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. Information contained in this section is summarized from the *Air Quality Assessment* prepared for the Campo Verde Solar Energy Project by Ldn Consulting, Inc. (Ldn, 2012a). This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR.

4.4.1 REGULATORY FRAMEWORK

A. FEDERAL

Clean Air Act

The Clean Air Act 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 Clean Air Act 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 Clean Air Act. 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 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 to the EPA, the EPA has authority to enforce the Clean Air Act in that state.

The most recent major changes to the Clean Air Act 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 National Air Quality Standards (NAAQS) were established by the EPA per the requirements of the Clean Air Act. The NAAQS are used to identify thresholds for specific pollutants. Two types of air quality standards were established by the Clean Air Act: 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:

Carbon Monoxide (CO) is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. CO usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.

Lead (Pb) is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.

Nitrogen Dioxide (NO_x) is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO_x is usually visible as a reddish-brown air layer over urban areas. NO_x along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO_x above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO_x exposure to levels near the current standard may worsen the effect of allergens.

Particulate Matter (PM_{10} or $PM_{2.5}$) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM_{10} particles are 10 microns (µm) or less and $PM_{2.5}$ particles are 2.5 (µm) or less. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.

Ozone (O_3) is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung function.

Sulfur Dioxide (SO_2) is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Continued exposure to elevated levels of SO_2 results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

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

TABLE 4.4-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.075 ppm (147 µg/m3)		
Respirable Particulate Matter (PM_{10})	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 $PM_{2.5}$	24 Hour	No Separate State Standard			35 µg/m3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	15 µg/m3		
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	None	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		-	-	-
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 g/m3)[8]	Same as Primary Standard	Gas Phase Chemilumin-escence
	1 Hour	0.18 ppm (339 µg/m3)		0.100 ppm[8]	None	
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 µg/m3)	Ultraviolet Fluorescence	-	-	Ultraviolet Flourescence; Spectro-photometry (Pararoosaniline Method)[9]
	3 Hour	-		-	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		75 ppb (196 µg/m3) (See Footnote 9)	-	
Lead[10]	30 Day Average	1.5 µg/m3	Atomic Absorption	-		-
	Calendar			1.5 µg/m3	Same as	High Volume

TABLE 4.4-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards[1]		Federal Standards[2]		
	Quarter				Primary Standard	Sampler and Atomic Absorption
	Rolling 3-Month Average			0.15 µg/m3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07 -30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape				
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	1 Hour	0.01 ppm 0.02 (26 g/m3)	Gas Chromatography			

Source: California Air Resources Board (CARB), 2010. *ppm = parts per million* *ppb = parts per billion* µg/m3 = micrograms per cubic meter

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

[2] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration 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 U.S. EPA for further clarification and current federal policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°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 procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

[7] Reference method as described by the 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 EPA.

[8] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA 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 standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

[9] On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

[11] National lead standard, rolling 3-month average: final rule signed October 15, 2008.

B. STATE

California Ambient Air Quality Standards

Individual states have the discretion to add additional pollutants beyond those identified as part of the NAAQS. The California Air Resources Board (CARB) is responsible for setting the laws and regulation for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) are either the same or more restrictive than the NAAQS. The CAAQS also include four additional contaminants in keeping with discretionary power granted to the State. The additional contaminants include:

- **Visibility Reducing Particles**: particles in the air that obstruct visibility.
- **Sulfates**: are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.
- **Hydrogen Sulfide (H_2S)**: is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. Usually, H_2S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat.
- **Vinyl Chloride**: is also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).

Table 4.4-1 identifies both the national (federal) and state air quality standard for specific pollutants. The CARB defines Reactive Organic Gases (ROG) as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

CARB's Emission Inventory Branch uses the terms Total Organic Gases (TOG) and Reactive Organic Gases (ROG). California air pollution control districts report Total Organic Gases (TOG) to the Air Resources Board's emission inventory. For each source category, CARB derives a value for ROG by multiplying the reported TOG by the Fraction of Reactive Organic Gases (FROG). Each source category is keyed to one of several hundred available chemical speciation profiles. For each category, the FROG value is calculated as the weight fraction of those species designated by CARB as reactive in the speciation profile applicable to the category (CARB, 2011).

The relationships among these organic gas terms are summarized as follows:

- TOG - Exempt compounds = ROG
- TOG x FROG = ROG

C. REGIONAL

Regional Air Quality Management

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as “non-attainment areas” for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the $PM_{2.5}$ standard in California. The state therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed for California Air basins to attain ambient air quality standards.

Southern California Association of Governments

The California Environmental Quality Act 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.

One goal from the SCAG Regional Transportation Plan is identified **Table 4.4-2**.

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

Regional Transportation Plan Goal	Consistent with RTP?	Analysis
Goal 5: Protect the environment, improve air quality and promote energy efficiency.	Yes	As a solar energy project, the proposed project would improve air quality by reducing the use of fossil fuels in energy production. Emissions associated with operation of the proposed project would not result in significant impacts to air quality. Short-term impacts associated with project construction would be reduced through compliance with Best Management Practices (BMPs) identified in Table 2.0-4 in Chapter 2.0, compliance with Imperial County Regulation VIII, Fugitive Dust Rules and mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c. Therefore, the proposed project would be consistent with this goal.

D. LOCAL

Imperial County Air Pollution Control District

As previously mentioned, the State is divided into Air Pollution Control Districts (APCD) and Air Quality Management Districts (AQMD). These agencies are county or regional governing authorities that have primary responsibility for controlling air pollution from stationary sources. The Imperial County Air Pollution Control District (ICAPCD) covers all of Imperial County which includes a portion of the Salton Sea Air Basin (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 SSAB, and planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards within the District.

