similarly, CARB compares air pollutant measurements in California to CAAQS. Based on these comparisons, regions within the states and California are designated as one of the following categories:

- **Attainment.** A region is designated as attainment if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, areas that have been re-designated from nonattainment to attainment are classified as “maintenance areas” for a 10-year period to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS is exceeded for a pollutant, then the region is designated as nonattainment for that pollutant.
- **Unclassifiable.** An area is designated as unclassifiable if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Currently, the ambient air quality within the EKCAPCD jurisdiction is classified as nonattainment for O_3 and either attainment or unclassified for all other federally regulated criteria pollutants (EKCAPCD 2010). With regard to CAAQSs, the EKCAPCD jurisdiction is classified as nonattainment for O_3 and PM_{10} , and either attainment or unclassified for all other state pollutants (EKCAPCD 2010). The air quality within the MDAQMD jurisdiction is classified as attainment or unclassified for all federally regulated criteria pollutants. With regard to CAAQSs, the MDAQMD

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jurisdiction is classified as nonattainment for O₃ and PM₁₀, and either attainment or unclassified for all other state pollutants.

Air Quality Standards and EKCAPCD and MDAQMD Attainment Status are summarized in [Tables 4.3-1](#) and [4.3-2](#).

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Table 4.3-1 State and Federal Ambient Air Quality Standards

Ambient Air Quality Standards							
Pollutant	Averaging Time	California Standards ¹		Federal Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry	
	8 Hour	0.070 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)			
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		—			
Fine Particulate Matter (PM _{2.5})	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15.0 µg/m ³			
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)	
	1 Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—			
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence	
	1 Hour	0.18 ppm (339 µg/m ³)		0.100 ppm (see footnote 8)			None
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m ³)	—	Spectrophotometry (Pararosaniline Method)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (365 µg/m ³)			
	3 Hour	—		—			0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)		—			—
Lead ⁹	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	Same as Primary Standard	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	—		1.5 µg/m ³			
	Rolling 3-Month Average ¹⁰	—		0.15 µg/m ³			
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards			
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography				
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence				
Vinyl Chloride ⁹	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

See footnotes on next page ...

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Notes:

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM₁₀, PM_{2.5}, and visibility reducing particles—are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Centigrade ($^{\circ}\text{C}$) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 $^{\circ}\text{C}$ and a reference pressure of 760 torr; parts per million (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.
8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that to directly compare the national standards to the California standards, the units can be converted from parts per billion (ppb) to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
9. On June 2, 2010, the USEPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. USEPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated state monitoring networks. The USEPA also revoked both the existing 24-hour SO₂ standard of 0.14 ppm and the annual primary SO₂ standard of 0.030 ppm, effective August 23, 2010. The secondary SO₂ standard was not revised at that time; however, the secondary standard is undergoing a separate review by USEPA. Note that the new standard is in units of parts per billion (ppb). California standards are in ppm. To directly compare the new primary national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
10. The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

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Table 4.3-2 EKCAPCD and MDAQMD Attainment Status

Pollutant	Designation/Classification				
	National Ambient Air Quality Standards (NAAQS)			State Ambient Air Quality Standards (SAAQS)	
	EKCAPCD	Indian Wells Valley (Part of EKCAPCD Area)	MDAQMD	EKCAPCD	MDAQMD
Ozone – 1 hour	Attainment	Attainment	Unclassified/Attainment	Moderate Nonattainment	Nonattainment
Ozone – 8 hour (0.08 ppm)	Nonattainment	Unclassified/Attainment	Unclassified/Attainment	Nonattainment	Nonattainment
PM ₁₀	Unclassified/Attainment	Attainment Maintenance	Attainment	Nonattainment	Nonattainment
PM _{2.5}	Unclassified/Attainment	Unclassified/Attainment	Unclassified/Attainment	Unclassified	Unclassified/Attainment
Carbon Monoxide	Unclassified/Attainment	Unclassified/Attainment	Attainment	Unclassified	Attainment
Nitrogen Dioxide	Unclassified	Unclassified	Unclassified/Attainment	Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified	Unclassified	Unclassified/Attainment	Attainment	Unclassified/Attainment
Lead Particles	No Designation	No Designation	Attainment	Attainment	Attainment

4.3.2 Regulatory Setting

Ambient air quality and air pollutant emissions from stationary and mobile sources are managed under a framework of federal, state, and local rules and regulations. The Proposed Project will comply with applicable laws, ordinances, regulations, and standards related to air quality during and following construction.

