SECTION 4.4
AIR QUALITY

This section identifies federal, state and local regulations applicable to air quality and describes the environmental setting with regard to compliance with applicable standards. This section also analyzes potential air quality impacts associated with construction and operation of the proposed Project. Reclamation is discussed on a qualitative basis. Information contained in this section is summarized from the "Air Quality and Greenhouse Gas Analysis for the Drew Solar Project" (RECON 2018a), prepared by RECON. This document and supporting attachments are provided as **Appendix D** on the attached CD of Technical Appendices of this EIR.

4.4.1 REGULATORY FRAMEWORK

A. FEDERAL

Clean Air Act

The Clean Air Act (CAA) was enacted in 1970 to foster growth in the economy and industry while improving human health and the environment. This law provides the basis for the national air pollution control effort. In order to improve air quality, the CAA requires areas with unhealthy levels of criteria pollutants to develop State Implementation Plans (SIPs). A SIP describes how and when National Ambient Air Quality Standards (NAAQS) will be attained for a specific area. SIPs are a compilation of state and local regulations used by the state to achieve healthy air quality under the Federal CAA. SIPs are comprised of new and previously submitted plans, monitoring programs, modeling programs, permitting programs, district rules, state regulations, and federal controls. State and local agencies are required to involve the public in the adoption process before SIP elements are submitted to the U.S. Environmental Protection Agency (EPA) for approval or disapproval. Likewise, the EPA is required to allow public comment prior to taking action on each SIP submittal. If the SIP is not acceptable, the EPA has authority to enforce the CAA in that state.

The most recent major changes to the CAA occurred in 1990. The 1990 amendments established new deadlines for attainment based on the severity of the pollution problem. The amendments also instigated a comprehensive planning process for attaining the NAAQS. In 1997, new national 8-hour ozone (O_3) standards and the fine particulate matter ($PM_{2.5}$) standards were introduced. These new standards resulted in additional statewide air quality planning efforts.

The consistency of projects with the SIP is assessed through land use and growth assumptions that are incorporated into the air quality planning document. If a proposed project is consistent with the applicable General Plan of the jurisdiction where it is located, then the project is assumed to be accounted for as part of the regional air quality planning process. When a project is consistent in this regard, it would not have an adverse regional air quality impact.

National Ambient Air Quality Standards

The NAAQ were established by the EPA per the requirements of the CAA. The NAAQS are used to identify thresholds for specific pollutants. Two types of air quality standards were established by the CCA 1) primary standards; and 2) secondary standards. Primary Standards define limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set NAAQS for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

Ozone (O_3)

Ozone is the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of nitrogen oxides (NO_X) and reactive organic

gases (ROG) (a.k.a. volatile organic chemicals [VOC] or reactive organic compounds) in the presence of sunlight. The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthma sufferers and children, but healthy adults as well. Exposure to ozone has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled) and impairing respiratory mechanics. Symptomatic responses include such as throat dryness, chest tightness, headache, and nausea. About half of smog-forming emissions come from automobiles.

Carbon Monoxide (CO)

Carbon monoxide is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue (United States Environmental Protection Agency (RECON 2018a).

Small-scale, localized concentrations of CO above the NAAQS and CAAQS may occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as "CO hotspots" and are a concern at congested intersections where automobile engines burn fuel less efficiently and their exhaust contains more CO.

Sulfur Dioxide

Sulfur dioxide is a combustion product with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

Lead (Pb)

Lead is a metal found naturally in the environment as well as in manufactured products. At high levels of exposure, lead can have detrimental effects on the central nervous system. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions.

Nitrogen Dioxide (NOx)

Nitrogen dioxide is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Inhalation is the most common route of exposure to NO2. Because NO2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat.

Particulate Matter - Inhalable Coarse Particles (PM10)

PM10 is particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Under typical conditions (i.e., no wildfires) particles classified under the PM10 category are mainly emitted directly from activities that disturb the soil including travel on roads and construction, mining, or agricultural operations. Other sources include windblown dust, salts, brake dust, and tire wear.

Particulate Matter - Inhalable Fine Particles (PM2.5)

Airborne, inhalable particles with aerodynamic diameter of 2.5 microns or less have been recognized as an air quality concern requiring regular monitoring. Federal regulations required that PM2.5 monitoring begin January 1, 1999. Similar to PM10, PM2.5 is also inhaled into the lungs and causes serious health problems.

Table 4.4-1 identifies the federal air quality standard for specific pollutants.

TABLE 4.4-1
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m³)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Fluorescence; Spectro- photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[10]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	–	

TABLE 4.4-1
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chroma-tography			

Source: CARB 2016.

1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standards of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

An area is designated as being in attainment if the concentration of a specific air pollutant does not exceed the standard for that pollutant. An area is designated as being in nonattainment for a specific pollutant if the standard for that pollutant is exceeded. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years.

B. STATE

California Ambient Air Quality Standards (CAAQS)

The California Clean Air Act was enacted in 1988 (California Health & Safety Code Section 39000 et seq.). Under the California Clean Air Act, CARB has developed the CAAQS and generally has set more stringent limits on the criteria pollutants than the NAAQS (see **Table 4.4-1**). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see **Table 4.4-1**).

California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. Similar to the CAA, the state classifies these specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the CAAQS.

California Ambient Air Quality Standards Attainment Status

The project site is located in the Salton Sea Air Basin, which encompasses Imperial County and parts of Riverside County (Coachella Valley). The Salton Sea Air Basin is a non- attainment area for the CAAQS for ozone and PM_{10} (RECON 2018a).

