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, operation, and decommissioning of the proposed Project. Information contained in this section is summarized from the *Air Quality Impact Analysis, Wistaria Ranch Solar Energy Center Project, Imperial County, California* (AQIA) prepared for the Project by AECOM (AECOM 2014d). The AQAI is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR.

The modeling conducted for the proposed Wistaria Ranch Solar Energy Center AQIA is inclusive of the Solar Energy Center (all 32 solar field site parcels; CUPs 13-0036 thru 13-0052), off-site improvements, as well as the Project-specific improvements within the Electric Connector Line Corridor and Mount Signal Solar Farm Gen-Tie corridor. All electric lines, Electric Collector Line Corridor transmission lines, and the Mount Signal Solar Farm Gen-Tie line are collectively included in AQIA modeling under "transmission lines," and are shown as such in tables within this section. As such, no separate discussion of these Project components is provided (AECOM 2014d). The solar field site parcels (Solar Energy Center Facilities at CUPs 13-0036 thru 13-0052), off-site improvements, plus the proposed new Project-specific Electric Collector Line Corridor transmission line improvements and Mount Signal Solar Farm Gen-Tie upgrades are therefore referred to in this section as the "Full Build-out Scenario."

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 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 via a Federal Implementation Plan.

The most recent major amendments 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 broncho-constriction 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	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		-		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 hour	20 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	-	Non-Dispersive Infrared Photometry (NDIR)
	8 hour	9.0 ppm (10mg/m^3)		9 ppm (10 mg/m^3)	-	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		-	-	
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	0.100 ppm[8]	-	Gas Phase Chemilumin-escence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 g/m^3)[8]	Same as Primary Standard	

TABLE 4.4-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards[1]		Federal Standards[2]		
		Concentration	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 µg/m3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	-	Ultraviolet Flourescence; Spectro-photometry (Pararoosaniline Method)[9]
	3 Hour	-		-	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	-	
	Annual Arithmetic Mean	-		0.030 ppm (for certain areas)[10]	-	
Lead[10] (Pb)	30 Day Average	1.5 µg/m^3	Atomic Absorption	-	-	High Volume Sampler and Atomic Absorption
	Calendar Quarter	-		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	-		0.15 µg/m^3		
Visibility Reducing Particles[13]	8 Hour	See Footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[10] (PVC)	24 Hour	0.01 ppm (26 g/m^3)	Gas Chromatography			

Source: CARB 2013a. ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and 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/m^3 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 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 CARB 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. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[6] 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.

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

[8] 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 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard 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.

[9] 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.

[10] 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.

[11] The CARB 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.

[12] 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.

[13] In 1989, the CARB 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.

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 chloromethane 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 TOG to the CARB'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

Toxic Air Contaminants

In California, Toxic Air Contaminants (TACs) are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [Chapter 1252, Statutes of 1987]). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before CARB can designate a substance as a TAC. The Air Toxics Hot Spots Information and Assessment Act requires that TAC emissions from stationary sources be quantified and compiled into an inventory according to criteria and guidelines developed by the CARB, and if directed to do so by the local air district, a health risk assessment must be prepared to determine the potential health impacts of such emissions.

The Clean Air Act (CAA) of 1970 requires the EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. For example, asbestos is a known carcinogen and inhalation of asbestos may result in the development of lung cancer or mesothelioma.

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 generation facility, the proposed Project would improve air quality by reducing the need to consume as many fossil fuels in energy production to meet public energy demands. 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 ICAPCD Regulation VIII, Fugitive Dust Rules (MM 4.4.1a), standard measures identified in the ICAPCD CEQA Handbook (MM 4.4.1b), EPA Tier 3 diesel engine requirements (MM 4.4.1c), the ICAPCD Policy 5 in lieu fee program (MM 4.4.1d), and Applicant-proposed Best Management Practices (BMPs) identified in Table 2.0-9 in Chapter 2.0. Therefore, the proposed Project would be consistent with this goal.

D. LOCAL

Imperial County Air Pollution Control District

The Imperial County Air Pollution Control District (ICAPCD) covers all of Imperial County including 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 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 demonstrate no violations during the previous three calendar years. The ICAPCD currently maintains the following NAAQS designations: nonattainment for 24-Hour $PM_{2.5}$, moderate nonattainment for 8-hour O_3 (1997), marginal for 2008 ground-level O_3 standards, and serious nonattainment for PM_{10} (EPA 2012b).

Ozone Standards Compliance

To provide control measures to try to achieve ozone attainment status, Imperial County developed an Ambient Air Quality Plan (AQAP) that 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-hour Ozone Air Quality Management Plan (AQMP) in 2008.

