

This section examines the air quality in the project area, includes a summary of applicable air quality regulations, and analyzes potential air quality impacts associated with the proposed project. Air quality impacts were assessed in accordance with methodologies recommended by the California Air Resources Board (CARB) and the Mojave Desert Air Quality Management District. This section is based on technical data presented in *Ord Mountain and Solar Energy Storage Project and Calcite Substation Project Air Quality and Greenhouse Gas Emissions Assessment*, prepared by Dudek and peer-reviewed by Michael Baker International (Dudek 2017; see **Appendix C**).

ENVIRONMENTAL SETTING

MOJAVE DESERT AIR BASIN

CARB divides the state into 15 air basins that share similar meteorological and topographical features. The project site is in the southern portion of the Mojave Desert Air Basin (Basin). The Basin covers an area of 27,287 square miles and is California's largest air basin. The Basin comprises portions of four counties: eastern Kern County, northeast Los Angeles County, eastern Riverside County, and all but a small southwestern portion of San Bernardino County. The Basin's terrain is diverse, including low elevation desert, high elevation desert, and mountain areas. The elevation ranges from below sea level on the desert floor to peaks of more 7,000 feet.

The Basin has an arid climate with cool winters, hot summers, and little rainfall. Temperatures generally increase, while precipitation generally decreases, from south to north and west to east. Temperatures in the desert portions of the Basin can top 100 degrees Fahrenheit during the summer with an annual average rainfall of less than 8 inches. In contrast to the desert portions of the Basin, both temperature and precipitation can be significantly different in the mountain areas, where snowcapped peaks are commonplace during the winter. Overall, the Basin tends to be windy, with winds blowing predominantly from the south and west. During late spring, high winds from the coastal areas of Southern California blow into the Mojave Desert. In contrast, during fall Santa Ana conditions, hot air from the desert blows into Southern California.

AIR POLLUTANTS OF CONCERN

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state laws. These regulated air pollutants are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_x), sulfur dioxide (SO₂), coarse particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), lead,

and fugitive dust are primary air pollutants. Of these, CO, SO₂, PM₁₀, and PM_{2.5} are criteria pollutants. ROG and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere (for example, ozone (O₃) is formed by a chemical reaction between ROG and NO_x in the presence of sunlight). Ozone and nitrogen dioxide (NO₂) are the principal secondary pollutants.

Sources and health effects commonly associated with criteria pollutants are summarized in Table 3.2-1, *Criteria Air Pollutants Summary of Common Sources and Effects*.

**Table 3.2-1:
Criteria Air Pollutants Summary of Common Sources and Effects**

Pollutant	Major Man-Made Sources	Human Health and Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO ₂)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O ₃)	Formed by a chemical reaction between volatile organic compounds (VOC) and NO _x in the presence of sunlight. VOCs are also commonly referred to as reactive organic gases. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM ₁₀ & PM _{2.5})	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).

Pollutant	Major Man-Made Sources	Human Health and Welfare Effects
Sulfur Dioxide (SO ₂)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.

Source: Dudek 2017; see Appendix C.

AMBIENT AIR QUALITY

CRITERIA AIR POLLUTANT MONITORING DATA

Ambient air quality for the project site can be inferred from ambient air quality measurements conducted at air quality monitoring stations. Existing levels of ambient air quality and historical trends in the region are documented by measurements made by the MDAQMD, the air pollution regulatory agency in the air basin that maintains air quality monitoring stations which process ambient air quality measurements.

The closest ambient air quality monitoring station to the project site that monitors ozone and airborne particulates is the Victorville monitoring station, located at 14306 Park Avenue in Victorville, approximately 35 miles to the west of the project. The Barstow monitoring station, located at 1301 W. Mountain View Street in Barstow, is the nearest air quality monitoring station that monitors CO and is 28 miles to the north of the project site. Table 3.2-2, *Ambient Air Quality Monitoring Data*, summarizes the data from 2013 to 2015 and the number of days exceeding the ambient air quality standards.

