DOCKETED	
Docket Number:	24-OPT-03
Project Title:	Soda Mountain Solar
TN #:	259703
Document Title:	Section 3-3 Air Quality - October 2024 - Revision 1
Description:	This document replaces in full TN # 257927. Revisions made address CEC data requests AQ-1 through AQ-6. The Air Quality Section evaluates the direct, indirect and cumulative impacts the Project may have on air quality and identifies any required Applicant-Proposed Measures (APM) and any required Mitigation Measures.
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Submission Date:	10/25/2024 3:36:43 PM
Docketed Date:	10/25/2024

3.3 AIR QUALITY

This section evaluates the emissions of air pollutants and the air quality impacts that may result directly or indirectly from the project. The analysis in this section describes the applicable regulations, presents an overview of existing conditions that influence air quality, identifies the criteria used for determining the significance of environmental impacts, lists applicant-proposed measures (APMs) that would be incorporated into the project to avoid or substantially lessen potentially significant impacts to the extent feasible, and describes the potential air quality impacts of the proposed project. The analysis is based on a review of existing resources, technical data, and applicable laws, regulations, plans, and policies, as well as the following technical reports prepared for the project:

- *Air Quality and Greenhouse Gas Technical Report,* prepared by SWCA Environmental Consultants (October 2024) (Appendix C)

3.3.1 Regulatory Setting

3.3.1.1 Federal

FEDERAL CLEAN AIR ACT

The federal Clean Air Act (CAA), which was passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The CAA delegates primary responsibility for clean air to the U.S. Environmental Protection Agency (EPA). The EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the CAA, the EPA has established the National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and particulate matter (particulate matter 10 microns in diameter or smaller [PM_{10}] and particulate matter 2.5 microns in diameter or smaller [$PM_{2.5}$]). O_3 is a secondary pollutant; nitrogen oxides (NO_x) and volatile organic compounds (VOCs) are of particular interest as they are precursors to O_3 formation. The NAAQS are divided into primary and secondary standards; the primary standards are set to protect human health within an adequate margin of safety, and the secondary standards are set to protect environmental values, such as plant and animal life. The standards for all criteria pollutants are presented in Table 3.3-1.

The CAA requires the EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The act also mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met.

Table 3.3-1. State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone (O_3)	1 hour	0.09 ppm (180 µg/m³)	–	Same as primary
	8 hour	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)	
Respirable particulate matter (PM_{10})	24 hour	50 µg/m³	150 µg/m³	Same as primary
	Annual mean	20 µg/m³	–	
Fine particulate matter ($PM_{2.5}$)	24 hour	–	35 µg/m³	Same as primary
	Annual mean	12 µg/m³	9.0 µg/m³	15 µg/m³
Carbon monoxide (CO)	1 hour	20 ppm (23 µg/m³)	35 ppm (40 mg/m³)	–
	8 hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	–
Nitrogen dioxide (NO_2)	1 hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	–
	Annual mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as primary
Sulfur dioxide (SO_2)	1 hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	–
	3 hour	–	–	0.5 ppm (1,300 µg/m³)
	24 hour	0.04 ppm (105 µg/m³)	0.14 ppm	–
	Annual mean	–	0.030 ppm	–
Lead	30-day average	1.5 µg/m³	–	–
	Calendar quarter	–	1.5 µg/m³	Same as primary
	Rolling 3-month average	–	0.15 µg/m³	Same as primary
Visibility-reducing particles	8 hour	10-mile visibility standard, extinction of 0.23 µg/m³ per kilometer	No national standards	
Sulfates	24 hour	25 µg/m³		
Hydrogen sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m³)		
Vinyl chloride	24 hour	0.01 ppm (265 µg/m³)		

Source: CARB (2016).

Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; – = no standard.

National annual $PM_{2.5}$ primary standard is currently being proposed to be reduced to 9–10 µg/m³.

TOXIC SUBSTANCE CONTROL ACT

The Toxic Substances Control Act (TSCA) provides the EPA with authority to require reporting, recordkeeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The TSCA became law on October 11, 1976, and it became effective on January 1, 1977. The TSCA authorized the EPA to secure information on all new and existing chemical substances, as well as to control any of the substances that were determined to cause unreasonable risk to public health or the environment. Congress later added additional titles to the TSCA, with this original part designated Title I – Control of Hazardous Substances. TSCA regulatory authority and program implementation rests predominantly with the federal government (i.e., EPA). However, the EPA can authorize states to operate their own, EPA-authorized programs for some portions of the statute. TSCA Title IV allows states the flexibility to develop accreditation and certification programs and work practice standards for lead-related

inspection, risk assessment, renovation, and abatement that are at least as protective as existing federal standards.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (ASBESTOS)

The EPA's air toxics regulation for asbestos is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. Asbestos was one of the first hazardous air pollutants regulated under the air toxics program, as there are major health effects associated with asbestos exposure (lung cancer, mesothelioma, and asbestosis). On March 31, 1971, the EPA identified asbestos as a hazardous pollutant, and on April 6, 1973, the EPA promulgated the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), currently found in 40 Code of Federal Regulations (CFR) 61(m). The Asbestos NESHAP has been amended several times, most comprehensively in November 1990. In 1995, the rule was amended to correct cross-referenced citations to Occupational Safety and Health Administration, Department of Transportation, and other EPA rules governing asbestos. Air toxics regulations under the CAA have guidance on reducing asbestos in renovation and demolition of buildings; institutional, commercial, and industrial buildings; large-scale residential demolition; exceptions to the asbestos removal requirements; asbestos control methods; waste disposal and transportation; and milling, manufacturing, and fabrication.

U.S. ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for implementing the programs established under the federal CAA, such as establishing and reviewing the NAAQSs and judging the adequacy of SIPs. The EPA has delegated its authority to implement many of the federal programs to California while retaining an oversight role to ensure that the programs continue to be implemented.

The Mojave Desert Air Quality Management District (MDAQMD) is responsible for issuing federal New Source Review (NSR) permits and has been delegated enforcement of the New Source Performance Standards (NSPS). The federal NSR program requires air quality construction and operating permits (i.e., NSR air quality permits) for stationary sources when they exceed specific emissions thresholds for nonattainment pollutants and require Prevention of Significant Deterioration (PSD) air quality permits when specific emissions thresholds are exceeded for attainment pollutants. The NSPS are emission control/performance standards for specific types of stationary sources, such as boilers, cement kilns, gas turbines, etc. However, the project does not include stationary sources of air pollution that would have emissions high enough to trigger federal air quality (NSR) permitting, or that would be subject to any of the NSPS (40 CFR 52; 40 CFR 60).

Pursuant to the 1990 CAA Amendments, the EPA passed two separate federal conformity rules to ensure that air pollutant emissions associated with federally approved or funded activities do not exceed emission budgets established in the applicable SIP and do not otherwise interfere with the State of California's ability to attain and maintain the NAAQSs in areas working to attain or maintain the standards. The rules were set forth at 40 CFR 51 and 93 and include Transportation Conformity, which applies to transportation plans, programs, and projects, and General Conformity, which applies to all other non-transportation related projects, such as the project. A detailed determination of the applicability of the General Conformity Rule is required pursuant to 40 CFR Part 51, Subpart W, when federal actions or funding of non-transportation related activities in nonattainment areas result in emissions that exceed de minimis threshold levels applicable to the specific nonattainment class. The project site is located in a federal nonattainment area for O_3 and PM_{10}, and therefore the project and alternatives would be subject to the General Conformity regulations if emissions would exceed de minimis levels.

CALIFORNIA DESERT CONSERVATION AREA PLAN

The California Desert Conservation Area (CDCA) Plan requires that all areas within the CDCA, regardless of multiple-use class, be managed to protect their air quality and visibility in accordance with Class II objectives of Part C of the CAA Amendments, unless otherwise designated another class by the State of California as a result of recommendations developed by any Bureau of Land Management (BLM) air quality management plan.

DESERT RENEWABLE ENERGY CONSERVATION PLAN

In September 2016, the BLM adopted the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) to the CDCA Plan, Bishop Resource Management Plan, and Bakersfield Resource Management Plan. The DRECP LUPA addresses solar, wind, geothermal energy generation, and transmission projects on 10.8 million acres of BLM-administered land in the desert regions of southern California.