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. Diesel-exhaust particulate matter (DPM) emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: California Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect

emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

The Children's Environmental Health Protection Act, California Senate Bill (SB) 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. SB 25 requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the Imperial County Air Pollution Control District's (ICAPCD) Regulation X. Of particular concern statewide are DPM emissions. DPM was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of DPM as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in CARB's *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). A stated goal of the plan is to reduce the statewide cancer risk arising from exposure to DPM by 85 percent by 2020.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The CARB Air Quality Handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the CARB Air Quality Handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Air Quality Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, CARB has provided guidelines for the siting of land uses near heavily traveled roadways.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of DPM and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will continue to reduce the public's exposure to DPM.

State Implementation Plan (SIP)

The California SIP is a collection of documents that set forth the state's strategies for achieving the NAAQS. The California SIP is a compilation of new and previously submitted plans, programs (such as air quality management plans, monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. CARB is the lead agency for all purposes related to the California SIP under federal law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. CARB then forwards revisions to the U.S. EPA for approval and publication in the *Federal Register*. All of the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

The ICAPCD is responsible for preparing and implementing the portion of the California SIP applicable to the portion of the SSAB that is in Imperial County. These portions include:

- Imperial County 2009 State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter

- Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area
- Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard

California In-Use Off-Road Diesel-Fueled Fleets Regulation

The California In-Use Off-Road Diesel-Fueled Fleets Regulations were approved by CARB in July 2007 and subsequent major amendments were incorporated in December 2011. The regulations are intended to reduce diesel-exhaust and NO_X emissions from in-use off-road heavy-duty diesel vehicles in California. The regulation requires that any operator of diesel- powered off-road vehicles with 25-horsepower or greater engines meet specific fleet average targets. CARB maintains schedules for small, medium, and large equipment fleets that require equipment retrofits or replacements over time to gradually bring the existing equipment up to standard. As of January 2018, all newly purchased equipment for medium and large equipment fleets will be required to meet Tier 3 or higher engine standards.

B. REGIONAL

Southern California Association of Governments

CEQA requires regional agencies to monitor regional development. The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization for the counties of Los Angeles, Ventura, Orange, San Bernardino, Riverside and Imperial. SCAG is responsible for reviewing projects and plans in these six counties. Projects and plans with regional significance must demonstrate consistency with a range of adopted regional plans and policies. **Table 4.4-2** identifies one goal applicable to the proposed Project from the SCAG Regional Transportation Plan (RTP) (SCAG 2012).

TABLE 4.4-2
PROJECT CONSISTENCY WITH APPLICABLE SCAG REGIONAL TRANSPORTATION PLAN GOALS

Regional Transportation Plan Goal	Consistent with RTP?	Analysis
Protect the environment and health of our residents by improving air quality and encouraging active transportation.	Yes	As a solar generation facility, the proposed Project would improve air quality by reducing the use of fossil fuels in energy production. PM_{10} emissions associated with construction of the Project would be reduced through compliance with ICAPCD Regulation VIII. Operation of the proposed Project would not exceed any ICAPCD thresholds or result in significant impacts to air quality. Therefore, the proposed Project would be consistent with this goal.

Source: SCAG 2012, p. 15.

C. LOCAL

Imperial County Air Pollution Control District (ICAPCD)

The ICAPCD covers all of Imperial County including a portion of the SSAB. The ICAPCD is primarily responsible for: monitoring air quality within the County; enforcing regulations for new and existing

stationary sources within the Imperial County portion of the SSAB; and, planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards within the ICAPCD.

Criteria pollutant standards are generally attained when each monitor within the region demonstrates no violations during the previous three calendar years. The ICAPCD currently maintains the following NAAQS designations: attainment for 24-Hour $PM_{2.5}$ and its precursors (moderate nonattainment for 8-hour O_3) (1997), marginal for 2008 ground-level O_3 standards, and serious nonattainment for PM_{10}. The County remains moderate non-attainment for annual $PM_{2.5}$ (Blondell 2019).

The Project is located in an area defined by the ICAPCD's *High Wind Exceptional Fugitive Dust Mitigation Plan* as a "high wind corridor" that is subject to periodic strong westerly winds that create wind-dust channels and can entrain fugitive dust (Blondell 2019).

CEQA Air Quality Handbook

The ICAPCD adopted its *CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act of 1970* in 2007 and amended the handbook in December 2017 (ICAPCD 2017a). The ICAPCD CEQA Air Quality Handbook 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 ICAPCD CEQA Air Quality Handbook provides guidance to mitigate adverse impacts to air quality from development projects.

Stationary Source Permitting

Pursuant to ICAPCD Rule 207 (New & Modified Stationary Source Review) and associated rules such as Rule 201 (Permits Required) and Rule 208 (Permit to Operate), the construction, installation, modification, replacement, and operation of any equipment which may emit air contaminants requires ICAPCD permits. The ICAPCD requires that all such equipment be assessed for the potential to result in health risk impacts and permits to operate equipment must be renewed each year equipment is in use or upon the modification of equipment.

Fugitive Dust Control

The ICAPCD Regulation VIII (ICAPCD 2012) regulates emissions of fugitive dust. Fugitive dust is Particulate Matter entrained in the ambient air which is caused from man- made and natural activities such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. This excludes Particulate Matter emitted directly in the exhaust of motor vehicles or other fuel combustion devices, from portable brazing, soldering, or welding equipment, pile drivers, and stack emissions from stationary sources (ICAPCD, Rule 800 (c)(18)).