**Table 3.2-2:
Ambient Air Quality Monitoring Data**

Concentration or Exceedances	Ambient Air Quality Standard	2014	2015	2016
<i>Ozone (O₃) – Victorville Monitoring Station</i>				
Maximum 1-hour concentration (ppm)	0.09 ppm (state)	0.122	0.132	0.100
<i>Number of days exceeding state standard (days)</i>		3	8	4
Maximum 8-hour concentration (ppm)	0.070 ppm (state)	0.097	0.106	0.086
	0.070 ppm (federal)	0.096	0.105	0.085
<i>Number of days exceeding state standard (days)</i>		40	39	35
<i>Number of days exceeding federal standard (days)</i>		18	21	18

Concentration or Exceedances	Ambient Air Quality Standard	2014	2015	2016
<i>Nitrogen Dioxide (NO₂) – Victorville Monitoring Station</i>				
Maximum 1-hour concentration (ppm)	0.18 ppm (state)	0.066	0.118	0.097
	0.100 ppm (federal)	0.0666	0.1181	0.0972
<i>Number of days exceeding state standard (days)</i>		0	0	0
<i>Number of days exceeding federal standard (days)</i>		0	1	0
Annual concentration (ppm)	0.030 ppm (state)	0.013	0.010	0.010
	0.053 ppm (federal)	0.013	0.011	0.010
<i>Carbon Monoxide (CO) – Barstow Monitoring Station</i>				
Maximum 1-hour concentration (ppm)	20 ppm (state)	—	—	—
	35 ppm (federal)	301	2.2	3.8
<i>Number of days exceeding state standard (days)</i>		—	—	—
<i>Number of days exceeding federal standard (days)</i>		1	0	0
Maximum 8-hour concentration (ppm)	9 ppm (state)	—	—	—
	9 ppm (federal)	37.8	0.6	1.2
<i>Number of days exceeding state standard (days)</i>		—	—	—
<i>Number of days exceeding federal standard (days)</i>		8	0	0
<i>Sulfur Dioxide (SO₂) – Victorville Monitoring Station</i>				
Maximum 1-hour concentration (ppm)	0.075 ppm (federal)	0.0048	0.0179	0.0263
<i>Number of days exceeding federal standard (days)</i>		0	0	0
Maximum 24-hour concentration (ppm)	0.14 ppm (federal)	0.0019	0.018	0.031
<i>Number of days exceeding federal standard (days)</i>		0	0	0
Annual concentration (ppm)	0.030 ppm (federal)	0.0012	0.00063	0.00059
<i>Coarse Particulate Matter (PM₁₀) – Victorville Monitoring Station</i>				
Maximum 24-hour concentration (µg/m ³)	50 µg/m ³ (state)	ND	ND	ND
	150 µg/m ³ (federal)	246.2	100.8	226.5
<i>Number of days exceeding state standard (days)</i>		ND (ND)	ND (ND)	ND (ND)
<i>Number of days exceeding federal standard (days)</i>		1.0 (1)	ND (0)	2.0 (2)
Annual concentration (state method) (µg/m ³)	20 µg/m ³ (state)	ND	ND	ND
<i>Fine Particulate Matter (PM_{2.5}) – Victorville Monitoring Station</i>				
Maximum 24-hour concentration (µg/m ³)	35 µg/m ³ (federal)	24.1	50.2	41.5
<i>Number of days exceeding federal standard (days)</i>		ND (0)	6.6 (1)	1.0 (1)
Annual concentration (µg/m ³)	12 µg/m ³ (state)	7.7	6.7	7.6
	12.0 µg/m ³ (federal)	7.7	6.7	7.5

Source: Dudek 2017

Notes: — = not available; µg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value; ppm = parts per million

REGULATORY FRAMEWORK

FEDERAL AND STATE

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the National Ambient Air Quality Standards (NAAQS) to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before an air basin can attain the standard. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀ and PM_{2.5}, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 3.2-3, *Ambient Air Quality Standards*.