The BLM DRECP LUPA establishes several land use classifications, including Development Focus Areas (DFAs), Variance Process Lands (VPLs), Recreation Management Areas, General Public Lands, and various conservation land use designations. In DFAs, renewable energy projects are incentivized and permitting is streamlined. Renewable energy projects may be implemented on VPLs, but they must first be evaluated under a variance process and then approved by BLM to proceed through National Environmental Policy Act (NEPA) environmental review. BLM Conservation Areas include National Landscape Conservation System lands, Areas of Critical Environmental Concern (ACECs), and Wildlife Allocations. Recreation Management Areas are designated for recreation actions. This designation includes Extensive Recreation Management Areas, which entail management specifically to address recreation use and demand; and Special Recreation Management Areas, which are high-priority areas for recreation and have unique value and importance for recreation. General Public Lands are BLM-administered lands that do not have a specific land allocation or designation associated with energy development, conservation, or recreation. These lands are not needed to fulfill the DRECP biological conservation or renewable energy strategy. These areas are available to renewable energy applications but do not benefit from permit review streamlining or other incentives.

The majority of the project site is located on DRECP General Public Lands, and the gen-tie route is within an ACEC.

3.3.1.2 State

CALIFORNIA CLEAN AIR ACT

The California Clean Air Act (CCAA) was adopted by the California Air Resources Board (CARB) in 1988. The CCAA requires that all air districts in the state endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for O_3, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the CCAA provides districts with authority to regulate indirect sources. The CARB and local air districts are responsible for achieving CAAQS, which are to be achieved through district-level Air Quality Management Plans (AQMPs) that would be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to CARB, which in turn, has delegated that authority to individual air districts. Each district plan is required to either 1) achieve a 5% annual reduction, averaged over consecutive 3-year periods, in districtwide emissions of each nonattainment pollutant or its precursors, or 2) provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

The State of California began to set its ambient air quality standards (i.e., CAAQS) in 1969, under the mandate of the Mulford-Carrell Act. The CCAA requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date. Table 3.3-1 above shows the CAAQS currently in effect for each of the criteria pollutants, as well as the other pollutants recognized by the state. As shown in Table 3.3-1, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including the following:

- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

CALIFORNIA CODE OF REGULATIONS

The CCR is the official compilation and publication of regulations adopted, amended, or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, 13 CCR 2485 states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to 5 minutes at any location. In addition, 17 CCR 93115 states that operation of any stationary, diesel-fueled, compression-ignition engine shall meet specified fuel and fuel additive requirements and emission standards.

TOXIC AIR CONTAMINANTS REGULATIONS

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act of 1983 (Assembly Bill [AB] 1807, also known as the Tanner Air Toxics Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588 – Connelly). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Air Toxics Act (AB 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (CARB 2011).

In August 1998, CARB identified diesel particulate matter (DPM) emissions from diesel-fueled engines as a toxic air contaminant (TAC). In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles (CARB 2000a). The goal of the plan is to reduce diesel PM_{10} (inhalable particulate matter) emissions and the associated health risk by 75% in 2010, and by 85% by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.). During the control measure phase, specific statewide regulations designed to further reduce DPM emissions from diesel-fueled engines and vehicles were evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions. The project would be required to comply with applicable diesel control measures.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled TRUs and TRU Generator Sets and Facilities Where TRUs Operate

The proposed project would be required to comply with the applicable diesel control measures.

EXECUTIVE ORDER S-3-05, EXECUTIVE ORDER B-30-15, AND EXECUTIVE ORDER B-55-18

In 2005, the governor issued Executive Order (EO) S-3-05, establishing statewide greenhouse gas (GHG) emissions reduction targets, as well as a process to ensure the targets are met. The order directed the Secretary of the California Environmental Protection Agency (CalEPA) to report every 2 years on the state's progress toward meeting the governor's GHG emission reduction targets. The statewide GHG targets established by EO S-3-05 are as follows:

- By 2010, reduce to 2000 emission levels.
- By 2020, reduce to 1990 emission levels.
- By 2050, reduce to 80% below 1990 levels.

EO B-30-15, issued by Governor Brown in April 2015, established an additional statewide policy goal to reduce GHG emissions 40% below their 1990 levels by 2030. Reducing GHG emissions by 40% below 1990 levels in 2030 and by 80% below 1990 levels by 2050 (consistent with EO S-3-05) aligns with scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius.

The state legislature adopted equivalent 2020 and 2030 statewide targets in the California Global Warming Solutions Act of 2006 (also known as AB 32) and Senate Bill (SB) 32, respectively, both of which are discussed below. However, the legislature has not yet adopted a target for the 2050 horizon year. As a result of EO S-3-05, the California Action Team (CAT), led by the Secretary of CalEPA, was formed. CAT is made up of representatives from a number of state agencies and was formed to implement global warming emission reduction programs and to report on the progress made toward meeting statewide targets established under the EO. CAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the EO.

CAT stated that "smart" land use is an umbrella term for strategies that integrate transportation and land use decisions. Such strategies generally encourage jobs and housing proximity, promote transit-oriented development, and encourage high-density residential and commercial development along transit corridors. These strategies develop more efficient land use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. "Intelligent transportation systems" is the application of advanced technology systems and management

strategies to improve operational efficiency of transportation systems and the movement of people, goods, and service.

EO B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this EO, CARB would work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal, as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

ASSEMBLY BILL 32 – CALIFORNIA GLOBAL WARMING SOLUTION ACT

The California Global Warming Solutions Act of 2006 (also known as AB 32) commits the State of California to achieving the following:

- By 2010, reduce to 2000 GHG emission levels.
- By 2020, reduce to 1990 levels.

To achieve these goals, which are consistent with the California CAT GHG targets for 2010 and 2020, AB 32 mandates that CARB establish a quantified emissions cap; institute a schedule to meet the cap; implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies; and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. In order to achieve the reductions, AB 32 requires CARB to adopt rules and regulations in an open, public process that achieves the maximum technologically feasible and cost-effective GHG reductions.

SB 32, signed on September 8, 2016, updates AB 32 to include an emissions reduction goal for the year 2030. Specifically, SB 32 requires CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

CLIMATE CHANGE SCOPING PLAN

In 2008, CARB approved a Climate Change Scoping Plan, as required by AB 32. Subsequently, CARB approved updates of the Climate Change Scoping Plan in 2014 (First Update) and 2017 (2017 Update), with the 2017 Update considering SB 32 (adopted in 2016) in addition to AB 32 (CARB 2014, 2017). The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals (to the level of 427 MMT CO_2e) defined in the original Scoping Plan. It also evaluates how to align the state's longer-term GHG reduction strategies with other state policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use. In November 2022, the final *2022 Scoping Plan Update and Appendices* (2022 Scoping Plan Update) was released. This 2022 Scoping Plan Update assesses progress toward the statutory 2030 target and lays out a path to achieving carbon neutrality no later than 2045 (CARB 2022b). The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

ASSEMBLY BILL 197

AB 197, signed on September 8, 2016, is a bill linked to SB 32 that prioritizes efforts to reduce GHG emissions in low-income and minority communities. AB 197 requires CARB to make available, and

update at least annually on its website, the emissions of GHGs, criteria pollutants, and TACs for each facility that reports to CARB and air districts. In addition, AB 197 adds two members of the legislature to the CARB board as ex officio, non-voting members, and also creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the legislature concerning the state's programs, policies, and investments related to climate change.

CAP-AND-TRADE PROGRAM

The 2008 Climate Change Scoping Plan identified a cap-and-trade program as one of the strategies for California to reduce GHG emissions. The cap-and-trade program is a key element in California's climate plan. It sets a statewide limit on sources responsible for 85% of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013, and they apply to large electric power plants and large industrial plants. In 2015, fuel distributors, including distributors of heating and transportation fuels, also became subject to the cap-and-trade rules. At that stage, the program will encompass approximately 360 businesses throughout California and nearly 85% of the state's total GHG emissions. Covered entities subject to the cap-and-trade program are sources that emit more than 25,000 metric tons CO_2e per year. Triggering of the 25,000 metric tons CO_2e per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.

Under the cap-and-trade regulation, companies must hold enough emission allowances to cover their emissions and are free to buy and sell allowances on the open market. California held its first auction of GHG allowances on November 14, 2012. California's GHG cap-and-trade system has reduced GHG emissions to 1990 levels by the year 2020 and would achieve an approximate 80% reduction from 1990 levels by 2050.

SENATE BILL 1078 (CALIFORNIA RENEWABLES PORTFOLIO STANDARD)

SB 1078 established California's Renewables Portfolio Standard (RPS) program in 2002. The RPS program requires electrical corporations and electric service providers to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources. The bill requires the California Energy Commission (CEC) to certify eligible renewable energy resources, to design and implement an accounting system to verify compliance with the RPS by retail sellers, and to allocate and award supplemental energy payments to cover above-market costs of renewable energy. Under SB 1078, each electrical corporation was required to increase its total procurement of eligible renewable energy resources by at least 1% per year so that 20% of its retail sales were procured from eligible renewable energy resources.