Regulation VIII includes the following specific rules:

- Rule 800–Fugitive Dust Requirements for Control of $PM_{2.5}$
- Rule 801–Construction and Earthmoving Activities
- Rule 802–Bulk Materials
- Rule 803–Carry Out and Track Out
- Rule 804–Open Areas
- Rule 805–Paved and Unpaved Roads
- Rule 806–Conservation Management Practices

Public Nuisance Law (Odors)

State of California Health and Safety Code Sections 41700 and 41705 and ICAPCD Rule 407 prohibit emissions from any source whatsoever in quantities of air contaminants or other material, that cause injury, detriment, nuisance, or annoyance to the public health or damage to property.

The ICAPCD CEQA Air Quality Handbook provides screening level distances for potential odor sources. If a project is proposed within one mile of a wastewater treatment plant, sanitary landfill, composting station, feedlot, asphalt plant, painting and coating operation, or rendering plant, a potential odor problem may result (RECON 2018a).

Imperial County General Plan

The General Plan Conservation and Open Space Element (Imperial County 2016a) contains goals, objectives, policies and/or programs to conserve the natural environment of Imperial County. This includes the full spectrum of natural resources as well as air quality. **Table 4.4-3** summarizes the Project's consistency with the applicable air quality goal and objectives from the Conservation and Open Space Element. While this EIR analyzes the Project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE ELEMENT		
Protection of Air Quality and Addressing Climate Change		
Goal 7: The County shall actively seek to improve the quality of air in the region.	Yes	The proposed Project would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed Project would improve air quality and reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from a fossil fuel burning facility. Therefore, the proposed Project is consistent with this goal for both the Full Build-Out Scenario and the Phased CUP Scenario.

TABLE 4.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
Objective 7.1 Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Yes	All facilities proposed as part of the Project would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the Project would comply with the *ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures*. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and the Phased CUP Scenario.
Objective 7.2 Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Yes	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with ICAPCD Regulation VIII, requiring the construction contractor to use equipment outfitted with diesel engines with certified NO_x emissions rated as Tier 3 or better. Further, the Project would comply with the *ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures*. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and the Phased CUP Scenario.

4.4.2 ENVIRONMENTAL SETTING

A. PROJECT AREA

Regional and Local Climate/Meteorological Conditions

Climate conditions at the project site, like the rest of Imperial County, are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most storms except in winter when it is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the barrier and weakened storms, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall (ICAPCD 2017b).

Winters are mild and dry with daily average temperatures ranging between 65 and 75 degrees Fahrenheit (ºF). Summers are extremely hot with daily average temperatures ranging between 104 and 115ºF. The flat terrain and the strong temperature differentials created by intense solar heating result in moderate

winds and deep thermal convection. The combination of subsiding air, protective mountains, and distance from the ocean all combine to severely limit precipitation (ICAPCD 2017b).

The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50 to 60 percent but drops to about 10 percent during the day. Prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Occasionally, Imperial County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour and this occurs most frequently during the months of April and May. However, speeds of less than 6.8 miles per hour account for more than one-half of the observed wind measurements (ICAPCD 2017b).

Local Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and regionally. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by temperature inversions), and topography.

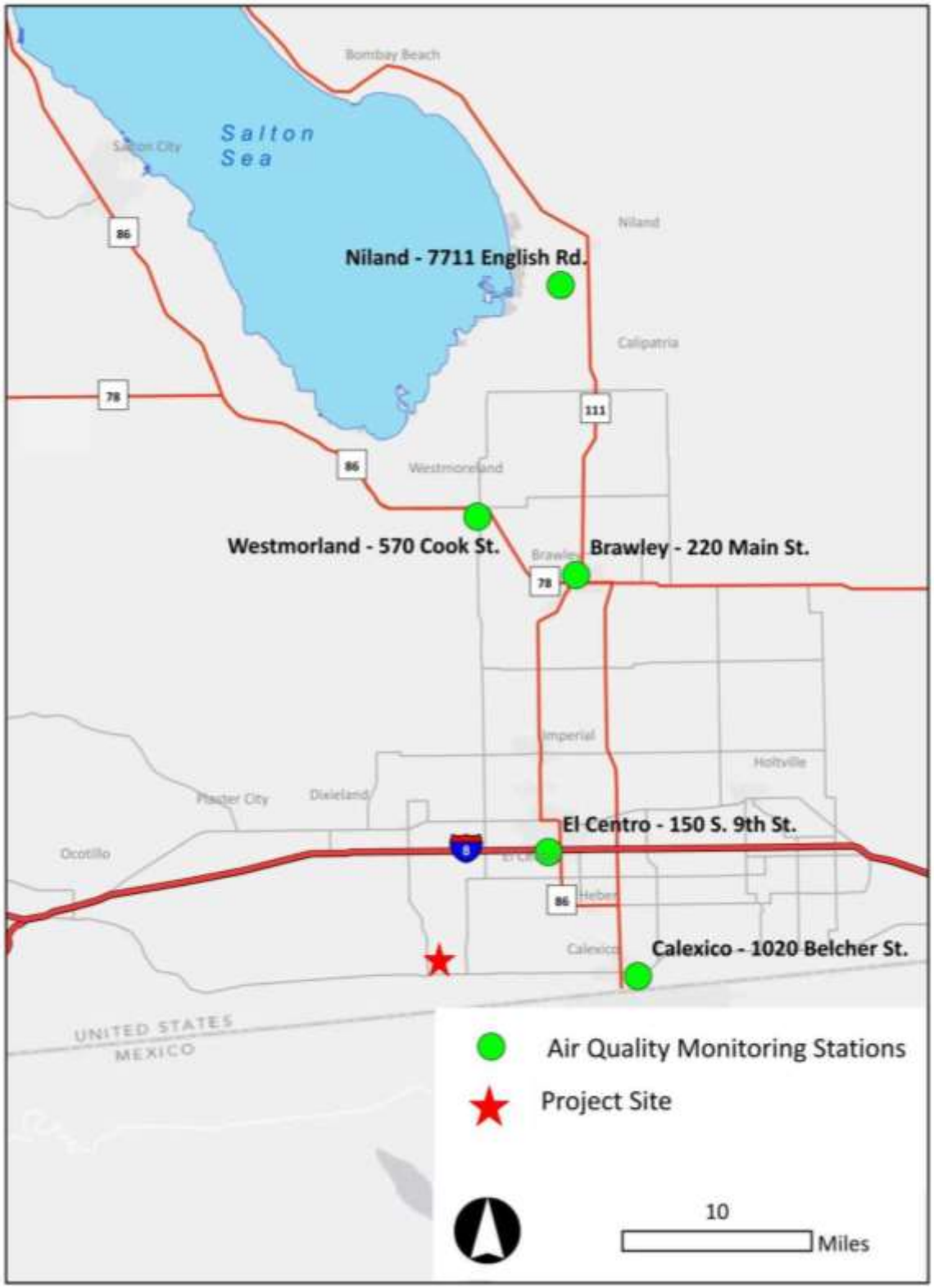
Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken and allow pollutants to be more easily dispersed. In some circumstances, the presence of the Pacific high-pressure cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the build-up of pollutants. Highest and worst-case ozone levels are often associated with the presence of subsidence inversions (ICAPCD 2017a).