**Table 3.2-3:
Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
O ₃	1 hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standard ^f
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	
NO ₂	1 hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	
CO	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None
	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
SO ₂	1 hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas)	—
	Annual	—	0.030 ppm (for certain areas)	—
PM ₁₀	24 hours	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	—	
PM _{2.5}	24 hours	—	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	12.0 µg/m ³	15.0 µg/m ³
Lead	30-day Average	1.5 µg/m ³	—	—
	Calendar Quarter	—	1.5 µg/m ³ (for certain areas)	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m ³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)	—	—
Vinyl chloride	24 hours	0.01 ppm (26 µg/m ³)	—	—
Sulfates	24 hours	25 µg/m ³	—	—

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
Visibility-reducing particles	8 hours (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: Dudek 2017

Notes: $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $\text{PM}_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; ppm = parts per million by volume; SO_2 = sulfur dioxide

LOCAL

SAN BERNARDINO COUNTY GENERAL PLAN

The following goals, policies, and programs from the General Plan Conservation Element are applicable to the proposed project:

CONSERVATION ELEMENT

Policy CO 4.1 The County will ensure good air quality for its residents, businesses, and visitors to reduce impacts on human health and the economy.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the CEQA Guidelines. The proposed project would have a significant impact related to air quality if it would:

- Conflict with or obstruct the 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 nonattainment under an applicable federal or state ambient air quality

standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

In addition, CEQA Guidelines Appendix G indicates that where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the proposed project would have a significant impact on air quality. The MDAQMD has adopted thresholds to address the significance of air quality impacts resulting from a project. As outlined in the MDAQMD's (2016) CEQA and Federal Conformity Guidelines, a project would result in a significant environmental impact if it:

1. Would generate total emissions (direct and indirect) in excess of the established significance thresholds; see to Table 3.2-3, *Ambient Air Quality Standards*.
2. Would generate a violation of any ambient air quality standard when added to the local background.
3. Does not conform with the applicable attainment or maintenance plan.
4. Would expose sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million (10×10^{-6}) and/or a Hazard Index (noncarcinogenic) greater than or equal to 1.

A project is deemed to be in conformance with the applicable attainment or maintenance plans, and hence not be significant, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments, and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to be in conformance and would not exceed the MDAQMD's significance threshold 3.

Residences, schools, daycare centers, playgrounds, and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned sensitive receptor land use must be evaluated using the MDAQMD's significance threshold 4:

- Any industrial project within 1,000 feet
- A distribution center (40 or more trucks per day) within 1,000 feet
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet
- A dry cleaner using perchloroethylene within 500 feet
- A gasoline dispensing facility within 300 feet

The MDAQMD CEQA Air and Federal Conformity Guidelines set forth quantitative emission significance thresholds for criteria air pollutants below which a project would not have a significant impact on ambient air quality. Project-related air quality emissions estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 3.2-4, *MDAQMD Air Quality Significance Thresholds*, are exceeded. The emission-based thresholds for O₃ precursors are intended to serve as a surrogate for an “ozone significance threshold” (i.e., the potential for adverse O₃ impacts to occur) because ozone itself is not emitted directly, and the effects of an individual project’s emissions of O₃ precursors (VOC and NO_x) on O₃ levels in ambient air cannot be determined through air quality models or other quantitative methods. The MDAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions.

**Table 3.2-4:
MDAQMD Air Quality Significance Thresholds**

Pollutant	Annual Threshold (tons per year)	Daily Threshold (pounds per day)
VOC	25	137
NO _x	25	137
CO	100	548
SO _x	25	137
PM ₁₀	15	82
PM _{2.5}	12	65
Hydrogen Sulfide ^a	10	54
Lead ^a	0.6	3

Source: Dudek 2017; see Appendix C.

a. The project includes typical construction equipment and on-road vehicles, which result in negligible (if any) emissions of hydrogen sulfide and lead. Therefore, these pollutants are not discussed in this analysis.

PROJECT IMPACTS AND MITIGATION

Air quality impacts are analyzed below according to topic. Mitigation measures directly correspond with an identified impact.

VIOLATE AIR QUALITY STANDARDS (CONSTRUCTION)

Impact 3.2-1 **The project would violate any air quality standards or contribute substantially to an existing or projected air quality violation during project construction. Impacts would be less than significant with mitigation.**

Construction of the project would result in the temporary addition of pollutants to the local air basin caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Table 3.2-5, *Estimated Maximum Daily Unmitigated Construction Criteria Air Pollutant Emissions*, presents the estimated maximum daily construction emissions generated during construction of the project. Details of the emission calculations are provided in **Appendix C**.