2009 8-Hour Ozone Modified Air Quality Management Plan (2009 Modified AQMP)

To provide control measures to try to achieve ozone attainment status, Imperial County developed an Ambient Air Quality Strategy (AQAP). The AQAP was originally adopted by the ICAPCD in 1991. A new

standard for ozone was subsequently adopted by EPA in 1997. As a result of the new standards, modified strategies to decrease higher ozone concentrations were required. In response, ICAPCD adopted the 8-hr Ozone Air Quality Management Plan (AQMP) in 2008. The AQMP was intended to guide non-attainment areas closer to NAAQS requirements. Subsequently, ICAPCD requested further modifications to the AQMP. The final *2009 8-Hour Ozone Modified Air Quality Management Plan* (2009 Modified AQMP) was adopted by ICAPCD on July 13, 2010 (ICAPCD, 2010).

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

The Imperial Valley is classified as nonattainment for federal and state PM_{10} standards. As a result, the ICAPCD was required to develop a PM_{10} Attainment Plan. The final plan was adopted by the ICAPCD on August 11, 2009 (ICAPCD, 2009). The SIP brings together data and discussion regarding particulate matter in Imperial County. The SIP also identifies control strategies to reduce PM10 emissions associated with construction and agricultural operations.

Regulation VIII, Fugitive Dust Rules

The ICAPCD has established rules to address fugitive dust (PM_{10}). Regulation VIII, Fugitive Dust Rules, contains rules to reduce the amount of PM_{10} generated from manmade sources within Imperial County. The rules require actions to prevent, reduce, or mitigate the PM_{10} emissions (ICAPCD, 2006). Specifically, a project must adhere to Rule 801-Construction and Earthmoving Activities, Rule 805-Paved and Unpaved Road, and Rule 806-Conservation Management Practices to reduce PM_{10} emissions.

Compliance with Regulation VIII is mandatory on all construction sites, regardless of the size of project. However, because compliance with Regulation VIII is required for projects, compliance does not constitute mitigation for air quality impacts.

Screening Thresholds

The ICAPCD has established significance thresholds in the *2007 ICAPCD CEQA Handbook for the preparation of Air Quality Impact Assessments* (ICAPCD CEQA Handbook). The screening criteria within this handbook can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA (refer to Methodology, below).

Rule 310-Operational Development Fee

On November 6, 2007, the ICAPCD Board of Directors adopted Rule 310-Operational Development Fee to assist the District with mitigating air impacts produced from the operation of new commercial and residential developments. The funds generated from Rule 310 for the past fiscal year are redistributed by the ICAPCD for various mitigation projects through an RFP process.

Imperial County General Plan

The General Plan Conservation and Open Space Element policies related to the proposed project are identified below. **Table 4.4-3** summarizes the project's consistency with the applicable General Plan air quality policies. 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 Policies	Consistent with General Plan?	Analysis
Conservation and Open Space Element		
Protection of Air Quality		
Objective 9.1: Ensure that all facilities shall comply with current federal and state requirements for attainment for air quality objectives.	Yes	All project facilities proposed as part of the proposed project would comply with current federal and State requirements for attainment for air quality objectives through the implementation of mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c. Therefore, the proposed project is consistent with this objective.
Objective 9.2: 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 the implementation of Best Management Practices (BMPs) identified in Table 2.0-4 in Chapter 2.0. In addition, compliance with Imperial County Regulation VIII, Fugitive Dust Rules and mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c would also serve to reduce construction emissions consistent with this objective. The proposed project and would be subject to all BMPs, regulations and mitigation measures.

4.4.2 ENVIRONMENTAL SETTING

A. SOLAR GENERATION FACILITY

Regional and Local Climate/Meteorological Conditions

The project site is located in the Salton Sea Air Basin (SSAB). The SSAB encompasses all of Imperial County and part of Riverside County. The SSAB experiences mild and dry winters with daytime temperatures ranging from 65 to 75 degrees Fahrenheit (°F). Summers are extremely hot with daytime temperatures ranging from 104 to 115 °F. Very little rainfall occurs in the SSAB (Ldn, 2012a).

Imperial County usually receives approximately three inches of rain per year mostly occurring in late summer or midwinter. Summer weather patterns are dominated by intense heat induction low-pressure areas over the interior desert. The flat terrain of the Imperial Valley combined with strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection.

The general wind speeds of the area are less than 10 miles per hour (mph), but occasionally increase to less than 30 mph during the months of April and May. Wind patterns reflect the temperature disparity between the cool ocean to the west and the warm desert interior. Statistics reveal that prevailing winds

blow from the northwest-northeast. A secondary trend of wind from the southeast is also evident (Ldn, 2012a).