On December 3, 2009 the EPA ruled that Imperial County, which had been a "moderate" 8-hour O_3 non-attainment area, had attained the 1997 8-hour NAAQS for O_3. This determination effectively suspended

requirements that the state submit a variety of related planning documents as long as Imperial County continues to stay in attainment with the 1997 8-hour O_3 NAAQS (ICAPCD 2010a). However, this determination does not constitute a redesignation to attainment under CAA section 107(d)(3). Formal redesignation will not occur until such time as EPA determines that Imperial County meets the CAA requirements for attainment redesignation. To meet these CAA requirements, Imperial County submitted a 2009 8-Hour O_3 Modified Air Quality Management Plan (AQMP) and the Reasonable Available Control Technology State Implementation Plan (RACT SIP) for EPA approval. The Modified AQMP and RACT SIP were formally adopted by the Imperial County APCD on July 13, 2010, and apply to VOC and NO_x emission sources located within Imperial County (ICAPCD 2010a & 2010b).

On April 30, 2012, the EPA issued final designations for the 2008 Ground-Level O_3 Standards for Region 9, which includes Imperial County. Imperial County is designated "Marginal" for the 2008 O_3 Standards (EPA 2012a). The 2008 standard final rule was signed March 12, 2008 for the 8-hour standard of 0.075 parts per million (ppm). The 1997 O_3 standard and related implementation rules remain in place (EPA 2012b).

$PM_{2.5}$ Standards Compliance

In September 2006, the EPA reduced the national 24-hour $PM_{2.5}$ standard to 35 micrograms per cubic meter ($\mu g/m^3$). The EPA issued final designations for this standard which became effective in December 2009. The City of Calexico, on the United States-Mexico border in southern Imperial County, and the surrounding area was designated as nonattainment for the 24-hour standard. $PM_{2.5}$ Attainment Plans were due to EPA in December 2012. Urbanized portions of Imperial County are nonattainment, but more rural regions of the county remain in attainment of the 24-hour $PM_{2.5}$ standard. The Project site is in a rural region that is in attainment for the 24-hour $PM_{2.5}$ standard.

On December 14, 2012, the EPA reduced the national annual $PM_{2.5}$ primary standard from 15 $\mu g/m^3$ to 12 $\mu g/m^3$. The EPA anticipates making initial attainment/nonattainment designations by December 2014, with those designations likely becoming effective in early 2015 (EPA 2012a).

PM_{10} Standards Compliance

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 2009 Imperial County State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter (SIP) 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 PM_{10} emissions associated with construction and agricultural operations.

The ICAPCD has also 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 and regardless of whether or not the project has a significant impact on PM_{10}. While compliance with Regulation VIII reduces a project's PM_{10}, it does not automatically constitute full mitigation to below a level of significance for air quality impacts.

CEQA Air Quality Handbook (2007)

The *2007 ICAPCD CEQA Handbook for the Preparation of Air Quality Impact Assessments* (ICAPCD CEQA Handbook) provides guidance for project applicants and establishes the thresholds of significance for nonattainment pollutants and their precursors. The screening criteria can be used to demonstrate that a

project's total emissions would or would not result in a significant impact as defined by CEQA (refer to Methodology, below). If a proposed project exceeds the established thresholds, the proponent can propose and administer further emissions reduction mitigation measures to reduce emissions levels to below a level of significance. Under ICAPCD Guidance Policy Number 5, another option available to the proponent is payment of an in-lieu mitigation fee. Policy 5 requires the implementation of control measures or the purchasing of emissions offsets to mitigate project-related NO_X and PM_{10} emissions. Compliance with Policy 5 is separate from the CEQA process, although the control measures used to comply with Policy 5 may be used to mitigate CEQA impacts.

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. Compliance with Regulation VIII is mandatory on all construction sites, regardless of the size of project and regardless of whether or not the project has a significant impact on PM_{10}. Compliance with Regulation VIII reduces a project's PM_{10}, but compliance does not automatically constitute full mitigation to below a level of significance for air quality impacts.

Imperial County General Plan

The Imperial County General Plan Conservation and Open Space Element 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 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		
Goal 9: The County shall actively seek to improve and maintain 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. In addition, the proposed Project would improve air quality emissions in the region by reducing fossil fuel emissions in the production of energy necessary to meet regional energy demands. Therefore, the proposed Project is consistent with this goal.
Objective 9.1: Ensure that all facilities shall comply with current federal and state requirements for attainment for air quality objectives.	Yes	All facilities proposed as part of the Project would comply with current federal and State requirements for attainment of air quality objectives through conformance with ICAPCD