**Table 3.2-5:
Estimated Maximum Daily Unmitigated Construction Criteria Air Pollutant Emissions**

Year	Pounds per Day					
	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}
2019 – Ord Mountain	10.28	163.59	45.97	0.43	100.61	12.91
2019 – Calcite Substation	4.16	45.45	72.79	0.17	9.06	3.49
2019 Total	14.44	209.04	118.76	0.60	109.67	16.40
2020 – Ord Mountain	7.10	29.28	16.31	0.24	72.36	8.37
2020 – Calcite Substation	3.24	35.35	56.61	0.13	7.04	2.71
2020 Total	10.34	64.64	72.92	0.37	79.40	11.08
Maximum Daily Emissions	14.44	209.04	118.76	0.60	109.67	16.40
<i>MDAQMD Threshold</i>	137	548	137	137	82	65
Threshold Exceeded?	No	No	No	No	Yes	No

Source: Dudek 2017; see Appendix C.

Notes: CO = carbon monoxide; NOx = oxides of nitrogen; MDAQMD = Mojave Desert Air Quality Management District; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SOx = sulfur oxides; VOC = volatile organic compounds
Watering three times daily surrogate for compliance with Rule 403.2.

Maximum daily emissions of NO_x, CO, SO_x, and PM_{2.5} would occur during the construction phase in 2019 and 2020 as a result of off-road equipment operation and on-road vendor trucks and haul trucks. The overlap of the building construction phase and the architectural coatings phases in 2019 would produce the maximum daily VOC and PM₁₀ emissions. As shown in Table 3.2-5, *Estimated Maximum Daily Unmitigated Construction Criteria Air Pollutant Emissions*, daily construction emissions would not exceed the MDAQMD significance thresholds for VOC, NO_x, CO, SO_x, or PM_{2.5} during construction in all construction years. However, the project would exceed the MDAQMD significance threshold for PM₁₀. As such, mitigation is required.

Table 3.2-6, *Estimated Annual Unmitigated Construction Criteria Air Pollutant Emissions*, presents the estimated annual construction emissions generated during construction of the project in 2019 and 2020.

**Table 3.2-6:
Estimated Annual Unmitigated Construction Criteria Air Pollutant Emissions**

Year	Tons per Year					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
2019 – Ord Mountain	0.73	10.19	2.33	0.03	5.33	0.67
2019 – Calcite Substation	0.34	3.04	6.41	0.00	0.73	0.28
2019 Total	1.07	13.23	8.74	0.03	6.06	0.95
2020 – Ord Mountain	0.78	13.80	2.00	0.03	3.88	0.54
2020 – Calcite Substation	0.26	2.36	4.99	0.00	0.57	0.22
2020 Total	1.04	16.16	6.99	0.03	4.45	0.76
Maximum Annual Emissions	1.07	16.16	8.74	0.03	6.06	0.95
<i>MDAQMD Threshold</i>	25	100	25	25	15	12
Threshold Exceeded?	No	No	No	No	No	No

Source: Dudek 2017; see Appendix C.

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; MDAQMD = Mojave Desert Air Quality Management District; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SO_x = sulfur oxides; VOC = volatile organic compounds

Watering three times daily surrogate for compliance with Rule 403.2.

As shown in Table 3.2-6, the project would not exceed the MDAQMD annual emissions thresholds for VOC, NO_x, CO, SO_x, PM₁₀, or PM_{2.5} in either construction year.

The project would be required to comply with MDAQMD Rule 403.2 to control fugitive dust emissions generated during grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include:

- Short-term dust control by a water truck and/or available water source on or near the drilling rig;
- Minimize and clean up track out onto paved roads;
- Cover haul trucks;
- Stabilize (chemical or vegetation) the site upon completion of grading when subsequent development is delayed;
- Rapid cleanup of project-related track out or spills on paved roads; and
- Minimize grading and soil movement when winds exceed 30 miles per hour.

In addition, SCE would implement Applicant-Proposed Measure AIR-1 during construction of the Calcite Substation to stabilize disturbed areas and control dust emissions.

As stated above, the project would exceed the daily MDAQMD significance threshold for PM₁₀. Mitigation measure **AQ-1** would reduce construction-generated PM₁₀ emissions by implementing a 25 mile per hour speed limit on unpaved roads. Table 3.2-7, *Estimated Maximum Daily Mitigated Construction Criteria Pollutant Emissions*, shows the maximum daily mitigated construction emissions.