Local Air Quality

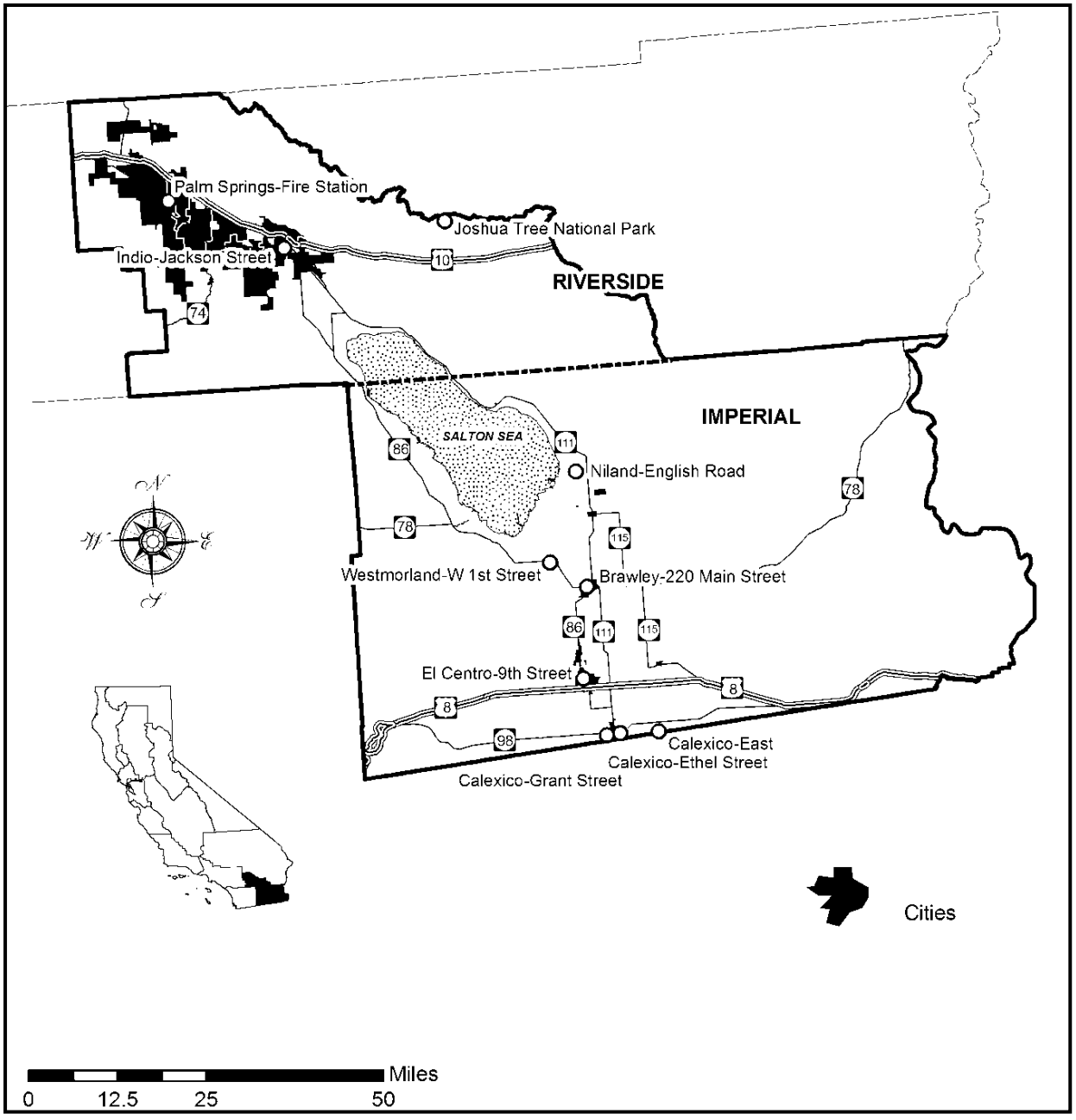
Criteria pollutants are measured continuously throughout Imperial County and the data is used to track ambient air quality patterns throughout the County. As previously mentioned, this data is also used to determine attainment status when compared to the NAAQS and CAAQS. The ICAPCD is responsible for monitoring and reporting monitoring data. The ICAPCD also operates 10 monitoring sites, which collected data on criteria pollutants. Four additional sites collect meteorological data which was used by the ICAPCD to assist with pollutant forecasting, data analysis and characterization of pollutant transport.

The proposed project is closest to the Calexico Grant and Ethel Street monitoring stations, which are approximately 13 and 14 miles from the project site. **Table 4.4-4** identifies the criteria pollutants monitored closest to the project. Ambient data was obtained from the California Environmental Protection Agency's Air Resources Board Website (Source: http://www.arb.ca.gov/adam). **Figure 4.4-1** shows the relative locations of the monitoring sites.

TABLE 4.4-4
LATEST THREE-YEAR AMBIENT AIR QUALITY DATA NEAR PROJECT SITE

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2007	2008	2009
O_3 (ppm)	Calexico Grant Street	1 Hour	0.09 ppm	-	0.11	0.13	0.10
	Calexico Ethel Street	8 Hour	0.070 ppm	0.075 ppm	0.09	0.09	0.08
PM_{10} ($\mu g/m^3$)	Calexico Ethel Street	24 Hour	50 µg/m3	150 µg/m3	282	110.5	275.9
$PM_{2.5}$ ($\mu g/m^3$)	Calexico Ethel Street	24 Hour	-	35 µg/m3	66.7	37.1	45
	Calexico Ethel Street	Annual Arithmetic Mean	12 µg/m3	15 µg/m3	12.9	N/A	N/A
NO_2 (ppm)	Calexico Ethel Street	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.014	0.014	0.014
	Calexico Ethel Street	1 Hour	0.18 ppm	-	0.107	0.146	0.102
CO	Calexico Ethel Street	8 Hour	9 ppm	9 ppm	7.53	6.34	7.46

Source: Ldn, 2012a.
Notes: ppm=Parts per Million $\mu g/m^3$ = Micrograms per meter cubed N/A=Not Available for give year



Source: Ldn, 2012a.

FIGURE 4.4-1
AMBIENT AIR QUALITY MONITORING STATIONS (SSAB-CARB)

Sensitive Receptors

Sensitive receptors refer to individual or uses 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 proposed project site is surrounded by agricultural lands on all sides as well as land under the jurisdiction of the BLM immediately to the west. Existing residential uses on the project site will be removed as part of the project thereby eliminating potential exposure of residents. No sensitive receptors are located along roadway segments.