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by California Air Resources Board (CARB) or federal standards set by the U.S. EPA. The Imperial County Air Pollution Control District (ICAPCD) maintains five air quality monitoring stations located throughout the region. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels, and to gauge compliance with state and federal air quality standards.

Criteria pollutants are measured continuously throughout Imperial County at monitoring stations located throughout the County (**Figure 4.1-1**). The ICAPCD is responsible for monitoring and reporting monitoring data. The data is used to track ambient air quality patterns throughout the County and to determine attainment status when compared to the NAAQS and CAAQS. As noted in the "Annual Network Plan for Ambient Air Monitoring" (CARB 2017a), the ICAPCD is responsible for monitoring four sites (7711 English Road, Niland; 520 Cook Street, Westmorland; 220 Main Street, Brawley; and 150 South 9th Street, El Centro) that collect meteorological and criteria pollutant data used by the District to assist with pollutant forecasting, data analysis and characterization of air pollutant transport. Also, a fifth monitoring location in the City of Calexico (Ethel Street) is operated by CARB.

The pollutants of interest in Imperial County are as follows: O_3, $PM_{2.5}$, PM_{10}, CO and NO_2. Monitoring stations in Niland, Westmorland, El Centro and Calexico all monitor for O_3 and PM_{10}. Monitoring Stations in Brawley, El Centro, and Calexico all monitor for $PM_{2.5}$ and both El Centro and Calexico monitor CO and NO_2. All stations monitor for supporting meteorological parameters (CARB 2017a, p. 7).

The nearest active monitoring station is the El Centro Monitoring Station located approximately 8 miles northeast of the Project site. The El Centro Monitoring Station measures ozone, NO_2, PM_{10}, and $PM_{2.5}$.



Source: Ericsson-Grant, Inc., ICAPCD, Project Applicant and U.S. Department of Commerce Tiger/Line Shapefiles.

FIGURE 4.4-1
LOCATION OF AIR QUALITY MONITORING STATIONS

Table 4.4-4 provides a summary of measurements collected at the El Centro Monitoring Station for the years 2014 through 2016.

TABLE 4.4-4
SUMMARY OF AIR QUALITY MEASUREMENTS - EL CENTRO MONITORING STATION

Pollutant/Standard	2014	2015	2016
Ozone			
Days State 1-hour Standard Exceeded (0.09 ppm)	2	2	4
Days State 8-hour Standard Exceeded (0.07 ppm)	13	12	11
Days Federal 8-hour Standard Exceeded (0.07 ppm)	12	11	11
Max. 1-hr (ppm)	0.101	0.099	0.108
Max 8-hr (ppm)	0.081	0.080	0.082
Nitrogen Dioxide			
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppm)	0	0	0
Max 1-hr (ppm)	0.059	0.059	0.051
Annual Average (ppm)	0.007	0.007	0.005
PM_{10}*			
Measured Days State 24-hour Standard Exceeded (50 μg/m^3)	15	7	NA
Calculated Days State 24-hour Standard Exceeded (50 μg/m^3)	90.0	44.1	NA
Measured Days Federal 24-hour Standard Exceeded (150 μg/m^3)	0	1	9
Calculated Days Federal 24-hour Standard Exceeded (150 μg/m^3)	0	6.1	9.0
Max. Daily (μg/m^3)	120.4	172.1	207.5
State Annual Average (μg/m^3)	40.8	35.6	NA
Federal Annual Average (μg/m^3)	40.8	35.6	44.3
$PM_{2.5}$*			
Days Federal 24-hour Standard Exceeded (35 μg/m^3)	0	0	0
Max. Daily (μg/m^3)	27.5	31.2	31.3
State Annual Average (μg/m^3)	6.6	6.3	9.5
Federal Annual Average (μg/m^3)	6.5	6.2	9.4

Source: CARB 2017b.

ppm = parts per million; μg/m^3 = micrograms per cubic meter

* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Sensitive Receptors

Sensitive receptors refer to individuals (e.g. young children, the elderly) or uses (e.g. parks, school playgrounds) which could be adversely affected by exposure to air pollutants. High concentrations of air pollutants present health hazards for the general population, but more so for the young, the elderly, and the sick. Respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort can result from exposure to smog and other air pollutants. Schools, hospitals, residences, and other facilities where people congregate, especially children, the elderly and infirm, are considered especially sensitive to air pollutants.