**Table 3.2-7:
Estimated Maximum Daily Mitigated Construction Criteria Air Pollutant Emissions**

Year	Pounds per Day					
	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}
2019 – Ord Mountain	10.28	163.59	45.97	0.43	60.12	10.91
2019 – Calcite Substation	4.16	45.45	72.79	0.17	9.06	3.49
2019 Total	14.44	209.04	118.76	0.60	69.18	14.40
2020 – Ord Mountain	7.10	29.28	16.31	0.24	42.96	8.08
2020 – Calcite Substation	3.24	35.35	56.61	0.13	7.04	2.71
2020 Total	10.34	64.64	72.92	0.37	50.00	10.79
Maximum Daily Emissions	14.44	209.04	118.76	0.60	69.18	14.40
<i>MDAQMD Threshold</i>	137	548	137	137	82	65
Threshold Exceeded?	No	No	No	No	No	No

Source: Dudek 2017; Appendix C.

Notes: CO = carbon monoxide; NOx = oxides of nitrogen; MDAQMD = Mojave Desert Air Quality Management District; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SOx = sulfur oxides; VOC = volatile organic compounds

Watering three times daily surrogate for compliance with Rule 403.2

As shown in Table 3.2-7, with the implementation of mitigation measure **AQ-1**, emissions generated from the construction of the Ord Mountain Solar and Energy Storage Project would not exceed the MDAQMD thresholds. During construction of the Calcite Substation, the applicant-proposed measure, AIR-1 Fugitive Dust, would be implemented. Therefore, the impact would be less than significant as proposed.

Applicant Proposed Measure:

AIR-1 Fugitive Dust. The project applicant would implement the following practice during construction:

During construction, surfaces disturbed by construction activities would be covered or treated with a dust suppressant until completion of activities at each site of disturbance. On-site unpaved roads and off-site unpaved access roads utilized during construction within the proposed project area would be effectively stabilized (e.g., using water or chemical stabilizer/suppressant) to control dust emissions. On-road vehicle speeds on unpaved roadways would be restricted to 15 miles per hour.

Mitigation Measures:

Ord Mountain Solar Energy and Storage project and Calcite Substation project:

AQ-1 Unpaved Road Vehicle Speed Limit Restrictions. The project would implement a speed limit of 25 miles per hour during the construction phase for vehicles traveling on unpaved roads.

According to the Western Region Air Partnership’s Fugitive Dust Handbook, this mitigation would result in a 44 percent reduction in PM₁₀ emissions.

Level of Significance: Less than significant with mitigation.

VIOLATE AIR QUALITY STANDARDS (OPERATION)

Impact 3.2-2 **The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation during project operations. Impacts would be less than significant.**

The project involves development of a 60-MW photovoltaic solar energy facility and project substation with an energy storage system and overhead gen-tie line. Operation of the project would generate VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from mobile sources, including vehicle trips from maintenance vehicles. Pollutant emissions associated with long-term operations were quantified using a spreadsheet model. Project-generated mobile source emissions were

estimated based on project-specific trip rates. There is no net increase in operational emissions for the Calcite Substation component of the project.

Table 3.2-8, *Estimated Maximum Daily Operational Criteria Air Pollutant Emissions*, presents the maximum daily mobile source emissions associated with operation (year 2021) of the project. The values shown are the maximum daily emissions results from project operation. Details of the emissions calculations are provided in **Appendix C**.

**Table 3.2-8:
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions**

Year	Pounds per Day					
	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}
Area	0.31	0.00	0.00	0.00	0.00	0.00
Energy	0.02	0.19	0.04	0.00	0.01	0.01
Mobile	0.10	3.27	1.84	0.02	0.25	0.11
Total Daily Emissions	0.43	3.46	1.89	0.02	0.26	0.11
<i>MDAQMD Threshold</i>	137	548	137	137	82	65
Threshold Exceeded?	No	No	No	No	No	No

Source: Dudek 2017; see Appendix C.

Notes: CO = carbon monoxide; NOx = oxides of nitrogen; MDAQMD = Mojave Desert Air Quality Management District; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SOx = sulfur oxides; VOC = volatile organic compounds

Operational emissions in year 2021 presented.