B. GEN-TIE

The Air Quality Assessment (Ldn, 2012a) focused on construction and operations air quality emissions associated with the solar generation facility site, not on the portion of the gen-tie proposed on lands under the jurisdiction of the BLM. The portion of the project on BLM land would extend through undeveloped desert land within the existing Utility Corridor N. Regional and local air quality setting described for the solar energy site would also apply to the gen-tie. Air quality impacts associated with the gen-tie on BLM land is undergoing separate environmental analysis under NEPA.

4.4.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State 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) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

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

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Note that Criterion “e” was scoped out as part of the Initial Study. Criterion “e” was eliminated because the proposed project, as a solar electricity generating facility, is not anticipated to generate objectionable odors. Construction equipment may create mildly objectionable odors associated with vehicle exhausts. However, this would occur on a temporary basis with no sensitive receptors being affected. Thus no odor impact would occur and this issue is not discussed further in this EIR.

C. METHODOLOGY

Construction Emissions Calculations

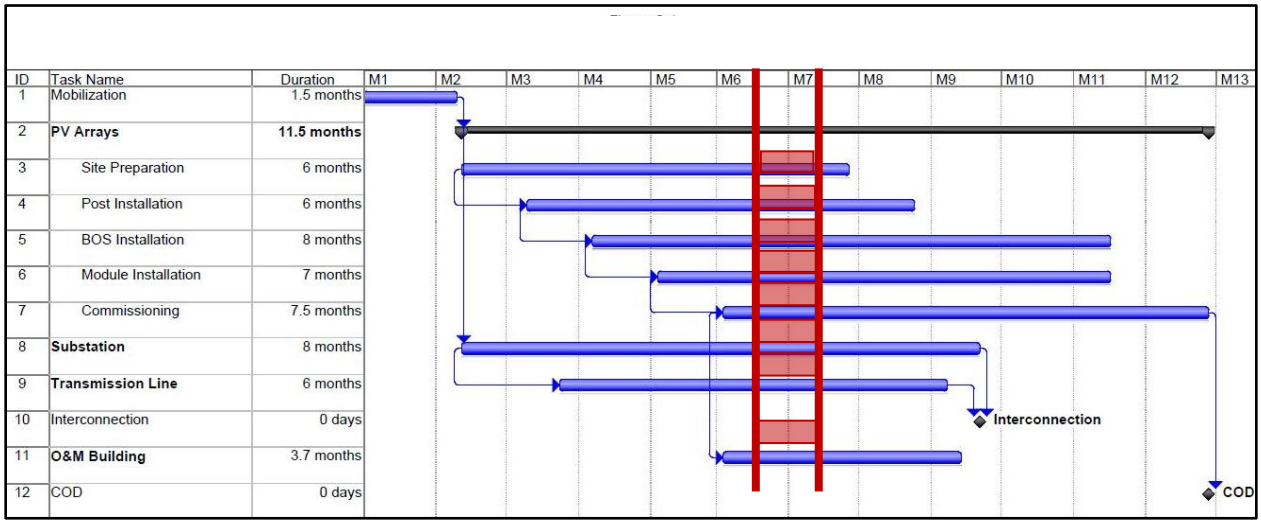
Air quality impacts related to construction were calculated using the latest URBEMIS2007 air quality model developed by CARB. URBEMIS2007 has been approved by ICAPCD and the County for construction emission calculations. URBEMIS2007 incorporates emission factors from the EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. Default settings were used within the model.

Construction Assumptions

Construction activities are expected to take place over 12 to 24 months. The Applicant anticipates construction to start in the second quarter of 2012 following a CUP approval. As shown in Table 4.4-5, the Applicant has indicated that the construction workforce is expected to reach a peak during month seven which is anticipated to occur during the first quarter of 2013.

Ldn used the project engineer's worst case schedule which assumes simultaneous construction activities (i.e., PV Array and facility installations at the same time as transmission line installation). Peak construction activity (month seven) is projected to generate 375 average daily trips (ADT) from construction workers, deliveries and vendors.

TABLE 4.4-5
EXPECTED WORST-CASE CONSTRUCTION PERIOD (MONTH 7)



Source: Ldn, 2012a.

The URBEMIS2007 air quality model does not differentiate between phases other than demolition, mass grading, fine grading, trenching, building construction, architectural coating and paving. During month seven, there will be building construction, mass grading, and trenching and all modeled phases would occur simultaneously (worst case) for this project. **Table 4.4-6** shows all tasks identified within month seven construction schedule classified into three construction emission sources (building construction, mass grading, and trenching) which were used in the model. Demolition activities are not scheduled during this period and are not analyzed as demolition activities are scheduled during less intensive construction stages. **Table 4.4-6** also shows the equipment lists for the peak construction activities

scheduled to occur during month seven. All equipment is assumed to be operating simultaneously. The order in which the equipment is listed takes no precedence.

TABLE 4.4-6
CONSTRUCTION EQUIPMENT AND DURATIONS AS MODELED

Equipment Identification	Proposed Dates	Quantity	Hours per day
Building Construction/PV Install	1/01/2013 – 1/31/2013		
Rough Terrain Forklifts		15	1.7
Other Equipment		6	4
Cranes		4	7
Other General Industrial Equipment		3	4
Air Compressors		2	2
Forklifts		1	3.8
Aerial Lifts		1	1
Generator Sets		1	8
Tractors/Loaders/Backhoes		1	5
Welder			
Mass Grading	1/01/2013 – 1/31/2013		
Graders		2	6.8
Rubber Tired Dozers		2	6.8
Water Trucks		4	6.8
Other Equipment		3	8
Rollers		2	6.8
Tractors/Loaders/Backhoes		2	6.8
Rough Terrain Forklifts		2	1.7
Trenching	1/01/2013 – 1/31/2013		
Other General Industrial Equipment		2	8
Tractors/Loaders/Backhoes		2	6.8
Trenchers		2	4.1
Excavators		1	4.5
Generator Sets		1	0.5

Source: Ldn, 2012a.