TABLE 4.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
		Regulation VIII, Fugitive Dust Rules for reduction of Project-generated PM_{10} emissions (MM 4.4.1a); ICAPCD Air Quality CEQA Handbook's mandatory Standard, Discretionary and Enhanced air quality measures (MM 4.4.1b); use of construction equipment using diesel engines with certified NO_x emissions rated as EPA Tier 3 or better (MM 4.4.1c); the ICAPCD Policy 5 in lieu fee program to offset project-generated NO_X emissions (MM 4.4.1d); and Applicant-proposed Best Management Practices (BMPs) identified in Table 2.0-9 in Chapter 2.0 to reduce impacts associated with NO_x and PM_{10}. 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 compliance with ICAPCD Regulation VIII, Fugitive Dust Rules (MM 4.4.1a); ICAPCD Air Quality CEQA Handbook's mandatory Standard, Discretionary and Enhanced air quality measures (MM 4.4.1b); use of construction equipment using diesel engines with certified NO_x emissions rated as EPA Tier 3 or better (MM 4.4.1c); the ICAPCD Policy 5 in lieu fee program (MM 4.4.1d), and Applicant Proposed BMPs identified in Table 2.0-9 in Chapter 2.0. Therefore, the proposed Project would be consistent with this objective.
LAND USE ELEMENT		
Protection of Environmental Resources		
Goal 9: Identify and preserve significant natural, cultural, and community character resources and the County's air and water quality.	Yes	The proposed Project would preserve the County's air quality through compliance with ICAPCD Regulation VIII, Fugitive Dust Rules (MM 4.4.1a); ICAPCD Air Quality CEQA Handbook's mandatory Standard, Discretionary and Enhanced air quality measures (MM 4.4.1b); use of construction equipment using diesel engines with certified NO_x emissions rated as EPA Tier 3 or better

TABLE 4.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
		(MM 4.4.1c); the ICAPCD Policy 5 in lieu fee program (MM 4.4.1d), and Applicant Proposed BMPs identified in Table 2.0-9 in Chapter 2.0. In addition, creation of renewable energy would improve air quality emissions in the region by reducing fossil fuel emissions in the production of energy necessary to meet regional energy demands. Therefore, the proposed Project would be consistent with this goal.
4. Air Quality		
Policy: The County of Imperial air basin has been classified by the U.S. Environmental Protection Agency (U.S. EPA) as an area of "moderate" to a "serious" non-attainment for PM10 and other air emissions. According to the National Clean Air Act (CAA), "serious" non-attainment areas are required to implement the more stringent Best Available Control Measures (BACM) requirements while moderate non-attainment areas are required to implement the less stringent Reasonable Available Control Measures (RACM). Therefore new and existing developments will need to meet all pertinent Local, State, and Federal Air pollution emissions standards and be subject to an air permit by the Local Air Pollution Control District.	Yes	The proposed Project would generate emissions during construction and decommissioning with drastically reduced volumes generated in association with operations. The proposed Project would comply with compliance with ICAPCD Regulation VIII, Fugitive Dust Rules but would not be a point source generator of emissions requiring an air permit. Therefore, the proposed Project is consistent with this policy.
Program: Prior to approval of development the project proponent shall comply with the Local Air Pollution Control District current air quality attainment regulations in effect at the time of development.	Yes	The proposed Project would comply with current air quality attainment regulations including ICAPCD Regulation VIII, Fugitive Dust Rules (MM 4.4.1a) and ICAPCD Air Quality CEQA Handbook's mandatory Standard, Discretionary and Enhanced air quality measures. Therefore, the proposed Project is consistent with this program.

4.4.2 ENVIRONMENTAL SETTING

A. SOLAR ENERGY CENTER

Regional and Local Climate/Meteorological Conditions

The proposed Project is located in the Salton Sea Air Basin (SSAB). The SSAB consists of the western portion of Riverside County known as the Coachella Valley and all of Imperial County. Imperial County is located in the southeastern corner of California and is surrounded by mountain ranges to the north and east, with vast open land containing desert sand. It is bordered by Riverside County to the north, Mexico to the south, San Diego County to the west, and Arizona to the east. Imperial County is a desert community with a warm, dry climate. Summers are extremely hot and dry while winters are temperate. The high temperatures, combined with low humidity, produce hot, dry summers that contribute to the buildup of ozone.

The El Centro Station in Imperial County (the closest climate monitoring station to the solar field site parcels and most representative of the Project area's climate and topography in the SSAB), averages approximately 2.64 inches of rainfall annually. The heaviest precipitation occurs in January through March. The mean monthly air temperature each year ranges from 55 degrees Fahrenheit (F) in January to 92 degrees Fahrenheit in July, with an annual average temperature of approximately 73 degrees Fahrenheit (AECOM 2014d).

Air quality within the SSAB is affected by air pollutants transported from the South Coast Air Basin to the northwest and from Mexico to the south. Similarly, wind blowing in a northeast direction transports pollutants from Mexicali into Calexico (AECOM 2014d).