In 2006, SB 107 accelerated the RPS program by establishing a deadline of December 31, 2010, for achieving the goal of having 20% of total electricity sold to retail customers in California per year generated from eligible renewable energy resources.

The RPS goal was increased to 33% when Governor Schwarzenegger signed EO S-14-08 in November 2008. EO S-14-08 was later superseded by EO S-21-09 on September 15, 2009. EO S-21-09 directed CARB to adopt regulations requiring 33% of electricity sold in the state to come from renewable energy by 2020. This EO was superseded by Statute SB X1-2 in 2011, which modified the California RPS program to require that both public- and investor-owned utilities in California receive at least 33% of their electricity from renewable sources by the year 2020. SB 2X also requires regulated sellers of electricity to meet an interim milestone of procuring 25% of their energy supply from certified renewable sources by 2016.

SENATE BILL 350

SB 350, signed on October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. The objectives of SB 350 are 1) to increase the procurement of electricity from renewable sources from 33% to 50% by the end of 2030; and 2) to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

SENATE BILL 100

SB 100, signed on September 10, 2018, is the 100 Percent Clean Energy Act of 2018. SB 100 updates the goals of California's RPS and SB 350, as discussed above, to the following: achieve a 50% renewable resources target by December 31, 2026, and achieve a 60% target by December 31, 2030. SB 100 also requires that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% procured to serve all state agencies by December 31, 2045.

3.3.1.3 Local

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

MDAQMD maintains a set of rules and regulations to improve and maintain healthy air quality for the entire population within its jurisdiction (MDAQMD 2023). When developing new regulations, MDAQMD must comply with complex procedures established by statutes in federal and state codes. The following are some of the rules that would apply to the project:

- *Rule 201 Permit to Construct:* 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.
- *Rule 203 Permit to Operate:* A person shall not operate or use any equipment, the use of which may cause the issuance of air contaminants or the use of which may reduce or control the issuance of air contaminants, without first obtaining a written permit from the Air Pollution Control Office. The equipment shall not be operated contrary to the conditions specified in the permit to operate.
- *Rule 204 Permit Conditions:* To assure compliance with all applicable regulations, the Air Pollution Control Officer may impose written conditions on any permit. Commencing work or operation under such a permit shall be deemed acceptance of all the conditions so specified.
- *Rule 401 Visible Emissions:* The purpose of the Rule is to provide limits for the visible emissions from sources within the District.
- *Rule 402 Nuisance:* 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 Fugitive Dust Control:* The purpose of this rule is to reduce the amount of PM_{10} entrained in the ambient air from anthropogenic Fugitive Dust sources within the District by requiring actions to prevent, reduce, or mitigate Fugitive Dust.

- *Rule 1113 Architectural Coatings*. The purpose of this rule is to limit the quantity of Volatile Organic Compounds (VOC) in Architectural Coatings.

MDAQMD is the local air quality agency and shares responsibility with CARB for ensuring that state and federal ambient air quality standards are achieved and maintained in the Mojave Desert Air Basin (MDAB). Furthermore, MDAQMD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural burning. Other MDAQMD responsibilities include monitoring ambient air quality, preparing clean air plans, planning activities such as modeling and maintenance of the emission inventory, and responding to citizen air quality complaints.

MDAQMD adopted its *California Environmental Quality Act (CEQA) and Federal Conformity Guidelines* in February 2020 (MDAQMD 2020). The MDAQMD CEQA Guidelines provides guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the MDAQMD CEQA Guidelines provide guidance to mitigate adverse impacts to air quality from development projects. MDAQMD is the agency principally responsible for comprehensive air pollution control in the region.

Currently, the NAAQS and CAAQS are exceeded in most parts of MDAB. In regard to the NAAQS, the project region within MDAB is in nonattainment for O_3 (8-hour) and PM_{10}. For the CAAQS, the project region within MDAB is in nonattainment for O_3 (1-hour and 8-hour), PM_{10}, and $PM_{2.5}$. In response, MDAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy.

MDAQMD has adopted a variety of attainment plans for a variety of nonattainment pollutants. The latest plans include the following:

- 1995 Mojave Desert Planning Area PM_{10} Attainment Plan
- 2004 Southeast Desert Modified Air Quality Maintenance Area Ozone Plan
- 2007 Western Mojave Desert Ozone Attainment Plan
- February 2008 Ozone Early Progress Plans
- 2014 Updates to the 1997 8-Hour Ozone Standard SIPs
- 2015 8-Hour Ozone Reasonable Achievable Control Technology SIP Analysis: MDAQMD
- 2016 8-Hour Ozone SIP
- 2022 8-Hour Ozone SIP

To achieve and maintain ambient air quality standards, MDAQMD has adopted various rules and regulations for the control of airborne pollutants. Those rules applicable to this project include, but are not limited to, MDAQMD Rule 403 Fugitive Dust Control. The purpose of this rule is to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earth-moving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. In addition, the project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with MDAQMD Rule 403.

In addition, there are other MDAQMD rules and regulations, not detailed here, that may apply to the project but are administrative or descriptive in nature. These include rules associated with fees, enforcement and penalty actions, and variance procedures.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development, and the environment. SCAG coordinates with various air quality and transportation stakeholders in southern California to ensure compliance with the federal and state air quality requirements, including applicable federal, state, and air district laws and regulations. As the federally designated Metropolitan Planning Organization for the six-county southern California region, SCAG is required by law to ensure that transportation activities conform to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. In addition, SCAG is a co-producer, with the South Coast Air Quality Management District (SCAQMD), of the transportation strategy and transportation control measure sections of the 2016 AQMP.
The development of the 2016 AQMP relies on population and transportation growth projections contained in SCAG's 2016 through 2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS).

On September 3, 2020, SCAG's Regional Council adopted an updated RTP/SCS known as the 2020–2045 RTP/SCS or Connect SoCal. As with the 2016–2020 RTP/SCS, the purpose of the 2020–2045 RTP/SCS is to meet the mobility needs of the six-county SCAG region over the subject planning period through a roadmap identifying sensible ways to expand transportation options, improve air quality, and bolster southern California's long-term economic viability. On October 30, 2020, CARB accepted SCAG's determination that the SCS met the applicable state GHG emissions targets. The goals and policies of the 2020–2045 RTP/SCS are similar to, and consistent with, those of the 2016–2040 RTP/SCS. In addition, CARB's new target requiring a 19% reduction in per-capita GHG emissions has been included in the 2020–2045 RTP/SCS, to fulfill SB 375 compliance with respect to meeting the state's GHG emission reduction goals.

COUNTY OF SAN BERNARDINO REGIONAL GREENHOUSE GAS REDUCTION PLAN

In September 2011, San Bernardino County adopted the County of San Bernardino Greenhouse Gas Emissions Reduction Plan (GHG Plan), which outlines a strategy to use energy more efficiently, harness renewable energy to power buildings, enhance access to sustainable transportation modes, and recycle waste in response to CARB SB 32 Scoping Plan, which charted a path toward the GHG reduction goal using all feasible and cost-effective technology. In 2021, a new version of the GHG Plan was released and there has been commitment to undertake the following actions that will reduce GHG emissions associated with its regional (or countywide) activities.

- Prepare a baseline (2016) GHG emissions inventory for each of the 25 partnership jurisdictions in the county.
- Prepare future year (2020, 2030, and 2045) GHG emissions forecasts for each of the jurisdictions.
- Develop general GHG reduction measures and jurisdiction-specific measures appropriate for each jurisdiction.
- Develop consistent baseline information for jurisdictions to use for their development of community climate action plans (CAPs) meeting jurisdiction-identified reduction goals.

SAN BERNARDINO COUNTYWIDE PLAN

The San Bernardino County Policy Plan (Policy Plan), an element of the Countywide Plan, contains the long-term goals and policies that will guide County decisions, investments, and improvements toward achieving the countywide vision. The Policy Plan represents a unique approach to county planning.

It serves as the County's General Plan for the unincorporated areas, which is mandated by state law, but it also includes policy direction for adult and child supportive services, healthcare, public safety, and other regional services the County administers in both incorporated and unincorporated areas. Applicable County Policy Plan components are those that set policies regarding natural resources and renewable energy and conservation.

The following policies of the General Plan are relevant to this analysis (San Bernardino County 2024):

> **Goal NR-1 Air Quality** – Air quality that promotes health and wellness of residents in San Bernardino County through improvements in locally-generated emissions.