This equipment list is based upon equipment inventory within URBEMIS2007. The quantity and types are based upon assumptions from projects of similar size and scope.

Operational Emissions Calculations

Daily operations of the project would be limited to periodic maintenance and worker trips. Although emissions would be generated from vehicle trips, any emissions would be minimal given the project only expects to add 15 to 20 ADT. On occasion (up to four times annually) the project could add up to 50 ADT during PV Panel cleaning periods. In order to be conservative, the same worst-case daily trips (375 ADT) associated with construction were modeled to estimated operational emissions.

Health Risk Assessment Assumptions

A screening-level health risk assessment (HRA) was conducted to determine the potential for the project to result in a significant impact as defined by the CARB. PM_{10} emitted from operation of heavy diesel powered construction equipment (diesel particulate matter, or DPM) must be analyzed to meet the CARB requirements. DPM can potentially increase the cancer risk for nearby residential receptors, if present. For purposes of this analysis, DPM was considered the primary pollutant of concern.

Cancer risk was determined for DPM at the point of maximum exposure which was deduced through dispersion modeling. SCREEN3, a dispersion model, was used to determine the maximum concentration for air pollutants at a calculated maximum radius from the project centriod (i.e., the center of the project site). Worst-case exhaust emissions generated from project construction equipment as calculated by the URBEMIS2007 air quality model were used. The worst-case cancer risk was based on the assumption of exposure to DPM for 70 years. A cancer risk concentration of less than one person per a million exposed (1:1,000,000) over a continuous 70-year exposure is considered to be less than significant by CARB. A cancer risk figure between one person and ten persons over a 70-year exposure period is acceptable but must use toxics Best Available Control Technology (T-BACT) for construction equipment. A cancer risk greater than ten persons exposed per million would be considered significant.

ICAPCD Air Quality Impact Assessment Screening Thresholds

The ICAPCD has established significance thresholds in the ICAPCD CEQA Handbook for the preparation of Air Quality Impact Assessments (AQIA). The screening criteria in the ICAPCD CEQA Handbook can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. **Table 4.4-7** shows the screening thresholds for construction and daily operations.

TABLE 4.4-7
ICAPCD SCREENING THRESHOLDS FOR CRITERIA POLLUTANTS

Pollutant	Total Emissions (Pounds per Day)	
Construction Emissions		
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	150	
Nitrogen Oxide (NO_x)	100	
Carbon Monoxide (CO)	550	
Reactive Organic Gases (ROG)	75	
Operational Emissions		
Pollutant	Tier I (Pounds per Day)	Tier II (Pounds per Day)
PM_{10} and Sulfur Oxide (SO_x)	< 150	150 or greater
NO_x and ROG	< 55	55 or greater
CO	< 550	550 or greater
Level of Significance:	Less Than Significant	Significant Impact
Level of Analysis:	Initial Study	Comprehensive Air Quality Analysis Report
Environmental Document:	Negative Declaration (ND)	Mitigated ND or EIR

Source: ICAPCD, 2007 in Ldn, 2012a.

The ICAPCD CEQA Handbook further states that any proposed project's operational development with a potential to emit less than the Tier I thresholds may still potentially have adverse impacts on the local air quality and would be required to prepare an Initial Study to help the Lead Agency determine whether

the project would have a less than significant impact. If the proposed project's operational development fits within the Tier II classification, it is considered to have a significant impact on regional and local air quality. Therefore, Tier II projects are required to implement all standard mitigation measures as well as all feasible discretionary mitigation measures. Discretionary measures are used when standard or required measures do not fully mitigate the impact.

Standard mitigation measures for construction equipment and fugitive PM_{10} must be implemented at all construction sites. The implementation of discretionary mitigation measures, as listed in the ICAPCD CEQA Handbook, apply to those construction sites which are 5 acres or more for non-residential developments (such as the proposed project) or 10 acres or more in size for residential developments. Additionally, in an effort to reduce PM_{10} or fugitive dust from ambient air, the project would be required to develop a dust management plan consistent with Rule 801-Construction and Earthmoving Activities of Imperial County's Regulation VIII, Fugitive Dust Rules (ICAPCD, 2006).

If the project be large enough that operational mitigation measures simply cannot bring down pollutant levels, the ICAPCD has adopted the Operation Development Fee under Rule 310. This Rule provides the ICAPCD with a sound method for mitigating emissions produced from the operation of new commercial and residential development projects. Projects immitigable through standard procedures are assessed a one-time fee for either Ozone Precursors or PM_{10} impacts which is based upon either the square footage of the commercial development or the number of residential units. Operational impacts are not anticipated given that the proposed project creates renewable energy and is expected to add a peak of 50 average daily traffic trips (ADTs) or less.

Furthermore, to be consistent with the California Air Resource Board, ICAPCD requires PM_{10} developed from diesel powered construction equipment (also known as diesel particulate matter, or DPM) to be analyzed.

Cumulative Emissions

In accordance with CEQA Guidelines 15130(b), the analysis of cumulative impacts incorporates a summary of projections. The following two-tiered approach was used to assess cumulative air quality impacts:

1) Consistency with the regional thresholds; and

2) Project consistency with existing air quality plans.