Local Air Quality

Criteria pollutants are measured continuously throughout Imperial County. 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" (ICAPCD 2012), the ICAPCD is responsible for monitoring four sites (7711 English Road, Niland; 570 Cook Street, Westmorland; 220 Main Street, Brawley; and 150 South 9th Street, El Centro) that collect meteorological and criteria pollutant data used by the ICAPCD to assist with pollutant forecasting, data analysis and characterization of air pollutant transport. Also, a fifth monitoring location in the City of Calexico (1029 Belcher Street, Calexico) is operated by CARB. The pollutants of interest in Imperial County are as follows: Niland, Westmorland, El Centro and Calexico all monitor for O_3 and PM_{10}. 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 (ICAPCD 2012, p. 19).

Table 4.4-4 identifies the criteria pollutants monitored closest to the Project area compared to the CAAQS. **Table 4.4-5** identifies the criteria pollutants monitored closest to the Project area compared to the NAAQS. Ambient data was obtained from the California Environmental Protection Agency's Air Resources Board Website (http://www.arb.ca.gov/adam). **Figure 4.4-1** shows the locations of the monitoring sites relative to the Project site. The information in **Table 4.4-4** and **Table 4.4-5** is from the Calexico-Ethel Monitoring Station at 1029 Belcher Street.

TABLE 4.4-4
LATEST THREE-YEAR AMBIENT AIR QUALITY DATA - CAAQS

Pollutant	Ambient Monitoring Site	Averaging Time	CAAQS	2011 (# of Days Exceeding Standard)	2012 (# of Days Exceeding Standard)	2013 (# of Days Exceeding Standard)
O_3 (ppm)	Calexico	1 Hour	2011: 0.10 ppm 2012-13: 0.11 ppm	0.097 ppm (2)	0.114 ppm (11)	0.110 ppm (3)
	Calexico	8 Hour	2011: 0.073 ppm 2012: 0.75 ppm 2013: 0.76 ppm	0.077 ppm (3)	0.096 ppm (12)	0.099 ppm (8)
PM_{10} ($\mu g/m^3$)	Calexico	24 Hour	50 $\mu g/m^3$	83.9 $\mu g/m^3$ (16)	387.3 $\mu g/m^3$ (35)	137.7 $\mu g/m^3$ (28)
$PM_{2.5}$ ($\mu g/m^3$)	Calexico	24 Hour	--	103.5 $\mu g/m^3$ (19)	78.5 $\mu g/m^3$ (14)	65.1 $\mu g/m^3$ (14)
NO_2 (ppm)	Calexico	1 Hour	0.18 ppm	0.130 ppm (0)	0.091 ppm (0)	0.157 ppm (0)
CO	Calexico	8 Hour	9 ppm	6.06 ppm (0)	4.47 ppm (0)	* (0)

Source: CARB 2014b, http://www.arb.ca.gov/adam/topfour/topfour1.php
Notes: ppm=parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per cubic meter; N/A=Not Available for given year

TABLE 4.4-5
LATEST THREE-YEAR AMBIENT AIR QUALITY DATA - NAAQS

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	NAAQS	2011 (# of Days Exceeding Standard)	2012 (# of Days Exceeding Standard)	2013 (# of Days Exceeding Standard)
O_3 (ppm)	Calexico	1 Hour	2011: 0.101 ppm 2012: 0.102 2013: 0.1048 ppm	0.097 ppm (2)	0.114 ppm (11)	0.110 ppm (3)
	Calexico	8 Hour	2011: 0.083 ppm 2012-13: 0.086 ppm	0.077 ppm (5)	0.096 ppm (26)	0.099 ppm (19)
PM_{10} ($\mu g/m^3$)	Calexico	24 Hour	150 $\mu g/m^3$	80.8 $\mu g/m^3$ (0)	406.2 $\mu g/m^3$(2)	141.2 $\mu g/m^3$ (0)
$PM_{2.5}$ ($\mu g/m^3$)	Calexico	24 Hour	35 $\mu g/ m^3$	80.3 $\mu g/m^3$ (2)	64.7 $\mu g/m^3$ (2)	36.3 $\mu g/m^3$ (1)
NO_2 (ppm)	Calexico	1 Hour	0.100 ppm	0.130 ppm (2)	0.091 ppm (0)	0.157 ppm (2)
CO	Calexico	8 Hour	9 ppm	6.06 ppm (0)	4.47 ppm (0)	* (0)

Source: CARB 2014b, http://www.arb.ca.gov/adam/topfour/topfour1.php
Notes: ppm=parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per cubic meter; N/A=Not Available for given year
**Insufficient data to determine value*