4.3.2.1 Federal

The Clean Air Act—The Clean Air Act of 1970 (CAA), 42 USC 7401 et seq. as amended in 1977 and 1990, is the basic federal statute governing air quality. The USEPA is the principal agency

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responsible for overseeing enforcement of CAA statutes and regulations. The USEPA also oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources. The sections of the CAA that are most applicable to the project include Title I (Air Pollution Prevention and Control) and Title II (Emission Standards for Mobile Sources).

4.3.2.2 State

The California Clean Air Act—The California CAA outlines a statewide air pollution control program in California. CARB is the primary administrator of the California CAA, while local air quality districts administer air rules and regulations at the regional level. CARB is responsible for establishing CAAQS, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and preparing the State Implementation Plan.

4.3.2.3 Local

Local air districts in California are responsible for issuing stationary source air permits, developing emissions inventories, maintaining air quality monitoring stations, and reviewing air quality environmental documents required by CEQA. The California CAA also designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The EKCAPCD is the administrator of air pollution rules and regulations within eastern Kern County, and the MDAQMD is the administrator of air pollution rules and regulations for the areas within San Bernardino County where the Proposed Project would be located.

4.3.2.3.1 EKCAPCD Rules and Regulations

The EKCAPCD has adopted the *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, as Amended* (Kern County Air Pollution Control District July 1, 1999). The purpose of the guidelines is to set forth EKCAPCD's definitions, procedures, and forms to implement CEQA and to supplement State CEQA Guidelines. The guidelines also establish the thresholds for specific pollutants and emissions above which are considered significant. These significance criteria are summarized in [Table 4.3-3](#).

The EKCAPCD has established rules and regulations to ensure compliance with applicable local, state, and federal air quality regulations. The following rules are potentially applicable to the Proposed Project.

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Rule 201 Permits Required—Any person building, altering or replacing any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, shall first obtain authorization for such construction from the EKCAPCD Control Officer. An Authority to Construct shall remain in effect until the Permit to Operate the equipment for which the application was filed is granted, denied, or canceled.

Rule 202 Permit Exemptions—This rule establishes criteria for exemption from EKCAPCD Authority to Construct and Permit to Operate requirements for specific categories and types/sizes of equipment unless a written permit is specifically requested by the owner/operator.

Rule 208.2 Criteria for Finding of No Significant Environmental Impact (California Environmental Quality Act)—This Rule establishes criteria by which a project under review by EKCAPCD can be found to have no potential for causing a significant environmental impact, and thus be granted a general rule exemption pursuant to Section 15061(b)(3) of the State CEQA Guidelines.

Rule 210.1 New and Modified Stationary Source Review—Rule 210.1 establishes stationary source offset levels for new and modified stationary sources of air pollutants. Under this rule, the EKCAPCD has established required offsets for when the emissions from a source exceed the following trigger levels:

- PM₁₀ – 15 tons/year
- Sulfur oxides (as SO₂) – 27 tons/year
- VOCs – 25 tons/year
- NO_x (as NO₂) – 25 tons/year

Rule 401 Visible Emissions—Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

- a) As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the U.S. Bureau of Mines, or
- b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A [of the Rules].

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Rule 402 Fugitive Dust—Rule 402 addresses significant man-made dust sources with specific additional requirements for large operations; the proposed activities under the Proposed Project do not meet the criteria of a large operation. The following requirements of Rule 402 apply to the Proposed Project:

- A person shall not cause or allow emissions of fugitive dust from any active operation to remain visible in the atmosphere beyond the property line of the emission source, excluding unpaved roadways.
- A person shall utilize one or more Reasonably Available Control Measures (RACMs) to minimize fugitive dust emissions from each source type that is part of any active operation, including unpaved roadways.

Rule 404.1 Particulate Matter Concentration – Desert Basin—Rule 404.1 applies to any person who discharges particulate matter emissions into the atmosphere from any single source operation and states:

- a) A person shall not discharge into the atmosphere from any single source operation, in service on the date this Rule is adopted, particulate matter in excess of 0.2 grains per cubic foot of gas at standard conditions.
- b) A person shall not discharge into the atmosphere from any single source operation, the construction or modification of which commenced after the adoption of this Rule, particulate matter in excess of 0.1 grains per cubic foot of gas at standard conditions.

Rule 419 Nuisance—Rule 419 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

4.3.2.3.2 MDAQMD Rules and Regulations

Rule 201 Permit to Construct—Rule 201 states that a person shall not build, erect, install, alter or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants without first obtaining written authorization for such construction from the Air Pollution Control Officer. A permit to construct shall remain in effect until the permit to operate the equipment for which the application was filed is granted or denied, or the application is canceled.

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Rule 401 Visible Emissions—Rule 401 states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

- a) As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection (a) of this rule.