The term "sensitive receptor" refers to a person in the population who is more susceptible to health effects due to exposure to an air contaminant than the population at large or to a land use that may

reasonably be associated with such a person. Examples include schools, day care centers, hospitals, retirement homes, convalescence facilities and residences.

The Project site is in a rural environment. The Project area is surrounded primarily by agricultural land and existing solar development. There are no nearby schools, day care centers, hospitals, retirement homes, or convalescence facilities. Sensitive receptors include a single-family residence located immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from Project site; a bee company operates out of this location), and another single-family residence located northwest of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from Project site). Additionally, three single-family residences are located to the southwest of the intersection of Kubler Road and Mandrapa Road (0.5 mile from project site).

4.4.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to air quality if it would result in any of the following:

a) Conflict with or obstruct implementation of the applicable air quality plan.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

c) Expose sensitive receptors to substantial pollutant concentrations.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The ICAPCD CEQA Air Quality Handbook establishes the following four separate evaluation categories (RECON 2018a):

1. Comparison of calculated project emissions to ICAPCD emission thresholds.
2. Consistency with the most recent Clean Air Plan for Imperial County.
3. Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable.
4. The evaluation of special conditions which apply to certain projects.

Any development with a potential to emit criteria pollutants below significance levels defined by the ICAPCD is called a "Tier I project," and is considered by the ICAPCD to have less than significant potential adverse impacts on local air quality. For Tier I projects, the project proponent should implement a set of feasible "standard" mitigation measures (enumerated by the ICAPCD) to reduce the air quality impact to an insignificant level. Please refer Table 2.0-6 "Applicant Proposed Measures Included as Part of the Drew Solar Project" in Chapter 2.0 for a discussion of Project design features and measures to address reduction of air emissions. A "Tier II project" is one with emissions that exceed any of the thresholds. Its impact is significant and the project proponent should select and implement all feasible "discretionary" mitigation measures (also enumerated by the ICAPCD) in addition to the standard measures.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

No CEQA Guidelines Appendix G air quality criteria were scoped out as part of the Initial Study.

C. METHODOLOGY

The air quality impact analysis assumes the entire Project to be constructed in a single-phase (Full Build-out Scenario) which would be anticipated to last approximately 18 months. This assumption is a conservative worst-case scenario; if construction activities are phased over a longer period (Phased CUP Scenario, then estimated maximum daily emissions would be less). Because this analysis assumes that construction would begin in 2019 and would occur in a single phase, this analysis does not take credit for reductions that would be increased through the phase-in of cleaner construction equipment and on-road vehicles. Construction emissions are calculated for construction activity based on the construction equipment profile and other factors determined as needed to complete all phases of construction.

Implementation of the Proposed Project would result in air pollutant emissions associated with the construction and operation of the project. Air pollutant emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2. The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the State of California. CalEEMod was developed with the participation of several state air districts including the South Coast AQMD.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed in the South Coast AQMD. Where available, parameters were modified to reflect project-specific data.

Air pollutant emissions associated with build-out of the Project site were estimated for the operations year in 2020.

Construction Significance Thresholds

The ICAPCD has also established thresholds of significance for project construction. **Table 4.4-5** provides general guidelines for determining significance of impacts based on the total emissions that are expected from project construction.

TABLE 4.4-5
SIGNIFICANCE THRESHOLDS FOR CONSTRUCTION

Pollutant	Thresholds (pounds/day)
PM10	150
ROG	75
NOX	100
CO	550

Source: RECON 2018a, p. 30.
ROG = reactive organic gas; NOX = oxides of nitrogen;
CO = carbon monoxide; PM10 = particulate matter with an aerodynamic diameter 10 microns or less.

Regardless of project size, all feasible standard measures specified by the ICAPCD for construction equipment and fugitive PM_{10} control for construction activities should be implemented at construction sites. Control measures for fugitive PM_{10} construction emissions in Imperial County are found in ICAPCD Regulation VIII and in the ICAPCD CEQA Air Quality Handbook and are discussed below.

Operational Significance Thresholds

Table 4.4-6 provides general guidelines for determining the significance of impacts based on the total emissions that are expected from project operation established by the ICAPCD.

TABLE 4.4-6
SIGNIFICANCE THRESHOLDS FOR OPERATIONS

Pollutant	Tier I	Tier II
NO_X and ROG	Less than 137 lbs/day	137 lbs/day and Greater
PM_{10} and SO_X	Less than 150 lbs/day	150 lbs/day and Greater
CO and $PM_{2.5}$	Less than 550 lbs/day	550 lbs/day and Greater

Source: RECON 2018a, p. 30.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less; lbs/day = pounds per day.

As stated above, Tier 1 projects are required to implement all feasible standard measures specified by the ICAPCD. Tier II projects are required to implement all feasible standard measures as well as all feasible discretionary measures specified by the ICAPCD.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Conflict with or Obstruct Implementation of an Applicable Air Quality Plan

Impact 4.4.1 Implementation of the proposed Project would increase air pollutant emissions during Project construction and operation. No criteria pollutant thresholds were calculated to be exceeded during either Project construction or operation. Therefore, the Project's potential to conflict with or obstruct an applicable air quality plan is considered a **less than significant impact** during Project construction, operation and decommissioning/reclamation.