As shown in Table 3.2-8, the combined daily area, energy, and mobile source emissions would not exceed the MDAQMD operational thresholds for VOC, NOx, CO, SOx, PM₁₀, and PM_{2.5}. Impacts associated with project-generated operational criteria air pollutant emissions would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CONFLICT WITH AIR QUALITY PLAN

Impact 3.2-3 The project would not conflict with or obstruct implementation of the applicable air quality plan. Impacts would be less than significant.

A project is nonconforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures that are

not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Zoning changes, specific plans, general plan amendments, and similar land use plan changes which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to comply with the applicable air quality plan.

The project would comply with all applicable MDAQMD rules and regulations, such as Rule 401 (Visible Emissions) and Rule 403.2 (Fugitive Dust Control for the Mojave Desert Planning Area). The project would not conflict with or propose to change existing land uses or result in population growth. In addition, the project would not result in a long-term increase in the number of vehicle trips or increase the overall vehicle miles traveled in the area. Haul truck, vendor truck, and worker vehicle trips would be generated during the proposed construction activities but would cease after construction is completed. Long-term operation of the project would include routine inspection and maintenance, which would result in a net increase in emissions. However, the increase in emissions would not exceed any significance threshold or violate any MDAQMD rule or regulation. The project would not conflict with or delay the implementation of the MDAQMD Federal 8-Hour Ozone Attainment Plan. Based on these considerations, the project would result in a less than significant impact.

Mitigation Measures: None required.

Level of Significance: Less than significant.

EXPOSE SENSITIVE RECEPTORS

Impact 3.2-4	The project would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.
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The MDAQMD considers residences, schools, daycare centers, playgrounds, and medical facilities to be sensitive receptor land uses. Land uses surrounding the proposed project sites consist primarily of undeveloped open space areas in the Mojave Desert. There is some development in the vicinity, consisting of scattered rural residences. Construction of the project would result in the temporary (approximately 16 months) generation of emissions associated with on-site equipment operation and off-site trucks and worker vehicles. However, emissions would be below the MDAQMD thresholds and would not result in substantial criteria air pollutant emissions. In addition, the construction activities would move along the transmission line corridor and would not result in extended exposure of individual residences to criteria air pollutants or toxic air contaminants (such as diesel particulate matter). Therefore, although rural residential land uses are located in the vicinity of the project area, the project would not expose residents to long-term

substantial air pollutants or toxic air contaminant concentrations. Accordingly, the proposed project would result in a less than significant impact.

Mitigation Measures: None required.

Level of Significance: Less than significant.

OBJECTIONABLE ODORS

Impact 3.2-5 The project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

Odors are a form of air pollution that is most obvious to the general public and can present problems for both the source and the surrounding community. Although offensive odors seldom cause physical harm, they can be annoying and cause concern. Odors would be potentially generated from vehicles and equipment exhaust emissions during project construction. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. Such odors are temporary and generally occur in concentrations that would not affect substantial numbers of people. In regard to long-term operations, the proposed project would not change the routine inspection and maintenance of the existing transmission lines and would not result in any sources of substantial odors. Therefore, impacts associated with odors would be considered less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.2-6 The project would not result in cumulative impacts related to air quality. Impacts would be less than significant.

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether the project's individual emissions would have a cumulatively significant impact on air quality. As described above, the project would have a less than significant impact with mitigation for construction and a less than significant impact for operations.

The Mojave Desert Air Basin is a nonattainment area for O₃, PM₁₀, and PM_{2.5} under the NAAQS and/or CAAQS. The poor air quality in the Basin is the result of cumulative emissions from motor

vehicles, off-road equipment, commercial and industrial facilities, and other emissions sources. Projects that emit these pollutants or their precursors (i.e., VOC and NO_x for ozone) potentially contribute to poor air quality. As indicated in Table 3.2-7, *Estimated Maximum Daily Mitigated Construction Criteria Air Pollutant Emissions*, daily construction emissions associated with the project would not exceed the MDAQMD significance thresholds with mitigation. The project would not generate a long-term increase in operational emissions, as shown in Table 3.2-8, *Estimated Maximum Daily Operational Criteria Air Pollutant Emissions*. Furthermore, the project would not conflict with the MDAQMD 2004 or 2008 Ozone Attainment Plans or PM₁₀ Attainment Plan, which address the cumulative emissions and account for emissions associated with construction activity in the Basin.

Based on the previous considerations, the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

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