- **Policy NR-1.1 Land use**. We promote compact and transit-oriented development countywide and regulate the types and locations of development in unincorporated areas to minimize vehicle miles traveled and greenhouse gas emissions.
- **Policy NR-1.3 Coordination on air pollution**. We collaborate with air quality management districts and other local agencies to monitor and reduce major pollutants affecting the county at the emission source.
- **Policy NR-1.5 Sensitive land uses**. We consider recommendations from the California Air Resources Board on the siting of new sensitive land uses and exposure to specific source categories.
- **Policy NR-1.6 Fugitive dust emissions**. We coordinate with air quality management districts on requirements for dust control plans, revegetation, and soil compaction to prevent fugitive dust emissions.
- **Policy NR-1.7 Greenhouse gas reduction targets**. We strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with state law.
- **Policy NR-1.9 Building design and upgrades**. We use the CALGreen Code to meet energy efficiency standards for new buildings and encourage the upgrading of existing buildings to incorporate design elements, building materials, and fixtures that improve environmental sustainability and reduce emissions.

The renewable energy and conservation policy goals are to achieve a clean energy future that minimizes negative effects consistent with local values. The County has considered how to reduce energy use through energy efficiency and conservation measures, and identified renewable energy facility standards that concentrate on community-oriented RE facilities that produce electricity for local consumption through goals like Goal RE-2 Renewable Energy Systems, which strives for the County to be home to diverse and innovative renewable energy systems that provide reliable and affordable energy to the valley, mountain, and desert regions.

SAN BERNARDINO COUNTY CODE

San Bernardino County Municipal Code Section 83.01.040, Air Quality, identifies the following standards that would be applicable to the project (San Bernardino County 2022):

> (c) Diesel Exhaust Emissions Control Measures. The following emissions control measures shall apply to all discretionary land use projects approved by the County on or after January 15, 2009:
>
> (1) On-Road Diesel Vehicles. On-road diesel vehicles are regulated by the State of California Air Resources Board.

(2) Off-Road Diesel Vehicle/Equipment Operations. All business establishments and contractors that use off-road diesel vehicle/equipment as part of their normal business operations shall adhere to the following measures during their operations in order to reduce diesel particulate matter emissions from diesel-fueled engines:

(A) Off-road vehicles/equipment shall not be left idling on site for periods in excess of five minutes. The idling limit does not apply to:

(I) Idling when queuing;

(II) Idling to verify that the vehicle is in safe operating condition;

(III) Idling for testing, servicing, repairing, or diagnostic purposes;

(IV) Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane);

(V) Idling required to bring the machine system to operating temperature; and

(VI) Idling necessary to ensure safe operation of the vehicle.

(B) Use reformulated ultra low-sulfur diesel fuel in equipment and use equipment certified by the U.S. Environmental Protection Agency (EPA) or that pre-dates EPA regulations.

(C) Maintain engines in good working order to reduce emissions.

(D) Signs shall be posted requiring vehicle drivers to turn off engines when parked.

(E) Any requirements or standards subsequently adopted by the South Coast Air Quality Management District, the Mojave Desert Air Quality Management District, or the California Air Resources Board.

(F) Provide temporary traffic control during all phases of construction.

(G) On-site electrical power connections shall be provided for electric construction tools to eliminate the need for diesel-powered electric generators, where feasible.

(H) Maintain construction equipment engines in good working order to reduce emissions. The developer shall have each contractor certify that all construction equipment is properly serviced and maintained in good.

(I) Contractors shall use ultra low sulfur diesel fuel for stationary construction equipment as required by Air Quality Management District (AQMD) Rules 431.1 and 431.2 to reduce the release of undesirable emissions.

(J) Substitute electric and gasoline-powered equipment for diesel-powered equipment, where feasible.

3.3.2 Environmental Setting

The project is located in unincorporated San Bernardino County within the MDAB, which encompasses a 21,000-square-mile area that includes the majority of San Bernardino County, the eastern portion of Kern County, the eastern portion of Riverside County, and the northeastern portion of Los Angeles County.

The MDAB is composed of four California air districts: MDAQMD, the Antelope Valley Air Quality Management District, the Eastern Kern Air Pollution Control District, and the eastern portion of the SCAQMD. MDAQMD has jurisdiction within the San Bernardino County portion of MDAB.
The ambient concentrations of air pollutants are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the emissions released by existing air pollutant sources.

3.3.2.1 Criteria Air Pollutants

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of specific pollutants in order to protect public health and welfare. These pollutants are referred to as "criteria air pollutants," and the national and state standards have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly, with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment, either directly or in reaction with other pollutants due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in the air quality with the MDAB. The criteria air pollutants for which national and state standards have been promulgated and which are most relevant to current air quality planning and regulation in the MDAB and MDAQMD include CO, O_3, particulate matter, NO_2, SO_2, lead, sulfates, and H_2S. These pollutants, as well as VOCs and TACs, are discussed in the following paragraphs. The national and state criteria pollutants and the applicable ambient air quality standards are listed in Table 3.3-1.

OZONE

O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_x and VOCs. The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone). The O_3 regulated by the EPA and CARB as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good" O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (Appendix C). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

NITROGEN DIOXIDE

NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (N_2O), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (Appendix C).

CARBON MONOXIDE

CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions (Appendix C).

SULFUR DIOXIDE

SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel (Appendix C).

PARTICULATE MATTER

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) is 10 microns or less in diameter and is about $^1/_7$ the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush and waste burning; industrial sources;

windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is 2.5 microns or less in diameter and is roughly $^1/_{28}$ the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-sized particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in $PM_{2.5}$ and PM_{10} (Appendix C).

LEAD

Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient (IQ) performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead (Appendix C).

OTHERS

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere. Sulfates can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. H_2S is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of H_2S include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to H_2S can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

VOLATILE ORGANIC COMPOUNDS

VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids. Some VOCs are also classified by the state of California as TACs. Although there are no specific VOC ambient air quality standards, VOC is a prime component (along with NO_x) of the photochemical processes by which such criteria pollutants as O_3, NO_2, and certain fine particles are formed. They are thus regulated as "precursors" to the formation of those criteria pollutants.

3.3.2.2 Sensitive Receptors

Certain population groups are considered more sensitive to air pollution than others. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Sensitive receptor locations include residences, schools, parks and playgrounds, daycare centers, senior care facilities, and hospitals. Land uses located near the project site include a mix of agricultural and residential land uses. The nearest sensitive receptor that could be exposed to criteria air pollutants generated by the project is a residence located next to the Rasor Road service station, roughly 260 feet southwest of the project boundary. This standalone house is used as accommodation for four workers. There are no other sensitive receptors within 1,500 feet of the project site and actual construction occurs more than 3,500 feet from this standalone home.

3.3.2.3 Odors

A qualitative assessment should be made as to whether a project has the potential to generate odorous emissions of a type or quantity that could meet the statutory definition for nuisance, i.e., odors "which cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property" (Health and Safety Code 41700). Although offensive odors usually do not cause any physical harm, they can be unpleasant enough to lead to considerable distress among the public and generate citizen complaints to local governments and MDAQMD. MDAQMD's Rule 402 (Nuisance) also prohibits any person or source from emitting air contaminants that cause injury, detriment, nuisance, or annoyance to a considerable number of persons or 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. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

3.3.2.4 Existing Air Quality Conditions at the Project Site

REGIONAL AIR QUALITY

CARB divides the state into air basins that share similar meteorological and topographical features. The MDAB includes the desert portion of San Bernardino County and the eastern portion of Riverside County. The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing

winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California Coastal and Central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevada in the north by the Tehachapi Pass (3,800 feet in elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet).

The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse prior to reaching the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least 3 months have maximum average temperatures over 100.4°F.

The MDAB experiences changes with the seasons including in the winter freezing temperatures, strong winds, and precipitation in the form of snow primarily above 5,000 feet in elevation, and rain below 5,000 feet. Most precipitation occurs between November and April. During summer, brief, high-intensity thunderstorms may occur suddenly and can cause high winds and localized flash flooding.

The local meteorology of the project site and surrounding area is represented by measurements recorded at the National Climatic Data Center (NCDC) Baker Station meteorological station. The normal annual precipitation is approximately 4.48 inches. December temperatures range from a normal minimum of 34.2°F to a normal maximum of 47.6°F. July temperatures range from a normal minimum of 78.2°F to a normal maximum of 109.2°F (NCDC 2023). The prevailing wind direction is from the west-southwest (Western Regional Climate Center 2002).