Rule 402 Nuisance—Rule 402 states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403.1 Fugitive Dust Control for the Searles Valley Planning Area—Rule 403.1 applies to construction/demolition activities, activities on BLM land, and disturbed surface areas on public land.

For construction/demolition activities, the rule requires an operator to prepare and follow a District-approved Dust Control Plan that contains provisions to maintain the natural topography to the extent possible during grading and other earth movement; provisions to cover or otherwise contain Bulk Material carried on haul trucks operating on paved roads; and provisions to remove Bulk Material tracked onto paved road surfaces.

For activities occurring on BLM land, Rule 403.1 notes that the District and BLM shall jointly prepare a dust control plan that reduces BLM PM₁₀ emissions by at least 20 percent relative to 1990 levels. The dust control plan may include, but not be limited to, the following RACM:

- a) Reduce PM₁₀ emissions associated with activities on BLM land by 20 percent relative to 1990 levels;
- b) Provide wind and water erosion controls sufficient to minimize deposition of silt on paved roads;
- c) Provide for paving or other stabilization of major unpaved/paved road access points;

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- d) Provide for paving or other stabilization of major vehicle staging and parking areas;
- e) Provide for signage that reduces vehicular speeds, particularly during high wind episodes.

Rule 404 Particulate Matter Concentration—Rule 404 states that a person shall not discharge into the atmosphere from any source, particulate matter except liquid sulfur compounds, in excess of 0.196 grains per cubic foot of gas at standard conditions.

4.3.3 Significance Criteria

The significance criteria for assessing the impacts to air quality come from the CEQA Environmental Checklist. A project causes a potentially significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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); specifically, implementation of a project would have a significant impact on air quality if it would exceed any of the following thresholds:
 - ROG – 25 tons per year for sources subject to EKCAPCD Rule 201 (EKCAPCD)
137 lb/day for motor vehicle trips (indirect sources only) (EKCAPCD)
 - NO_x – 25 tons per year for sources subject to EKCAPCD Rule 201 (EKCAPCD)
137 lb/day for motor vehicle trips (indirect sources only) (EKCAPCD)
 - PM₁₀ – 15 tons per year for sources subject to EKCAPCD Rule 201 (EKCAPCD)
 - SO_x – 27 tons per year for sources subject to EKCAPCD Rule 201 (EKCAPCD)
 - CO – 100 tons per year (CEQA Appendix G)
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

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4.3.4 Impact Assessment

This section evaluates potential air quality impacts from the construction and operation of the Proposed Project.

During the construction phase of the Proposed Project, emissions would be generated from operation of heavy equipment and support vehicles. Specifically, fugitive dust would likely be generated during clearing, grading, or scraping activities associated with preparing the proposed Downs Substation expansion area for construction, installing the proposed new 115 kV subtransmission line, replacing the six existing 115 kV subtransmission line poles, and stringing the fiber optic telecommunication cable.

Maximum daily and total air pollutant emissions were estimated for each construction phase using South Coast Air Quality Management District (SCAQMD)-derived mobile source emission factors from CARB's EMFAC 2007 (v2.3) BURDEN computational model for both on-road and off-road sources. The emission estimates reflect a conservative calculation based on estimated total use of each type of equipment anticipated for construction. A summary of estimated emissions for each construction phase is presented in [Table 4.3-3](#). A complete listing of the calculations and assumptions for the estimated emissions are included in Appendix C. Total project emissions compared to significance thresholds are shown in [Table 4.3-3](#).

Operation of the Proposed Project would result in emissions from vehicles used during periodic inspection, maintenance, and repair activities. No stationary emissions sources would be associated with the Proposed Project, and therefore emissions during the operations phase would not be significant.

Measures to reduce emissions would be employed in accordance with *Suggested Air Pollutant Mitigation Measures for Construction Sites for Kern County APCD* (EKCAPCD, September 2007).

Construction and operation of the Proposed Project would result in no or less than significant impacts for the following CEQA criteria:

Would the Proposed Project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The EKCAPCD's and MDAQMD's primary means of implementing air quality plans is by adopting rules and regulations. Emissions of criteria pollutants would be less than daily and annual significance thresholds established by EKCAPCD and MDAQMD; therefore, construction activities related to the Proposed Project, as designed, would not conflict with or obstruct

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implementation of any EKCAPCD or MDAQMD air quality plans (the plans), rules, or regulations that outline the long-term strategies designed to have regional air quality comply with NAAQS and CAAQS.