In addition, the cumulative analysis considers potential CO hotspots, consistent with the ICAPCD CEQA Air Quality Handbook.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Conflict with or Obstruct Air Quality Plan/Violate Air Quality Standard

Impact 4.4.1 Implementation of the proposed project would increase air pollutant emissions. This is considered a **potentially significant impact**.

The project site is located within the Salton Sea Air Basin (SSAB) and is subject to the Imperial County Air Pollution Control District (ICAPCD) Rules and Regulations. Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of O_3 (8-hour) and 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.

Construction Findings

Construction of the proposed project would potentially create temporary emissions of dust, fumes, equipment exhaust, and other air contaminants that may exceed ICAPCD CEQA significance thresholds. Construction during the seventh month of the project is considered worst-case as it would have the highest volume of traffic and equipment operation. **Table 4.4-8** provides a summary of the construction emissions including construction worker trips (the URBEMIS model outputs which show detailed emission breakdowns for off-road diesel, vendor and worker trips to and from the construction site are provided as Attachment A of **Appendix C** on the attached CD of Technical Appendices of this EIR.) These emissions are used to compare both project related unmitigated and mitigated emissions with ICAPCD's significance thresholds.

TABLE 4.4-8
EXPECTED CONSTRUCTION EMISSIONS SUMMARY (POUNDS PER DAY)

Year	ROG	NO_x	CO	PM_{10} (Dust)	PM_{10} (Exhaust)	PM_{10} (Total)	$PM_{2.5}$ (Dust)	$PM_{2.5}$ (Exhaust)	$PM_{2.5}$ (Total)
2013 (lb/day) Unmitigated	17.92	130.31	99.92	198.28	7.59	205.87	41.44	6.98	48.42
Significance Threshold (lb/day)	75	100	550	-	-	150	-	-	150
ICAPCD Impact?	No	**YES**	No	-	-	**Yes**	-	-	No
2013 (lb/day) **Mitigated**	17.92	93.59	99.92	14.25	7.59	21.84	3.01	6.98	9.99
ICAPCD Impact?	No	**NO**	No	-	-	**No**	-	-	No

Source: Ldn, 2012a.

As shown in **Table 4.4-8**, NO_x and PM_{10} emissions would exceed ICAPCD significance thresholds of 100 and 150 lbs/day, respectively. Thus emissions associated with construction are considered a **potentially significant impact**. In addition, the NO_x and PM_{10} emissions caused the project to be classified as Tier II. Therefore, the project is required to implement standard and discretionary mitigation measures.

The following discretionary mitigation measures for PM_{10} and NO_x were found (through modeling) to reduce impacts for these pollutants. The three mitigations identified below are recommended to reduce PM_{10} emissions based on control efficiencies established by SCAQMD CEQA Air Quality Handbook and recommended in the URBEMIS 2007 air quality model. The SCAQMD CEQA Handbook states that watering twice daily can reduce PM_{10} from 34 to 68 percent however; an average 55 percent was used as recommended by the URBEMIS model.

1. Apply water during grading/grubbing activities to all active disturbed areas at least twice daily.
2. Apply water to all onsite roadways at least three times daily or use of magnesium chloride or other County approved dust suppression additives and apply water one-time daily.
3. Reduce all construction related traffic speeds onsite to below 15 Miles per Hour (MPH).

The following NO_x recommendation is based on typical control efficiencies used in industry. An average NO_x reduction of 40 percent would occur for using Diesel Oxidation Catalyst. (Note: These reductions

would only apply to large construction equipment, not small equipment vehicles registered to drive on public highways).

1. Use Diesel Oxidation Catalyst on large diesel construction equipment as required by the ICAPCD.

The project would also be required to follow Rule 801 of Imperial County's Rules and Regulations for Construction and Earthmoving Activities. A dust control plan would be developed for approval by the County. The dust control plan should be kept onsite and should indicate how mitigation measures will be implemented with start and completion dates. The plan would indicate specific treatments and control measures (i.e. refer to MM 4.4.1a, MM 4.4.1b and MM 4.4.1c). Activities implemented under the dust control plan should be recorded daily as ICAPCD will occasionally verify compliance with the plan.

Operational Emissions

Daily operations of the project would involve periodic maintenance and worker trips (up to 50 ADT). Although emissions are expected, compared to a worst-case project traffic generation day of 375 ADT during peak construction, emissions from worker trips are almost insignificant. **Table 4.4-9** shows the expected worst-case pollutant generation for the project as predicted in URBEMIS 2007.

The URBEMIS output for all potential pollutant emissions was below significance as set forth in Rule 310 of ICAPCD Regulations and would therefore not require additional measures to comply with CEQA. Thus, emissions associated with operations are considered **less than significant**.

TABLE 4.4-9
EXPECTED DAILY POLLUTANT GENERATION

	ROG	NO_x	CO	SO_x	PM_{10}
Summer Scenario					
Operational Vehicle Emissions (Lb/Day)	4.52	5.49	43.68	0.03	4.48
SCAQMD Thresholds	55	55	550	150	150
Significant?	No	No	No	No	No
Winter Scenario					
Operational Vehicle Emissions (Lb/Day)	4.52	5.49	43.68	0.03	4.48
SCAQMD Thresholds	75	250	550	250	100
Significant?	No	No	No	No	No

Source: Ldn, 2012a.
Daily pollutant generation assumes trip distances within URBEMIS 2007.