REGIONAL ATTAINMENT STATUS

Depending on whether the applicable ambient air quality standards are met or exceeded, MDAQMD is classified on a federal and state level as being in “attainment” or “nonattainment.” EPA and CARB determine the air quality attainment status of designated areas by comparing ambient air quality measurements from state and local ambient air monitoring stations with the NAAQS and CAAQS. These designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable or unclassified designation is treated as an attainment designation. The project region is designated as a nonattainment area for the federal and state O_3, nonattainment for federal and state PM_{10}, and nonattainment for state $PM_{2.5}$ standards. Therefore, as shown in Table 3.3-2, the region is considered an “attainment/unclassified” area for all other pollutants (Appendix C). Thus, the General Conformity Rule, which is designed to protect ambient air quality within nonattainment and maintenance areas against further degradation applies and the de minimis thresholds are outlined in 40 CFR 93.153(b)(1).

Table 3.3-2. Federal and State Ambient Air Quality Attainment Status

Pollutant	Federal	State
O3	Nonattainment	Nonattainment
NO2	Unclassified/Attainment	Attainment
CO	Attainment	Attainment
SO2	Unclassified/Attainment	Attainment
PM10	Nonattainment	Nonattainment
PM2.5	Unclassified/Attainment	Nonattainment

Source: Appendix C.

EXISTING CRITERIA POLLUTANT LEVELS AT NEARBY MONITORING STATIONS

Air pollutant emissions are generated in the local vicinity by mobile sources primarily consisting of automobile traffic. Area-wide sources are the primary source of pollutants in the local vicinity. Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site have been documented and measured at six air quality monitoring stations throughout the MDAQMD area. MDAQMD and CARB monitors and collects information 24 hours per day, 7 days per week on ambient levels of pollutants. The nearest stations with meteorological conditions representative of the project site are the Trona Station (Trona - Athol/Telescope #2), the Barstow Station, the Ridgecrest – Ward Station, and the Fontana Station which monitor O_3, NO_2, SO_2, CO, PM_{10}, and $PM_{2.5}$. Data from these monitoring stations are summarized in Table 3.3-3, Table 3.3-4, Table 3.3-5, and Table 3.3-6, below. The data show violations of the state PM_{10} standard and federal and state O_3.

The high desert's proximity to South Coast Air Basin and the prevailing southwest winds that transport pollutants from more congested urban areas south of the Cajon Pass into the region causes concern over ground-level O_3 impacting ambient air. Violations of the federal O_3 standard occur several times each summer, as do violations of the state standard for particulate matter (PM_{10}), usually in the fall and winter. The air quality data collected by CARB in Table 3.3-3, Table 3.3-4, Table 3.3-5, and Table 3.3-6 include exceptional events, including wind and wildfires. The national and state criteria pollutants and the applicable ambient air quality standards are listed above in Table 3.3-1.

Table 3.3-3 and Table 3.3-4 show the Trona monitoring station and Barstow monitoring station which are the most representative of the conditions at the project site as these have similar complexity of the terrain and surrounding land use. However, data for SO_2, CO, and $PM_{2.5}$ are not available for these monitoring stations. As such, data for SO_2, CO, and $PM_{2.5}$ is provided in Table 3.3-5 and Table 3.3-6 from the Ridgecrest – Ward monitoring station and the Fontana monitoring station, which are not considered as representative as the Trona and Barstow monitoring stations.

Table 3.3-3. Summary of Ambient Air Quality Monitoring for the Trona Monitoring Station

Criteria Pollutant		Year		
		2021	2022	2023
O_3	Maximum 1-hour concentration (ppm)	0.094	0.099	0.075
	Days exceeding CAAQS (0.09 ppm)	0	1	0
	Maximum 8-hour concentration (ppm)	0.078	0.084	0.070
	Days exceeding NAAQS (0.07 ppm)	5	1	0
	Days exceeding CAAQS (0.07 ppm)	5	1	0

Criteria Pollutant		Year		
		2021	2022	2023
PM10	Maximum 24-hour concentration (µg/m^3)	184.1	357.6	97.3
	Days exceeding NAAQS (150 µg/m^3)	2	2	0
	Days exceeding CAAQS (50 µg/m^3)	*	*	*
NOx	Maximum 1-hour concentration (ppb)	43.6	41.1	43.0
	Days exceeding NAAQS (100 ppb)	0	0	0
	Days exceeding CAAQS (180 ppb)	0	0	0
	Maximum Annual concentration (ppb)	3	3	3
	Days exceeding NAAQS (53 ppb)	0	0	0
	Days exceeding CAAQS (30 ppb)	0	0	0

Source: CARB (2023a).
Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter.
*Insufficient data
Data for O_3, NO_2, and PM_{10} were obtained from the CARB Trona - Athol/Telescope #2 Monitoring Station.

Table 3.3-4. Summary of Ambient Air Quality Monitoring for the Barstow Monitoring Station

Criteria Pollutant		Year		
		2021	2022	2023
O_3	Maximum 1-hour concentration (ppm)	0.099	0.095	0.085
	Days exceeding CAAQS (0.09 ppm)	2	1	0
	Maximum 8-hour concentration (ppm)	0.087	0.084	0.077
	Days exceeding NAAQS (0.07 ppm)	20	13	16
	Days exceeding CAAQS (0.07 ppm)	20	13	16
PM10	Maximum 24-hour concentration (µg/m^3)	372.7	225.1	318.7
	Days exceeding NAAQS (150 µg/m^3)	1	6	3
	Days exceeding CAAQS (50 µg/m^3)	*	*	*
NOx	Maximum 1-hour concentration (ppb)	62.4	59.8	60.3
	Days exceeding NAAQS (100 ppb)	0	0	0
	Days exceeding CAAQS (180 ppb)	0	0	0
	Maximum Annual concentration (ppb)	14	14	13
	Days exceeding NAAQS (53 ppb)	0	0	0
	Days exceeding CAAQS (30 ppb)	0	0	0

Source: CARB (2023a).
Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter.
*Insufficient data
Data for O_3, NO_2, and PM_{10} were obtained from the CARB Barstow Monitoring Station.

Table 3.3-5. Summary of Ambient Air Quality Monitoring for the Ridgecrest–Ward Monitoring Station

Criteria Pollutant		Year		
		2021	2022	2023
PM10	Maximum 24-hour concentration (µg/m^3)	285.6	416.8	176.5
	Days exceeding NAAQS (150 µg/m^3)	3	2	1

Criteria Pollutant		Year		
		2021	2022	2023
	Days exceeding CAAQS (50 µg/m^3)	25	11	4
PM2.5	Maximum 24-hour concentration (µg/m^3)	178.0	32.3	13.3
	Days exceeding NAAQS (35 µg/m^3)	12	0	0
	Maximum Annual concentration (µg/m^3)	8.3	4.0	4.5
	Days exceeding NAAQS (9 µg/m^3)	0	0	0

Source: CARB (2023a).
Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter.
Data for PM_{10} and $PM_{2.5}$ were obtained from the CARB Ridgecrest – Ward Monitoring Station.

Table 3.3-6. Summary of Ambient Air Quality Monitoring for the Fontana Monitoring Station

Criteria Pollutant		Year		
		2021	2022	2023
SO2	Maximum 1-hour concentration (ppb)	5.0	2.7	3.3
	Days exceeding NAAQS (75 ppb)	0	0	0
	Maximum 24-hour concentration (ppb)	0.24	0.46	0.22
	Days exceeding NAAQS (140 µg/m^3)	0	0	0
CO	Maximum 1-hour concentration (ppm)	1.9	1.6	1.5
	Days exceeding NAAQS (35 ppm)	0	0	0
	Maximum 8-hour concentration ppm)	1.4	1.0	1.0
	Days exceeding NAAQS (9 ppm)	0	0	0

Source: CARB (2023a).
Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter.
Data for SO_2 and CO were obtained from the CARB Fontana Monitoring Station.

3.3.3 Impact Assessment

3.3.3.1 Thresholds of Significance

The determinations of significance of project impacts are based on applicable policies, regulations, goals, and guidelines defined by the CEQA Guidelines, Appendix G. The project would be considered to have a significant effect on air quality resources if the effects exceed the significance criteria described below:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. 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.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Each of these thresholds is discussed under Section 3.3.3.4, Impact Analysis, below.

3.3.3.2 Methodology

This analysis focuses on the potential change in the air quality environment due to implementation of the project. Air pollution emissions would result from both construction and operation of the project. Specific methodologies used to evaluate these emissions are discussed below.

The analysis is based on project specifics and default values in the latest version of CalEEMod. Accordingly, this analysis has been conducted with the most recent available tools prepared and accepted by the regulatory agencies.