FULL BUILD-OUT SCENARIO

All Project Components

As discussed in the Regulatory Framework above, CARB is the lead agency for preparation of the California SIP, which outlines the State measures to achieve NAAQS. CARB delegates responsibility for preparation of SIP elements to local air districts and requires local air districts to prepare Air Quality Attainment Plans outlining measures required to achieve CAAQS.

The ICAPCD is the air district responsible for the Project area. Applicable ICAPCD air quality plans include the SIPs for PM10, PM2.5 and 8-hour Ozone.

The primary concern for assessing consistency with air quality plans is whether the Project would induce growth that would result in a net increase in criteria pollutant emissions that exceed the assumptions used to develop the plan. The basis for the air quality plans is SCAG's population growth and regional vehicle miles traveled projections which are based in part on the land uses established by local general plans. As such, projects that propose development that is consistent with the local land use plans would be consistent with growth projections and air quality plans emissions estimates. In the event that a project would result in development that is less dense than anticipated by the growth projections, the project would be considered consistent with the air quality plans. In the event a project would result in development that results in greater than anticipated growth projections, the project would result in air pollutant emissions that may not have been accounted for in the air quality plans and thus may obstruct or conflict with the air quality plans.

Construction Emissions

Construction-related activities are temporary, short-term sources of GHG emissions. Sources of construction-related emissions include:

- Fugitive dust from grading activities;
- Exhaust emissions from construction equipment;
- Application of chemical coatings (paints, stains, sealants, etc.); and
- Exhaust and fugitive dust emission from on-road vehicles (trips by workers, delivery trucks, and material-hauling trucks).

Table 4.4-7 provides a summary of the criteria pollutant emissions generated by Project construction and operations. CalEEMod output files for Project construction are contained in Attachment 1 of **Appendix D** of this EIR. As noted above, the impact analysis for the Project assumes a conservative worst-case, Full Buildout Scenario where the entire Project would be constructed in a single phase, which would be anticipated to last approximately 18 months.

TABLE 4.4-7
MAXIMUM DAILY CONSTRUCTION AIR POLLUTANT EMISSIONS

Emission Source	Maximum Daily Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction						
Total Construction	7	54	89	<1	13	6
Significance Threshold	*75*	*100*	*550*	-	*150*	-
Exceeds Threshold?	**No**	**No**	**No**	**-**	**No**	**-**

*Source: RECON 2018a. Attachment 1 of **Appendix D** of this EIR. Note: Totals may vary due to independent rounding.*

As shown in **Table 4.4-7**, air pollutant emissions associated with project construction would be less than all applicable ICAPCD significance thresholds. Therefore, the Project construction under the Full- Buildout scenario would not contribute to violations of NAAQS or CAAQS. Likewise, impacts with regard to obstructing or conflicting with the implementation of an air quality standard and would be considered **less than significant** during Project construction under the worst-case Full Build-out Scenario.

Operational Emissions

The land use designation for the Project site is Agriculture which generally accommodates agricultural crop production with one associated single-family residence per 40-acre parcel. Based on trip generation rates from the Institute of Transportation Engineers (ITE) 9th Edition Handbook, a single-family residence would generate approximately 9.52 vehicle trips per day (RECON 2018a, p. 41); additional trips would be associated with agricultural uses. Thus, the existing land use designation over the 762.8 net acres of the Project site would accommodate up to 20 single-family residences which would generate approximately 190 vehicle trips per day in addition to vehicle trips associated with agricultural crop production.

Project operations would generate up to 20 trips per day from all maintenance and security personnel. As compared to the existing land use designation assumed in the SIP, the Project would generate fewer trips and would thereby result in lesser air pollutant emissions. Thus, the project emissions would be accounted for in SCAG's growth projections and the ICAPCD's air quality plans.

Table 4.4-8 provides a summary of the criteria pollutant emissions generated by Project operations. CalEEMod output files for Project operations are contained in Attachment 1 of **Appendix D** of this EIR.

TABLE 4.4-8
MAXIMUM DAILY OPERATIONAL AIR POLLUTANT EMISSIONS

Emission Source	Maximum Daily Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Operation						
Area Sources	<1	0	0	0	0	0
Energy Sources	0	0	0	0	0	0
Mobile Sources	<1	1	1	<1	<1	<1
Total Operations	<1	<1	1	<1	<1	<1
Significance Threshold	*137*	*137*	*550*	*150*	*150*	*550*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: RECON 2018a. Attachment 1 of **Appendix D** of this EIR. Note: Totals may vary due to independent rounding.*

As shown, maximum daily emissions during operations would not exceed any criteria emission threshold. Therefore, the Project would be consistent with the air quality plans. Likewise, impacts with regard to obstructing or conflicting with the implementation of an air quality plan and would be considered **less than significant** in association with Project operations under the worst-case Full Build-out Scenario.

Decommissioning/Reclamation

Reclamation activities would increase air pollutant emissions as a result of earth-moving activities and exhaust from diesel equipment. Activities would include dismantling and removal of all structures and infrastructure on the Project site. Both dust and exhaust associated with reclamation activities would be temporary and similar to those generated during construction. All reclamation activities would implement appropriate fugitive dust control measures consistent with applicable ICAPCD requirements in effect at the time of reclamation. It is also anticipated that the Best Available Control Technologies (BACTs) would be more stringent at the time of Project decommissioning. Thus, reclamation activities would result in a **less than significant impact** with regard to conflicting with or obstructing an applicable air quality plan.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant

Impact 4.4.2 The proposed Project is consistent with ICAPCD plans and would not exceed pollutant thresholds during construction, operation and reclamation. Therefore, the Project's potential to result in a cumulatively considerable net increase of any criteria pollutant is considered **less than significant** under the worst-case Full Build-out Scenario.