Mitigation Measures

MM 4.4.1a The following mitigation requirements shall be implemented to reduce construction related PM_{10} impacts to a level below significance during worst-case construction:

1. Apply water during grading/grubbing activities to all active disturbed areas at least three times daily.
2. Apply water to all onsite roadways at least three times daily or use of magnesium chloride or other County-approved dust suppression additives and apply water one-time daily.

3. Reduce all construction related traffic speeds onsite to below 15 Miles per Hour (MPH).

Timing/Implementation: *During construction.*
Enforcement/Monitoring: *Imperial County Planning and Development Services.*

MM 4.4.1b The following mitigation requirements shall be implemented to reduce construction related NO_x impacts to a level below significance during worst-case construction:

- Use Diesel Oxidation Catalyst or alternative devices that achieve equivalent NO_x emission reduction on all large diesel construction equipment as required by ICAPCD.

Timing/Implementation: *During construction.*
Enforcement/Monitoring: *Imperial County Planning and Development Services.*

MM 4.4.1c All construction sites in excess of 5 acres must implement the following standard mitigation measures:

Fugitive PM_{10} Control

- All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.
- All on-site and off-site unpaved roads shall be effectively stabilized. Visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- All unpaved traffic areas one acre or more in size with 75 or more average vehicle trips per day shall be effectively stabilized and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
- All track-out or carry-out shall be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

Construction Combustion Equipment

- All construction equipment, including all off-road and portable diesel powered equipment, shall use alternative fuel or be catalyst equipped.
- Idling time shall be minimized either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- The hours of operation of heavy duty equipment and/or the amount of equipment in use shall be limited, to the extent feasible.
- Fossil fueled equipment shall be replaced with electrically driven equivalents (provided they are not run via a portable generator set).

Timing/Implementation: *During construction.*
Enforcement/Monitoring: *Imperial County Planning and Development Services.*

Significance After Mitigation

Implementation of recommended discretionary mitigation measures MM 4.4.1a, MM 4.4.1b, and standard Tier II mitigation measure MM 4.4.1c will reduce dust and exhaust and would be effective to reduce NO_x and PM_{10} generated during construction. Following implementation of the recommended and required mitigation measures, NO_x and PM_{10} emissions would be reduced below County thresholds. Therefore, construction emissions would not conflict with or obstruct an air quality plan or violate an air quality standard and this impact would be reduced to **less than significant**.

Expose Sensitive Receptors to Substantial Pollutant Concentrations

Impact 4.4.2 Exhaust generated during construction could result in elevated levels of DPM. This is considered a **potentially significant impact.**

Air quality modeling revealed that worst-case PM_{10} from exhaust could be as high 7.59 pounds per construction day (10-hours) or 0.0955 grams per second DPM during the construction day. Averaging this emission rate over the project site yields the average emission rate for the project area. The average emission rate over the grading area is 7.551 x 10-9 (gram/meters^2)/second (refer to section 4.2 of the *Air Quality Assessment* provided on the attached CD of Technical Appendices as **Appendix C** of this EIR).

The SCREEN3 dispersion model revealed that the peak maximum 1-hr concentration is 2.414 µg/m3 during grading at a distance of roughly 2,000 meters from the centroid of the project site. (The SCREEN3 dispersion model outputs are provided as Attachment B to the Air Quality Assessment). This concentration would be lowered at any other distance from the project site. Using the risk equation the cancer risk over a 70-year continuous dose was calculated to be:

CRDPM-70yr dose = 0.0003 x 2.414= 7.242 x 10-4 = 0.0007242

Based on these calculations, the project is expected to generate maximum DPM during the heaviest construction period of the project. This period would be for one month assuming a worst-case construction day of 10 hours for a period of six days per week. Thus, construction activities could occur for 260 hours during the peak, worst-case month.

A 70-year period has approximately 25,550 days. It follows that CRDPM would be 11 days out of 25,550 or 0.00043 times the CRDPM (11/25,550). If one million people were exposed to the maximum DPM for the duration of grading at 2,000 meters (or approximately 6,560 feet) from the project site, the estimated increased cancer risk for month seven could be:

0.00043 x .0007242 x 1,000,000 = 0.31 individuals per million

To estimate emissions during the entire project (for purposes of the health risk assessment only), worst-case diesel emissions occurring in month seven are assumed to be generated during the entire construction period of the project (using the 12-month construction schedule which would maximize the amount of equipment on-site at any one time). Using this approach, the diesel emissions estimate would be off by a factor as high as 12. Multiplying the worst-case risk (0.31 individuals) by 12, reveals that the risk would at no time exceed 3.68 individuals per million exposed for the entire construction duration over a 70-year period.

Because the project could increase the risk to more than one person per million, the project would be required to use equipment meeting requirements of T-BACT such as diesel particulate filters, catalytic converters and or selective catalytic reduction technologies.

Furthermore, because the risk is less than 10 in one million at the worst case contour of 2,000 meters (6,561 feet), no sensitive receptors either adjacent to the project or beyond the project would be exposed to DPM levels that significantly increase the risk of cancer. In other words, although there are sensitive receptors in the area, they will not be exposed to emissions that would increase their risk of cancer to above 10 in one million.

For example, the Westside Elementary School site is located approximately 84-meters (approximately 275 feet) from the closest boundary of the project and would be considered the nearest sensitive receptor. Using SCREEN3, the emissions were determined to have worst-case concentrations as high as 1.112 µg/m^3 at the school site which would have a cancer risk dose of:

$CR_{DPM\text{-}70yr\ dose} = 0.0003 \times 1.747 = 5.240 \times 10^{-4} = .0005240$

With a corresponding worst-case monthly cancer risk (worst-case) of:

0.00043 x .0005240 x 1,000,000 = 0.2220 individuals per million

Multiplying the worst-case risk (0.2220) by 12 results in a risk of 2.664 individuals per million. This is 1.02 individuals per million lower than the 3.68 individuals per million project related maximum as calculated above. Therefore no DPM cancer risks would be expected. The SCREEN3 dispersion model output for the discrete modeling of the Westside Elementary School is also provided in Attachment B of the *Air Quality Assessment*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR.