3.3.3.3 Construction

The project's emissions will be evaluated based on significance thresholds and CEQA guidance established by MDAQMD, as discussed above. Daily emissions during construction are estimated by assuming a conservative construction schedule and applying the multiple source and fugitive dust emission factors derived from MDAQMD-recommended CalEEMod Version 2022.1.1.21. Details of the modeling assumptions and emission factors are provided in Appendix C. The calculations of the emissions generated during project construction activities reflect the types and quantities of construction equipment that would be used to complete the project.

CONSTRUCTION ASSUMPTIONS

Construction emissions associated with the project, including emissions associated with the operation of off-road equipment, haul-truck trips, on-road worker vehicle trips, vehicle travel on paved and unpaved surfaces, and fugitive dust from material handling activities, were calculated using CalEEMod Version 2022.1.1.21 (California Air Pollution Control Officers Association [CAPCOA] 2023). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model uses widely accepted federal and state models for emission estimates and default data from sources such as EPA AP-42 emission factors, CARB vehicle emission models, and studies from California agencies such as CEC. The model quantifies direct emissions from construction and operations, as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model was developed in collaboration with the air districts in California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

Emissions modeling, including emissions generated during the project, have been grouped into three stages in CalEEMod based on the types of equipment and workload: 1) site preparation and grading (including mobilization, site preparation, fencing, preparation of laydown areas, and trenching); 2) structural construction (including the installation of solar array structural components including cables, piles, racking systems, inverters, and modules; and 3) solar array installation (including installation of solar panels, BESS, commissioning, and testing). The project is within a 2,670-acre area with a parking area and several buildings. The following CalEEMod land uses were used to represent the project:

- Industrial – user defined for the 2,670 acres
- 0.33-acre parking lot
- 5,000-square-foot general light industry building to represent the operation and maintenance building

- 90,000-square-foot general heavy industry to represent the substation area
- 2,400-square-foot unrefrigerated warehouse – no rail to represent the maintenance facility
- 6,000-square-foot unrefrigerated warehouse – no rail to represent the warehouse facility

Modeling input data were based on this anticipated construction schedule and phasing. Construction equipment and usage required for each phase were obtained using CalEEMod defaults for the land use types that make up the project site, information provided by the applicant, and default parameters contained in the model for the project site (San Bernardino County) and land uses.

The construction duration would be approximately 18 months. For the purpose of emissions modeling, it was assumed that construction would begin in March 2025 and would end in August 2026. However, actual construction would most likely not begin until the second quarter of 2026, ending in the fourth quarter of 2027. These changes in the project schedule would not result in significant change in emissions as the total length of the construction period (18 months) would remain the same. Additionally, a later date of construction may actually result in lower emissions as old construction equipment continues to be phased out for newer, cleaner equipment. As such, the emissions estimates for project construction are accurate and potentially conservative.

Project construction would consist of different activities undertaken in phases, through to the operation of the project. Typical construction equipment would be used during all phases of project construction and would be stored within the staging area, potentially including bulldozers, backhoes, graders, and water trucks. Table 3.3-7 shows the project's anticipated construction schedule, presents an estimate of the maximum number of pieces of equipment for each construction phase, and conservatively assumes that equipment would be operating 10 hours per day, 5 days per week for the duration of the construction phase. The unmitigated construction emissions from CalEEMod include controls to comply with any MDAQMD fugitive dust control rules and/or applicant-committed measures, APM-1 through APM-9, discussed further in Section 3.3.3.3. In CalEEMod, to reflect these fugitive dust controls the following controls were included in the unmitigated model since they required controls: reduce speed on unpaved roads to 25 miles per hour, water exposed areas two times per day, and water the unpaved roads traveled to the project a minimum of two times per day.

Table 3.3-7. Construction Anticipated Schedule, Trips, and Equipment

Phase (Duration)	Equipment Used			Daily Vehicle Trips
	Type	Number	Hours/Day	
1. Stage 1 March 1, 2025–October 31, 2025 (175 working days)	Tractors/loaders/backhoes	4	10	Assumptions: A maximum of 600 one-way worker trips for all phases at any time No one-way vendor trips for any phase at any time 234 one-way on-site haul-truck trips for all phases at any time 3 miles of on-site truck travel for each phase
	Off-highway truck	1	10	
	Plate compactors	2	10	
	Excavators	1	10	
	Graders	1	10	
	Rubber-tired bulldozers	2	10	
2. Stage 2* June 1, 2025–February 28, 2026 (195 working days)	Cranes	2	10	
	Forklifts	5	10	
	Trenchers	1	10	
	Rubber-tired loaders	1	10	
	Generator sets	15	10	
	Off-highway truck	1	10	

Phase (Duration)	Equipment Used			Daily Vehicle Trips
	Type	Number	Hours/Day	
	Excavators	4	10	
	Bore/drill rigs	1	10	
	Rubber-tired dozers	1	10	
	Tractors/loaders/backhoes	5	10	
	Welders	12	10	
3. Stage 3* December 1, 2025–August 31, 2026 (196 working days)	Off-highway truck	1	10	
	Forklifts	3	10	
	Excavator	1	10	
	Skid steer loader	1	10	
	Tractors/loaders/backhoes	1	10	
4. Paving June 17, 2025–June 30, 2025 (10 working days)	Pavers	1	8	
	Paving equipment	1	8	
	Sweepers/scrubbers	1	8	
	Rollers	1	8	
5. Architectural Coating July 1, 2025–July 14, 2025 (10 working days)	Air compressors	5	8	

Source: Appendix C

Notes: The CalEEMod one-way trips lengths for workers and haul trucks have been increased to 28 miles per one-way trip, which is a weighted average accounting for the trips from varying distances. For the other parameters not provided in the table (e.g., equipment horsepower and load factor), CalEEMod defaults were used.

*Due to the overlap of the three stages, Stage 2 and Stage 3 were broken down into 'Stage 2' and 'Stage 2-Phase 2' and 'Stage 3' and 'Stage 3-Phase 2' in the CalEEMod Appendix C to ensure that works and haul-truck trips are not double counted. The equipment in these phases are identical.

In addition to MDAQMD Rule 403 detailed in Section 7.4 of Appendix C, California regulations also limit idling from both on-road and off-road diesel-powered equipment.

3.3.3.4 Operational

When construction is completed, the project would be an operational 300-MW, 2,670-acre solar project with a 300-MW BESS. Criteria pollutant and GHG emissions from the operation of the project were estimated using CalEEMod Version 2022.1.1.21. Year 2027 was assumed as the first full year of operations after completion of construction. The operational emissions were calculated based on CalEEMod defaults associated with the project's land use types. Analysis of the project's likely impact to regional air quality during project operation takes into consideration four types of sources: 1) area, 2) energy, 3) mobile, and 4) off-road. There are no stationary sources of operational emissions.

AREA SOURCES

CalEEMod was used to estimate operational emissions from area sources, including emissions from architectural coatings and landscape maintenance equipment. Emissions associated with electricity use and air conditioning are calculated as part of building energy use in CalEEMod. The project would not include woodstoves or fireplaces (wood or natural gas). Therefore, area source emissions associated with consumer products and hearths were not included.

CalEEMod calculates the VOC evaporative emissions from application of residential and nonresidential surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of

surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings and no reapplication is assumed. Coating for the parking surface area was also estimated with CalEEMod defaults.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated with landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For San Bernardino County, the average annual "summer" days are estimated to be 180 days. Emissions associated with potential landscape maintenance equipment were included, and no emission reduction features related to electric landscape equipment were assumed, to conservatively capture potential project operational emission sources.

ENERGY SOURCES, WASTE, WATER, AND REFRIGERATION

As represented in CalEEMod, energy sources include emissions associated with building electricity, with no natural gas included. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use and refrigeration are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off-site. Electricity use is calculated using CalEEMod defaults for all on-site buildings. Emissions from waste and refrigeration have been calculated only for the operation and maintenance building. Energy use related to cooling of the BESS is anticipated to be offset by the power generated by the project's solar facilities. Emissions from water are calculated for both the outdoor water use and the water use associated with the operation and maintenance building. Outdoor water use during operations is conservatively estimated at a total of up to 22.9 acre-feet per year (the average annual water usage for panel washing would be approximately 3.9 acre-feet per year, and an estimated 19 acre-feet per year of water would be used for dust control and suppression during operation).