FULL BUILD-OUT SCENARIO

All Project Components

As discussed under the Regulatory Framework, (National Ambient Air Quality Standards [NAAQS] and the California Ambient Air Quality Standards [CAAQS]) the Project Site is in non-attainment areas for NAAQS and CAAQS for ozone and particulate matter. The majority of regional PM_{10} and $PM_{2.5}$ emissions originate from dust stirred up by wind or by vehicle traffic on unpaved roads (ICAPCD 2009). The Project is located in an area defined by the ICAPCD's *High Wind Exceptional Fugitive Dust Mitigation Plan*

as a "high wind corridor" that is subject to periodic strong westerly winds that create wind-dust channels. Thus there, there is an increased potential for high winds to entrain fugitive dust during construction and operation of the Project (Blondell 2019). Other PM_{10} and $PM_{2.5}$ emissions originate from grinding operations, combustion sources such as motor vehicles, power plants, wood burning, forest fires, agricultural burning, and industrial processes. Ozone is not emitted directly but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. Approximately 88 percent of NO_X and 40 percent of ROG regional emissions originate from on- and off-road vehicles (ICAPCD 2010). Other major sources include solvent evaporation and miscellaneous processes such as pesticide application.

Construction

As discussed under Impact 4.4.1, the Project would be consistent with ICAPCD air quality plans. The proposed Project would generate air pollutant emissions during Project construction. However, as shown in **Table 4.4-7**, no criteria pollutant thresholds were calculated to be exceeded during Project construction and construction would not contribute to violations of NAAQS or CAAQS. Therefore, the Project would not result in a cumulatively considerable net increase in criteria pollutants for which the region is in non-attainment of federal or state standards during construction under the worst-case Full-Buildout Scenario.

Operation

As discussed under Impact 4.4.1, the Project would be consistent with ICAPCD air quality plans. The proposed Project would generate air pollutant emissions during Project operation. However, as shown in **Table 4.4-8**, no criteria pollutant thresholds were calculated to be exceeded during Project operation and operational emissions would not contribute to violations of NAAQS or CAAQS. Therefore, the Project would not result in a cumulatively considerable net increase in criteria pollutants for which the region is in non-attainment of federal or state standards during operations under the worst-case Full-Buildout Scenario.

Reclamation/Decommissioning

As noted under the discussion of Impact 4.4.1, all reclamation activities would implement appropriate fugitive dust control measures consistent with applicable ICAPCD requirements in effect at the time of reclamation. It is also anticipated that the Best Available Control Technologies (BACTs) would be more stringent at the time of Project decommissioning. Therefore, Project reclamation would not contribute to violations of NAAQS or CAAQS. Moreover, the Project's potential to result in a cumulatively considerable net increase of any criteria pollutant is considered **less than significant** during decommissioning/reclamation under the worst-case Full Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Impact 4.4.3 The proposed Project would result in short-term diesel exhaust emissions during construction and decommissioning/reclamation. However, diesel exhaust operational emissions would be very low. Based on the worst-case Full Buildout Scenario, exposure of sensitive receptors in the vicinity of the Project Site would be for a limited duration and would not exceed the diesel particulate matter exposure threshold. Therefore, sensitive

receptor exposure to substantial pollutant concentrations is considered a **less than significant impact** under the worst-case Full Build-out Scenario.

FULL BUILD-OUT SCENARIO

All Project Components

Construction and Decommissioning/Reclamation-Related Diesel Particulate Matter

Construction and reclamation of the Project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Particulate exhaust emissions from diesel-fueled engines (diesel PM or DPM) were identified as a TACs by CARB in 1998. Project construction would result in the generation of DPM emissions from the use of off-road diesel construction equipment during site preparation and facility installation. Other lesser construction-related sources of DPM include material delivery trucks.

Under the Full-Buildout Scenario, the Project would occur over an approximate 18-month period. The dose of DPM to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time.

According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30- year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, if the duration of proposed construction activities near any specific sensitive receptor is estimated at 18 months, the exposure would be five percent of the total exposure period used for health risk calculation.

Compared to typical construction projects, construction of solar generation facilities involves fewer pieces of heavy-duty diesel construction equipment which operate over larger areas; thus construction equipment is rarely proximate to any specific receptor for extended period of time. Due to the limited intensity of construction (as well as reclamation), DPM generated by Project construction activities is not expected to create conditions where the incremental cancer risk exceeds the ICAPCD's ten in one million significance threshold. Therefore, Project construction and reclamation would not expose sensitive receptors to a substantial pollutant concentration. Likewise, localized air quality impacts from construction and decommissioning/reclamation-related DPM emissions would be **less than significant** under the worst-case Full Build-out Scenario.

On-Site Operation Sources

As discussed under Impact 4.4.2, the construction and operation of the Project would not result in substantial criteria pollutant emissions. Solar generation facilities are not known to result in substantial air toxic emissions. Localized air quality impacts from Project operations would be **less than significant**.

Off-Site Operation Sources – CO Hot Spots

Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses. CO hot spots due to traffic almost exclusively occur at signalized intersections that operate at a Level of Service (LOS) E or below. Projects may result in or contribute to a CO hot spot if they worsen traffic flow at signalized intersections operating at LOS E or F.

The Project is not in proximity to a signalized intersection and would not generate substantial traffic (i.e. approximately 20 trips per day). Therefore, the Project would not cause or contribute to a CO hot spot. Impacts would be **less than significant** under the worst-case Full Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Result in Emissions Affecting a Substantial Number of People

Impact 4.4.4 Use of diesel equipment during Project construction, operation and decommissioning/reclamation activities could result in temporary emissions of adverse odors. This is considered a **less than significant impact** under the Full Build-out Scenario.