Mitigation Measures

As noted above, the project would be required to use equipment meeting T-BACT specifications. In addition, mitigation measures identified to reduced NO_x and PM_{10} (MM 4.4.1a, 4.4.1b and 4.4.1c) would also be classified as T-BACT measures for reducing DPM. Therefore, because the project will be using T-BACT technologies per ICAPCD protocols, all health risks would be considered reduced to **less than significant**.

Significance After Mitigation

Because the project would use T-BACT technologies per ICAPCD protocols, all health risks would be reduced below thresholds. Therefore, impacts associated with exposure to substantial pollutant concentrations would be reduced to **less than significant.**

4.4.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for air quality is the geographic scope encompassed by the Salton Sea Air Basin (SSAB). Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of O_3 (8-hour) and 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 includes any existing, recently approved, proposed, and reasonably foreseeable development envisioned by the Imperial County General Plan. A list of recently approved and proposed projects 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

Violate Air Quality Standard/Cause Air Quality Violation

Impact 4.4.3 The proposed project would generate criteria pollutant emissions during construction. However, the project would be required to comply with recommended and required mitigation to reduce emissions to meet threshold levels. Therefore, the project would result in a **less than cumulatively considerable impact** with regard to violating an air quality standard.

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 operation and maintenance.

The construction phase of the proposed project may contribute to a net increase in one or more criteria pollutants as a result of point and non-point source emissions for which the region is in nonattainment under applicable federal and state ambient air quality standards. As noted above, the Imperial Valley is classified as nonattainment for federal and state PM_{10} standards. Thus, the project's contribution to existing criteria pollutants could be cumulatively considerable without mitigation. However, as described under Impact 4.4.1 above, MM 4.4.1a, MM 4.4.1b and MM 4.4.1c would reduce PM_{10} and NO_x emissions to less than significant levels resulting in less than cumulatively considerable contributions to existing criteria pollutants. 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 mitigate air quality emissions associated with construction, and other cumulative projects would also mitigate construction emissions on a project-by-project basis, emissions that would result in a violation of an air quality standard would be reduced to **less than cumulatively considerable**.

Operations

Emissions resulting from operations of the project for all criteria pollutants would be limited to worker vehicle trips and would be very low. 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.

Therefore, the proposed project would not result in cumulatively considerable contributions to air quality standard violations. 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.

Mitigation Measures

Implementation of MM 4.4.1a, MM 4.4.1b and MM 4.4.1c would reduce construction NO_x and PM_{10} emissions to less than significant levels on a project-specific basis.

Significance After Mitigation

Following implementation of the recommended and required mitigation measures, NO_x and PM_{10} emissions would be reduced below County thresholds. Therefore, construction emissions would not cumulatively contribute to conflicts or obstruction of an air quality plan. Impacts would be l**ess than cumulatively considerable**.

Cumulative Substantial Pollutant Concentrations

Impact 4.4.4 Implementation of the proposed project would not coincide with peak construction of other cumulative projects. Therefore, the proposed project would have a **less than cumulatively considerable impact** on DPM.

Construction

The ICAPCD CEQA Air Quality Handbook recommends using the emission thresholds for project construction and project operations identified previously for project impacts for analysis of potential cumulative impacts. If any construction-related emissions and operational emissions from individual projects exceed the project-specific daily emissions thresholds, those impacts are also cumulatively considerable.

Without specific emission outputs and coordination of project schedules, it is not possible to quantify cumulative emissions. Therefore, assuming a worst-case scenario simplifies the assessment. A worst-case DPM emission plume is projected to be greatest at 2,000 meters from the center of the construction activities. Cancer risk remained less than ten in one million even under worst-case parameters.

Likewise, assuming every other cumulative project has an equal worst-case DPM emission radius extended out 2,000 meters, and all projects are under construction at the same time, a cumulative impact could occur if the two plumes overlap. To simplify the analysis, the radius of the project was extended out 4,000 meters. Then, each cumulative project was analyzed to verify whether it was within the contour or, if the cumulative project is within the contour, that the cumulative project and the proposed project would not be undergoing peak construction simultaneously. None of the cumulative projects would be at peak construction at the same time as the proposed project within the 4,000 meter plume. Therefore, no cumulative health risk impacts are expected and no mitigation for cancer risk would be necessary. Impacts with regard to substantial pollutant concentrations are therefore considered **less than cumulatively considerable**.

Operations

Once operational, the proposed project would not generate DPM or expose sensitive receptors to substantial pollutants. No cumulative DPM exposure or increased cancer risk would occur during

operations of the proposed project. Therefore, the proposed project would result in **less than cumulatively considerable** impacts to pollutant concentrations during operations.

Mitigation Measures

As discussed under Impact 4.4.2, the project would be required to use equipment meeting T-BACT specifications. In addition, mitigation measures identified to reduced NO_x and PM_{10} (MM 4.4.1a, 4.4.1b and 4.4.1c) would also be classified as T-BACT measures for reducing DPM.

Significance After Mitigation

Because the project would use T-BACT technologies per ICAPCD protocols, all health risks would be reduced below thresholds. Therefore, exposure to cumulative pollutant concentrations would be reduced to **less cumulatively considerable**.

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