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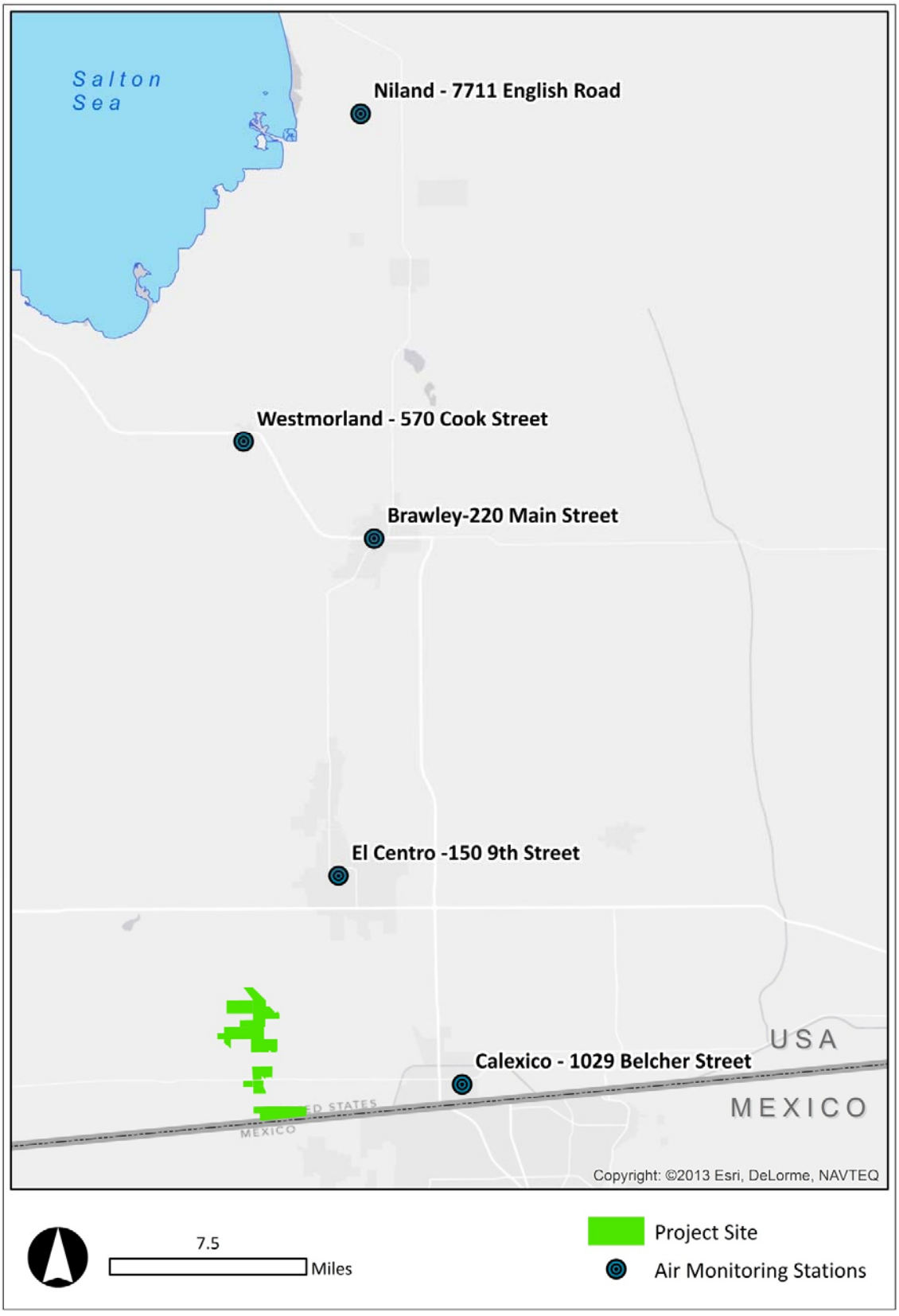

Source: CARB 2004, ESRI, AECOM 2014d.

FIGURE 4.4-1
LOCATION OF AIR QUALITY MONITORING STATION

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 solar field site parcels are surrounded by agricultural land, scattered rural residences, and other solar facilities either under construction or nearing completion. Sensitive receptors in the Project area consist of residential uses. **Figure 4.4-2** identifies all of the air quality sensitive receptors in the Project area. **Table 4.4-6** identifies the air quality sensitive receptors that are adjacent to the CUPs.