MOBILE SOURCES

The project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of project operations. The project requires minimal operation and maintenance activities and would not require the presence of full-time employees. However, for estimation of operational emissions, it is conservatively assumed that for maintenance, some employees would commute to the site. These are very conservative assumptions because no daily travel to the site is anticipated during operations. The annual operations are assumed to be as follows:

- Routine maintenance activities would include panel washing, which is expected to occur three times annually over a 3-week period. Panel washing activities and workers visiting the substation as needed for maintenance, equipment operation, and/or security are estimated to require additional daily trips of up to 40 workers (which includes the truck transporting the water) during each event for a total of 80 one-way worker trips per day (weekdays) during a peak operational maintenance event. However, this does not occur on a daily basis and will only occur during such maintenance events.
- The default model generated trip lengths for commercial-work were used for the workers' commute; medium heavy-duty trucks and heavy-duty trucks were chosen to represent the worker vehicles and the truck transporting the water, and trip purpose was designated as 100% primary trips.

3.3.3.5 Applicant-Proposed Measures

The applicant identified and committed to implementing the following APMs as part of the proposed project to avoid or substantially lessen potentially significant impacts to air quality, to the extent feasible. The APMs, where applicable, are discussed in the impact analysis section below. These measures include the following:

- **APM AIR-1:** The applicant shall use periodic watering for short-term stabilization of disturbed areas to minimize visible fugitive dust emissions. Use of a water truck to maintain surface moisture on disturbed areas and surface application of water during visible dusting episodes shall be considered sufficient to maintain compliance.
- **APM AIR-2:** The applicant shall apply best management practices (BMPs) to prevent project-related visible bulk materials transport (trackout) onto paved surfaces. BMPs may include, but not be limited to, the following:
  - Use of wheel-washers (or equivalent) installed at all access points and laydown areas where trackout onto paved public roads could occur.
  - Construction of stabilized construction site entrance/exit areas.
  - Implementation of regular street sweeping/cleaning of paved surfaces.
  - Installation of corrugated steel panels at all site exits.
- **APM AIR-3:** The applicant shall cover haul vehicles maintained paved surfaces loaded with earthen materials while operating on publicly maintained paved surfaces.
- **APM AIR-4:** The applicant shall stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than 14 days, except when such a delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate visible fugitive dust emissions.
- **APM AIR-5:** The applicant shall cleanup project-related visible bulk materials transport (trackout) or spills on publicly maintained paved surfaces within 24 hours.
- **APM AIR-6:** The applicant shall discontinue non-essential earth-moving activities under high wind conditions when wind speeds exceed 25 miles per hour and those activities result in visible dust plumes. All grading activities shall be suspended when wind speeds are greater than 30 miles per hour.
- **APM AIR-7:** The applicant shall limit the speed of vehicles traveling on unpaved roads and disturbed areas to 15 miles per hour.
- **APM AIR-8:** The applicant shall apply water to all unpaved roads and unpaved parking areas actively used during construction, except when moisture remains in the soils such that dust is not produced when driving on unpaved roads.
- **APM AIR-9:** The applicant, when entering into construction contracts or when procuring off-road equipment or vehicles for on-site construction or operations and maintenance activities, shall ensure that only new model year equipment or vehicles are obtained. An Exhaust Emissions Control Plan that identifies each off-road unit's certified tier specification, Best Available Control Technology, as well as the model year of all haul trucks to be used on the project that are under direct control of the applicant or its construction contractor shall be submitted to BLM for review and approval at least 30 days prior to commencement of construction activities. The following measures would be included with contract or procurement specifications and in the Exhaust Emissions Control Plan:

- All construction diesel engines not registered under California Air Resources Board's Statewide Portable Equipment Registration Program, with a rating of 50 hp or higher shall meet the Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in 13 CCR 2423(b)(1), unless a good faith effort demonstrates that such engine is not available for a particular item of equipment. If a Tier 4 engine is not available for any off-road equipment larger than 50 hp, a Tier 3 engine shall be used or that equipment shall be equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides and diesel particulate matter to no more than Tier 3 levels unless certified by the engine manufacturers that the use of such devices is not practical for specific engine types.
- All diesel-fueled engines used in the construction of the facility shall have clearly visible tags showing that the engine meets the standards of this measure.
- All equipment and trucks used in the construction or operation and maintenance of the facility shall be properly maintained and the engines tuned to the engine manufacturer's specifications.
- All diesel heavy construction equipment shall not idle for more than 5 minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.

3.3.3.6 Impact Analysis

Impact AQ-1: Would the conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant)

A project would conform with applicable adopted plans if it complies with the rules, regulations, and emission control strategies in the applicable air quality attainment plans. The project would comply with the applicable rules and regulations, including the use of standard control measures for construction equipment and fugitive PM_{10}.

Consistency with air quality plans is typically conducted based on a comparison of project-generated growth in employment, population, and vehicle miles traveled within the region, which is used for development of the emissions inventories contained in the air quality plans. The region's SIP comprises the MDAQMD air quality plans: 2022 8-Hour Ozone SIP, 2016 8-Hour Ozone SIP, 2015 8-Hour Ozone Reasonable Available Control Technology SIP, 2014 Updates to the 1997 8-Hour Ozone SIP, February 2008 Ozone Early Progress Plan, 2004 Southeast Desert Modified Air Quality Maintenance Area Ozone Plan, and 1995 Mojave Desert Planning Area PM10 Attainment Plan. Project compliance with all MDAQMD rules and regulations results in conformance with MDAQMD air quality plans. These air quality attainment plans are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These SIPs and associated control measures are based on information derived from projected growth in the air district in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by the counties and incorporated cities in each county.

Although the project would contribute to energy supply, which is one factor of population growth, the project would not significantly increase employment, population, or growth within the region. The project does not include residential development or large local or regional employment centers, and thus would not result in significant population or employment growth. Furthermore, the operation of the project would create renewable energy over its planned lifetime, helping California meet its RPS, and decrease the need for energy from fossil fuel–based power plants in the state, which is considered a beneficial impact to statewide air quality. The energy produced by the project would displace the criteria pollutant

emissions that would otherwise be produced by existing, business-as-usual power generation resources (including natural gas and coal).

The thresholds of significance, adopted by MDAQMD, determine compliance with the goals of attainment plans in the region. As such, emissions below MDAQMD daily and annual significance emissions thresholds would not conflict with or obstruct implementation of the applicable air quality plans. The project implementation would generate emissions of criteria air pollutants during construction and operation. The emissions from project construction (Table 3.3-8) and operation (Table 3.3-9) are below the thresholds of significance; therefore, the project does not conflict with implementation of MDAQMD applicable air quality plans. The detailed assumptions and calculations, as well as CalEEMod outputs, are provided in Appendix C. Therefore, the project would have **less-than-significant impacts**.

Impact AQ-2: Would the project 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? (Less than Significant)

MDAQMD's thresholds of significance represent the allowable emissions a project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed MDAQMD's thresholds of significance on a project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. The region is designated as nonattainment for federal and state 8-hour O_3 standards, federal and state 24-hour PM_{10} standards, and state $PM_{2.5}$ standards. Impacts related to construction and operation of the project are addressed separately below.

CONSTRUCTION

Project implementation would generate emissions of criteria air pollutants during construction. The estimated unmitigated emissions from construction of the project are summarized in Table 3.3-8. The detailed assumptions and calculations, as well as CalEEMod outputs, are provided in Appendix C.

Table 3.3-8. Unmitigated Construction Emissions Summary

Construction Year	Unmitigated Construction Emissions					
	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2
Pollutant Emission (pounds per day)						
2025 peak daily emission	17.3	135.6	197.5	31.5	12.2	0.37
2026 peak daily emission	12.9	110.5	144.2	23.5	7.7	0.33
MDAQMD daily significance thresholds	*137*	*137*	*548*	*82*	*65*	*137*
Threshold exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Pollutant Emission (short tons per year)						
2025 annual emissions	1.38	11.94	15.83	3.11	1.14	0.03
2026 annual emissions	0.56	4.82	7.53	1.77	0.50	0.02
MDAQMD annual significance thresholds	25	25	100	15	12	25
Threshold exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
General Conformity de minimis thresholds	*25*	*25*	*n/a*	*70*	*70*	*n/a*
Threshold exceeded?	***No***	***No***	***n/a***	***No***	***No***	***n/a***

Source: Emissions were quantified using CalEEMod Version 2022.1.1.21 (CAPCOA 2023). Maximum winter reported for pound/day emissions.
Note: Model results (summer, winter, and annual) and assumptions are provided in Appendix C.

As shown in Table 3.3-8, even without incorporation of dust control practices (APM AIR-1 through AIR-8) and for off-road equipment engine standards (APM AIR-9), estimated unmitigated construction emissions for all pollutants are below MDAQMD daily and annual significance thresholds. The annual emissions are also below the applicable General Conformity de Minimis thresholds. The combined construction emissions from all components of the project are below the recommended MDAQMD thresholds of significance. Therefore, project construction would have a **less-than-significant impact**.