FULL BUILD-OUT SCENARIO

All Project Components

Construction, Operation and Decommissioning/Reclamation Activities

The potential for emissions leading to an odor impact is dependent on a number of variables including the nature of the emissions source, distance between the receptor and odor source, and local meteorological conditions. Project construction would result in the emission of diesel fumes and exhaust from vehicles and heavy equipment. Diesel emissions and exhaust odors are highest near the source and would quickly dissipate off the site.

Agricultural uses are located on the Project site and properties to the north, west, and southwest; associated buildings include a single-family residence located immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from project site; a bee company operates out of this location), and another single-family residence located northwest of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from project site). Additionally, three single-family residences are located to the southwest of the intersection of Kubler Road and Mandrapa Road (0.5 mile from project site). Any eiesel emissions and exhaust odors associated with construction activities would be transient and would cease upon completion. For these reasons, construction-related odor impacts would be **less than significant** during Project construction, operation and decommissioning/reclamation activities under the Full Build-out Scenario.

Solar generation facilities are not known to generate emissions of any kind during operation. Project operation would include inspection, maintenance, and washing activities. These processes are not known to generate emissions. Therefore, operational emissions resulting in odor impacts would also be **less than significant** under the Full Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.4.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for air quality is the geographic scope of Imperial County which is within the SSAB.. Currently, Imperial County is in moderate non-attainment for $PM_{2.5}$ and serious attainment for PM_{10}.

Air pollutants transported into the SSAB from the adjacent South Coast Air Basin (Los Angeles, San Bernardino County, Orange County, and Riverside County) and from Mexicali (Mexico) substantially contribute to the non-attainment conditions in the SSAB. Cumulative projects within the SSAB include any existing, recently approved, proposed, and reasonably foreseeable development envisioned by the Imperial County General Plan. A list of proposed, approved and reasonably foreseeable projects in the region is provided in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, of this Draft EIR.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Air Quality Impacts – Violate Air Quality Standard/Cause Air Quality Violation

Impact 4.4.5 The proposed Project would generate criteria pollutant emissions during construction. However, the short-term construction emissions exceedances of ICAPCD thresholds would be mitigated through compliance with ICAPCD Regulation VIII. Operational emissions would not exceed ICAPCD thresholds. Therefore, the proposed Project would result in a **less than cumulatively considerable impact** with regard to violating an air quality standard under both the Full Buildout Scenario and Phased CUP Scenario.

Construction

Many of the projects listed in Table 3.0-1 are large scale renewable energy projects. As such, the majority of air emissions from these projects would be generated during construction with drastically reduced emissions occurring during operations and maintenance.

The construction phase of the proposed Project may contribute to a net increase in criteria pollutants PM_{10}. As noted above, the Imperial Valley is classified as non-attainment for federal and state PM_{10} standards. Thus, the Project's contribution to existing criteria pollutants could be cumulatively considerable without mitigation. However, compliance with ICAPCD Regulation VIII would reduce construction-phase PM_{10} emissions to less than significant levels, resulting in a **less than cumulatively considerable contribution** to existing criteria pollutants under both the Full Buildout Scenario and Phased CUP Scenario. In addition, all other cumulative projects are required to comply with Regulation VIII and would also be assumed to implement mitigation measures to reduce their individual construction air quality emissions. In this way, each individual cumulative project would reduce construction emissions on a project-by-project basis resulting in less than cumulatively considerable contributions to existing criteria pollutants. Because the proposed Project would not exceed any criteria emission threshold during construction, operation and reclamation (refer to Tables 4.4-8 and 4.4-9), and other cumulative projects would be required to mitigate construction emissions on a project-by-project basis, emissions resulting in a violation of an air quality standard would be reduced to **less than cumulatively considerable** under both the Full Buildout Scenario and Phased CUP Scenario.

Operation

Emissions resulting from operations of the Project for all criteria pollutants would be limited and very low in number (limit operational maintenance, periodic panel washing). Such levels of emissions should not cause localized exceedances or contribute cumulatively to existing exceedances of the State or federal

ozone and PM_{10} standards. In additional, the applicant would need to submit an Operational Dust Control Plan to reduce dust during operation. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to air quality standard violations during operations under both the Full Buildout Scenario and Phased CUP Scenario. Moreover, operation of the proposed Project, in combination with other cumulative projects identified in Table 3.0-1, would result in **less than cumulatively considerable** impacts to air quality standards and air quality violations under both the Full Buildout Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

Decommissioning/reclamation activities would increase air pollutant emissions as a result of earth-moving and exhaust from diesel equipment. The dust and exhaust generated would be temporary in nature and are anticipated to be similar to levels generated during construction. However, it is anticipated that regulatory compliance similar to or greater than those currently in place (e.g. Regulation VIII) would be required at the time of reclamation. Likewise, BACTs are also anticipated to be more stringent, and cleaner burning equipment is anticipated to be available, at the time of Project decommissioning/reclamation (i.e. 40 years in the future). In addition, all other cumulative projects with dust and diesel-generated emissions would be required to comply with applicable regulations and BACTs to reduce their individual construction air quality emissions. In this way, each individual cumulative project would reduce decommissioning/reclamation emissions on a project-by-project basis resulting in a **less than cumulatively considerable contribution** to identified criteria pollutants under both the Full Buildout Scenario and Phased CUP Scenario. Because the proposed Project and other cumulative projects would reduce reclamation emissions on a project-by-project basis, emissions resulting in a violation of an air quality standard would be reduced to **less than cumulatively considerable** under both the Full Buildout Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

THIS PAGE INTENTIONALLY LEFT BLANK.