TABLE 4.4-6
AIR QUALITY SENSITIVE RECEPTORS ADJACENT TO CUPS

Sensitive Receptor[1]	Address	Adjacent CUPs
SR3	905, 907 Brockman Road, El Centro, CA 92243	West of CUP 13-0049
SR4	691, 695 Brockman Road, Calexico, CA 92231	Southwest of CUP 13-0042
SR5	652 Brockman Road, Calexico, CA 92231	Southwest of CUP 13-0042
SR6	648A Brockman Road, Calexico, CA 92231	Southwest of CUP 13-0042
SR7	648B Brockman Road, Calexico, CA 92231	Southwest of CUP 13-0042
SR8	644 Brockman Road, Calexico, CA 92231	Southwest of CUP 13-0042
SR9	640 Brockman Road, Calexico, CA 92231	Southwest of CUP 13-0042
SR10	1160 Kubler Road, Calexico, CA 92231-9749	Southwest of CUP 13-0042
SR11	619 Rockwood Road, Calexico, CA 92231	Southwest of CUP 13-0038
SR12	1095 West U.S. Highway 98, Calexico, CA 92231	West of CUP 13-0036
SR13	105 Rockwood Road, Calexico, CA 92231	West of CUP 13-0050
SR14	865 Kubler Road, Calexico, CA 92231	South of CUP 13-0039
SR15	852 Kubler Road, Calexico, CA 92231	South of CUP 13-0039
SR16	603 George Road, Calexico, CA 92231	Southeast of CUP 13-0039
SR17	904 West U.S. Highway 98, Calexico, CA, 92231	South of CUP 13-0037
SR18	874 West U.S. Highway 98, Calexico, CA, 92231	South of CUP 13-0037
SR19	876 West U.S. Highway 98, Calexico, CA, 92231	South of CUP 13-0037
SR20	903 West U.S. Highway 98, Calexico, CA 92231	West of CUP 13-0036

Source: Imperial County 2012; AECOM 2014d.

[1] The sensitive receptors identified in this table reflect only those sensitive receptors that are directly adjacent to proposed CUPs.

B. ELECTRIC COLLECTOR LINE CORRIDOR

The AQIA (AECOM 2014d) prepared for the Full Build-out Scenario included air quality emissions modeling and analysis of the Electric Collector Line Corridor transmission lines to be constructed as part of the proposed Project. All solar field site parcel electric lines, Electric Collector Line Corridor Line transmission lines, and Mount Signal Solar Farm Gen-Tie lines are collectively included in AQIA modeling under "transmission lines," and are characterized as such in the tables within this section (pers. comm. Falzarano 2014). As such, the AQIA for the proposed Project is inclusive of the transmission lines within the Electric Collector Line Corridor and no separate discussion is provided. Further, the regulatory framework and regional and local air quality setting described for the Full Build-out Scenario would also apply to the Electric Collector Line Corridor transmission lines.