In CalEEMod, APM AIR-1 through AIR-8 were included in this unmitigated model to reflect common measures for fugitive dust control discussed in MDAQMD Rule 403: reduce speed on unpaved roads to 15 miles per hour, water exposed areas two times per day, and water the unpaved roads traveled to the project a minimum of two times per day. Further, the project would be required to prepare an MDAQMD-approved dust control plan outlining strategies for controlling dust emissions during project construction. As presented above, the project would not violate any air quality significance thresholds or contribute substantially to an existing or projected air quality violation and the project would have a **less-than-significant impact** with respect to community risk caused by construction activities.

OPERATIONS

Project operations are limited to panel washing and maintenance, which are conservatively assumed to be up to 80 one-way employee vehicle trips per weekday. Project operations would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources and water use. The estimated emissions from operation of the project are summarized in Table 3.3-9. Complete details of the emissions calculations are provided in Appendix C.

Table 3.3-9. Unmitigated Operational Emissions Summary

Operation Year 2027	Unmitigated Operational Emissions Summary					
	VOC	**NO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Pollutant Emission (pounds per day)						
Mobile	0.20	5.52	2.63	3.07	0.87	0.10
Area	0.74	0.04	4.50	0.01	0.01	<0.005
Energy	0	0	0	0	0	0
Stationary	0	0	0	0	0	0
Total	**0.94**	**5.56**	**7.12**	**3.08**	**0.87**	**0.10**
MDAQMD significance thresholds	*137*	*137*	*448*	*82*	*64*	*137*
Threshold exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Pollutant Emission (short tons per year)						
Mobile	0.03	0.77	0.34	0.40	0.11	0.01
Area	0.07	<0.005	0.40	<0.005	<0.005	<0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Stationary	0	0	0	0	0	0
Total	**0.09**	**0.78**	**0.74**	**0.40**	**0.11**	**0.01**
MDAQMD significance thresholds	*25*	*25*	*100*	*15*	*12*	*25*
Threshold exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
General Conformity de minimis thresholds	*25*	*25*	*n/a*	*70*	*70*	*n/a*
Threshold exceeded?	***No***	***No***	***n/a***	***No***	***No***	***n/a***

Source: Emissions were quantified using CalEEMod Version 2022.1.1.21 (CAPCOA 2023). Maximum summer reported for pound/day emissions.

Note: Model results (summer, winter, and annual) and assumptions are provided in Appendix C.

Solar equipment has a lifespan of approximately 30 years. At the end of the project site operational term, the applicant may determine that the project site should be decommissioned and deconstructed, or it may seek an extension of its conditional use permit. The emissions associated with decommissioning of the project are not quantitatively estimated, as the extent of activities and emissions factors for equipment and vehicles at the time of decommissioning are unknown. The overall activity would be anticipated to be somewhat less than project construction, and the emissions from off- and on-road equipment are expected to be much lower than those for the project construction. However, without changes in fugitive dust control methods, it is likely that fugitive dust emissions would be closer to those estimated for construction. Overall, similar to construction, emissions associated with decommissioning would be **less than significant.**

As Table 3.3-9 shows, estimated unmitigated operational emissions for all pollutants are below MDAQMD significance thresholds; and MDAQMD rules would be implemented during construction and operation of the project, including preparing a dust control plan for controlling dust emissions during project construction and a solar-project specific dust control plan for controlling dust emissions during operations. The project APMs are listed in Section 3.3.3.3 and the MDAQMD (Rule 403.2) requirements are listed in Section 7.4 of Appendix C. The annual emissions are also below the applicable General Conformity de minimis thresholds. Also, project operations would not affect traffic volumes at any affected intersection. Therefore, the project would not exceed the CO screening criteria or the General Conformity de minimis thresholds. Therefore, based on the above criteria, the project would have a **less-than-significant impact** related to CO hotspots.

The combined construction emissions and combined operational emissions from all components of the project are below the recommended MDAQMD thresholds of significance. Therefore, the project would not be anticipated to exceed any significance thresholds and would have a **less-than-significant** contribution to cumulative impacts.

Impact AQ-3: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less than Significant)

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The project would not be a source of any odors during operations. Construction of the project could result in emission of odors from construction equipment and vehicles. During construction, a limited number of diesel engines would be operated on the project site for limited durations. Diesel exhaust and VOCs from these diesel engines would be emitted; however, the short duration of construction activities is expected to last approximately 18 months, limited in extent at any given time, and distributed through the project site. In addition, emissions would disperse rapidly from the project site and diesel exhaust odors would be consistent with existing vehicle odors in the area.

The project does not include any uses identified as being associated with odors. In addition, beyond one residence adjacent to the project site, there are not substantial numbers of people within the vicinity. Considering this information, construction and operation of the project would not create other emissions or odors adversely affecting a substantial number of people; impacts would be **less than significant**.

3.3.4 Mitigation Measures

No mitigation is required.

3.3.5 Cumulative Impacts

Impact C-AQ-1: Would the impacts of the proposed project, in combination with other past, present, and reasonably foreseeable future projects, contribute to a cumulative impact related to air quality? (Less than Significant)

The MDAQMD relies on SCAQMD guidance for determining cumulative impacts. SCAQMD has recognized that there is typically insufficient information to quantitatively evaluate the cumulative contributions of multiple projects because each project applicant has no control over nearby projects. SCAQMD published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (SCAQMD 2003). In this report, AQMD clearly states (page D-3):

> …the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.
>
> Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (SCAQMD 2003).

Individual projects that do not generate operational or construction emissions that exceed MDAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the MDAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. The project would also not exceed the General Conformity de minimis thresholds for any pollutants in nonattainment. As previously noted, the project construction-source and operational-source air pollutant emissions would not exceed applicable MDAQMD regional thresholds. However, the project would incorporate APMs AIR-1 through AIR-9 and MDAQMD (Rule 403.2) requirements to further reduce potential emissions. A cumulative air quality modeling impacts analysis is not needed since the project does not have any emissive stationary sources that would be combined with other stationary emissions sources within a 6-mile radius that have received construction permits but are not yet operational or are in the permitting process. As such, project construction and operational-source emissions are considered **less than significant.**

3.3.6 Laws, Ordinances, Regulations, and Standards

Federal, state, and local Laws, Ordinances, Regulations, and Standards (LORS) applicable to air quality are discussed and summarized in Table 3.3-10.

Table 3.3-10. Laws, Ordinances, Regulations, and Standards

LORS	Administering Agency	Applicability	Compliance
Federal Clean Air Act	Mojave Desert Air Quality Management District	Establishes federal ambient air quality standards.	Section 3.3.3.5, 3.3.3.6
California Clean Air Act	Mojave Desert Air Quality Management District	Establishes state ambient air quality standards.	Section 3.3.3.5, 3.3.3.6
Mojave Desert Air Quality Management District Rules and Air Quality Management Plans	Mojave Desert Air Quality Management District	Regulates air pollutant emission throughout the Mojave Desert Air Basin, including new sources of air pollution, source specific standards, fugitive dust control, etc.	Section 3.3.3.5, 3.3.3.6
County of San Bernardino Municipal Code	County of San Bernardino Building Division	Identifies diesel exhaust emissions control measures.	Section 3.3.3.5, 3.3.3.6

3.3.7 Agencies Contacted and Permits

A list of agencies that were contacted during preparation of this application is provided in Appendix V, Table 2-1. Permits Required for Soda Mountain Solar Project. Federal, state, and local permits applicable to air quality are also summarized in Appendix V, Table 2-1 and below in Table 3.3-11.

Table 3.3-11. Permits Required

Regulatory Agency	Permit Required	Agency Contact	Schedule
Mojave Desert Air Quality Management District	Dust Control Plan (Construction)	Brad Poiriez, Executive Director 14306 Park Avenue, Victorville, CA 92392 760-245-166 bradp@mdaqmd.ca.gov	Prior to construction.
Mojave Desert Air Quality Management District	Dust Control Plan – Solar Project	Brad Poiriez, Executive Director 14306 Park Avenue, Victorville, CA 92392 760-245-166 bradp@mdaqmd.ca.gov	Prior to the generation of one MW of electrical energy or covering at least one acre.

Pursuant to Assembly Bill 205 subsection 25545.1(b)(1), the CEC retains exclusive authority over permitting and supersedes any applicable local statute, ordinance, or regulation. However, the Applicant and CEC would collaborate with the County of San Bernardino on review of this Opt-in Application to ensure compliance with County rules and regulations.

3.3.8 References Cited

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