The emissions associated with Proposed Project construction would be temporary and would represent a very small fraction of the regional emission inventories included in the plans. Thus, construction emissions are not expected to substantially contribute to the regional emissions. Construction equipment would be operated in compliance with applicable EKCAPCD and MDAQMD requirements, including applicable fugitive dust control measures in compliance with EKCAPCD Rule 402 and MDAQMD Rule 403.1.

The Proposed Project will not emit any significant levels of pollutants during operation as no new stationary sources are included in the Proposed Project. Therefore, no conflicts with EKCAPCD or MDAQMD plans will result from operation of the Proposed Project. No impacts would occur under this criterion as a result of the Proposed Project.

Would the Proposed Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impacts. [Table 4.3-3](#) summarizes the total project-related air emissions as compared to EKCAPCD and MDAQMD thresholds of significance. Construction of the Proposed Project would result in emissions of CO, ROG, NO_x, SO_x, PM₁₀, and PM_{2.5} from fuel combustion and fugitive dust.

Emissions of criteria pollutants would be less than daily and annual significance thresholds established by EKCAPCD and MDAQMD.

Operation of the Proposed Project would result in emissions from vehicles used during periodic inspection, maintenance, and repair activities. No stationary emissions sources would be associated with operations of the Proposed Project, and therefore emissions during the operations phase will not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Would the Proposed 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)?

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Less than Significant Impacts. Construction of the Proposed Project would not result in emissions of criteria pollutants that exceed significance thresholds established in plans adopted by the EKCPCD and the MDAQMD to achieve attainment with state and federal air quality standards. Consistent with CEQA Guidelines section 15064(h)(3), because the Proposed Project would comply with applicable air quality plans and would not impede either District from achieving attainment, the Proposed Project would not have a significant cumulative impact.

Would the Proposed Project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impacts. Sensitive receptors are persons who may be particularly sensitive to air pollution because they are ill, elderly, or have lungs that are not fully developed. Locations where such persons reside, spend considerable amounts of time, or engage in strenuous activities are also referred to as “sensitive receptors.” Typical sensitive receptors include inhabitants of long-term healthcare facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities.

The Proposed Project would not have a significant impact on ambient air quality during construction or operation. Sensitive receptors who may be impacted by the Proposed Project include individuals using the ball fields adjacent to the existing Downs Substation during construction of the proposed Downs Substation expansion, and individuals at residences near the existing Downs Substation and along the Inyokern-McGen-Searles No. 1 and No. 2 115 kV subtransmission line routes. Impacts on sensitive receptors, particularly from dust, would vary depending on the level and type of activity, the silt content of the soil, and prevailing weather.

Pollutant emissions would be distributed over the construction period, and not concentrated in any one area. In addition, pollutant emissions during construction would be reduced by APMs. Therefore, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. Less than significant impacts would occur under this criterion as a result of the Proposed Project.

Would the Proposed Project create objectionable odors affecting a substantial number of people?

Less than Significant Impact. The only potential odors associated with the Proposed Project would be from diesel exhaust during the construction period and at limited times during operation. These odors, if perceptible, are common in the environment, would dissipate rapidly as they mix with the surrounding air, and would be localized and of very limited duration. Any potential odor impacts would be considered less than significant. Therefore, less than significant impacts would occur under this criterion as a result of the Proposed Project.

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Table 4.3-3 Summary of Estimated Project Construction Emissions and Significance Thresholds

Source	Emission Type	Estimated Project Emissions (lb/day)		Estimated Project Emissions (Tons)				
		ROG	NO _x	ROG	NO _x	CO	SO ₂	PM ₁₀
Substation Construction	Combustion	--	--	0.17	1.35	0.66	0.001	0.07
	Fugitive Dust	--	--	--	--	--	--	0.62
	Motor Vehicle Trips	0.43	0.43	--	--	--	--	--
115 kV Relay Upgrade	Combustion	--	--	0.36	3.72	1.33	0.004	0.15
	Fugitive Dust	--	--	--	--	--	--	1.06
	Motor Vehicle Trips	1.52	1.51	--	--	--	--	--
Fiber Optic Telecom System Construction	Combustion	--	--	0.07	0.62	0.26	0.0007	0.03
	Fugitive Dust	--	--	--	--	--	--	0.29
	Motor Vehicle Trips	0.19	0.19	--	--	--	--	--
Project Total		2.15	2.13	0.60	5.69	2.25	0.006	2.22
EKCAPCD Significance Thresholds		137	137	25	25	100	27	15
MDAQMD Significance Thresholds		137	137	25	25	100	25	15
Exceeds Significance Thresholds?		NO	NO	NO	NO	NO	NO	NO

4.3.5 Applicant Proposed Measures

Because the Proposed Project would not result in significant impacts to air quality, no APMs are offered.

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