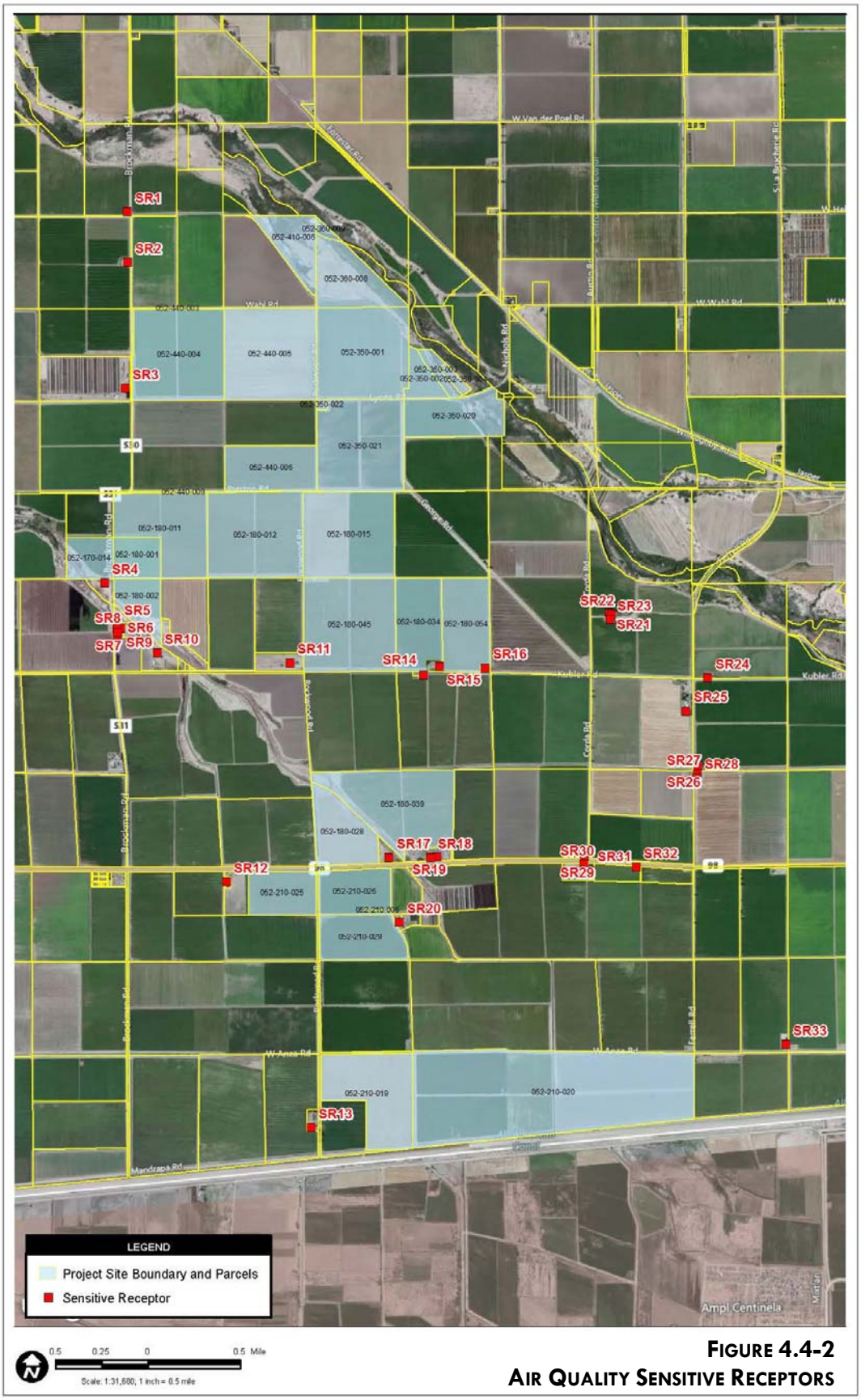

FIGURE 4.4-2
AIR QUALITY SENSITIVE RECEPTORS

Source: AECOM 2014d.

C. MOUNT SIGNAL SOLAR FARM GEN-TIE

A portion of the Project's proposed Gen-Tie line would be co-located with the previously approved Mount Signal Solar Farm and interconnect to the previously-approved Imperial Solar Energy Center South (ISECS) switchyard in order to connect to the Imperial Valley (IV) Substation. The construction and operation of the existing gen-tie lines has been separately analyzed for potential air quality impacts under CEQA (for portions on privately-owned land) in the Mount Signal Solar Farm EIR (SCH #2011071066). The AQIA emissions modeling conducted for the Full Build-out Scenario includes analysis of the Project-specific components within the Mount Signal Solar Farm Gen-Tie alignment to be constructed as part of the proposed Project. All solar field site parcels electric lines, Electric Collector Line Corridor Line transmission lines, and Mount Signal Solar Farm Gen-Tie lines are collectively included in AQIA modeling under "transmission lines," and are shown as such in tables within this section (pers. comm. Falzarano 2014). As such, the AQIA for the proposed Project is inclusive of the Gen-Tie lines, and no separate discussion is provided. Further, the regulatory framework and regional and local air quality setting described for the Full Build-out Scenario also apply to the Gen-Tie upgrades.

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) 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.

Criteria Pollutants

Air pollutants would be generated during construction activities in association with mobile source engine exhaust, fugitive dust, etc. The ICAPCD recognizes the temporary, short-term increase of air pollutants during construction activities and requires the implementation of effective and comprehensive mitigation measures to reduce air quality impacts. In addition to the CEQA thresholds identified above, **Table 4.4-7** indicates the ICAPCD's significance thresholds for construction activities.

TABLE 4.4-7
ICAPCD SIGNIFICANCE THRESHOLDS FOR CONSTRUCTION ACTIVITIES

Pollutant	Thresholds (lbs/day)
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	150
Nitrogen Oxide (NO_x)	75
Carbon Monoxide (CO)	100
Reactive Organic Gases (ROG)	500

Source: AECOM 2014d.
lbs/day = pounds per day

The ICAPCD also provides pollutant significance thresholds for operational or long-term air pollutant emissions. Projects with the potential to generate emissions exceeding the thresholds would have a significant impact on air quality. If a project's impact exceeds any of the significance criteria, various mitigation measures are available, depending on the nature of the air quality impact. Any proposed residential, commercial, or industrial development with a potential to emit less than the thresholds in **Table 4.4-7** would be considered a Tier I project and may potentially have an adverse impact on local air quality. However, an Initial Study would be required to help the Lead Agency determine whether the project would have a less than significant impact. Any project with the potential to meet or exceed the Tier II thresholds is considered to have a significant impact on regional and local air quality, and the project is required to develop a Comprehensive Air Quality Analysis Report. Tier II projects are also required to implement all standard mitigation measures as well as all feasible discretionary mitigation measures. **Table 4.4-8** presents the ICAPCD's significance thresholds for criteria pollutants during operational activities.

TABLE 4.4-8
ICAPCD SIGNIFICANCE THRESHOLDS FOR OPERATIONAL ACTIVITIES

Pollutant	Tier I (lb/day)	Tier II (lb/day)
PM_{10} and Sulfur Oxide (SO_x)	Less than 55 lbs/day	55 lbs/day or greater
NO_x and ROG	Less than 150lbs/day	150 lbs/day or greater
CO	Less than 550 lbs/day	550 lbs/day or greater
Level of Significance	Less Than Significant	Significant Impact
Level of Analysis	Initial Study	Comprehensive Air Quality Analysis Report
Environmental Document	Negative Declaration	Mitigated Negative Declaration or Environmental Impact Report

Source: AECOM 2014d.
lbs/day = pounds per day

The implementation of discretionary mitigation measures, as listed in the ICAPCD CEQA Handbook, apply to construction sites as follows:

- Non-residential developments - five acres or more in size.
- Residential developments - 10 acres or more in size.

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 unmitigable 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. Because the proposed Project creates renewable energy and is expected to add a peak of only 50 average daily traffic trips (ADTs) or less (operations and maintenance would add 30 ADT), no operational impacts are anticipated.

Toxic Air Contaminants (TACs)

The CEQA Handbook does not include thresholds of significance for cancer and non-cancer health risks associated with construction of a project. However, the Air Toxics Hot Spots Information Act (AB 2588) requires each air district, including ICAPCD, to establish the notification threshold at which facilities are required to notify all exposed persons. Consistent with the AB 2588 levels established by the ICAPCD, the recommended thresholds of significance for this analysis are: 1) no greater than 10 in one million for cancer risks; and 2) a hazard index of less than 1.0 for non-cancer risks (AECOM 2014d).

Diesel Particulate Matter (DPM)

Diesel Particulate Matter (DPM) exhaust emissions from diesel-fueled engines were identified as a carcinogenic TAC by the CARB in 1998. To be consistent with the CARB requirements, ICAPCD requires DPM emissions developed through the use of diesel-powered construction equipment to be analyzed (see Methodology and Sensitive Receptor Impacts discussions, below).

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.

It is noted that the Project does not include construction activities that would involve asbestos, and the naturally occurring asbestos-bearing serpentine is not typically found in the geological formations present on the solar field site parcels (AECOM 2014d, p. 11). Therefore, this issue is not discussed further in this section.

C. METHODOLOGY

Construction Phase Emission Methodology

AECOM used conservative assumptions for the Project analysis based on information provided by the Applicant. Construction emissions associated with the Project were quantified using the California Emissions Estimator Model (CalEEMod) Version 2011.1.1. CalEEMod allows the user to enter project-specific construction information, such as types, number and horsepower of construction equipment, and number and length of off-site motor vehicle trips. Where available from the Applicant, modeling was based on Project-specific data. Where Project-specific information (e.g., amount of land to be disturbed/graded per day, types of equipment to be used, number of construction employees) was not available, reasonable assumptions were used to estimate emissions (AECOM 2014d).

The Full Build-out Scenario may be constructed over 18 months, or it may be built out as the Phased CUP Scenario over 10 years in as many as 17 individual CUPs (or clusters of CUPs), each an approximately 7 to 8 month construction period. For purposes of developing a conservative analysis, the AQIA analysis assumed the Full Build-out Scenario would be built over an 18-month period. Utilizing the shortest construction timeframe in modeling construction emissions results in a greater intensity of labor and equipment (and therefore potential simultaneous emissions) during the construction period (i.e. a “worst-case” scenario).

Operation Phase Emission Methodology

The operational emissions for the Project are primarily related to on-road motor vehicles and the use of emergency generators. Long-term (i.e., operational) regional emissions of criteria air pollutants, including mobile and area-source emissions, were quantified using emission factors from OFFROAD (mobile emissions inventory model) and EMFAC (mobile emissions factor model). Mobile-source emissions were modeled based on the net increase in daily vehicle trips and the net increase in regional vehicle miles traveled that would result from maintenance activities (AECOM 2014d). (Note: The O&M buildings would not result in additional emissions beyond those sources discussed in the analysis) (Falzarano and Paukovits 2014).

Decommissioning Emission Phase Methodology

Construction emissions for the decommissioning phase were estimated using the CalEEMod. The decommissioning analysis for criteria pollutant emissions is applicable to both the Project-Level Analysis (Near-Term Full Build-out Scenario) and CUP Analysis (Phased CUP Scenario), because the maximum daily emissions for decommissioning for the Project would represent a conservative estimate of emissions in future years (AECOM 2014d, p. 36).

Toxic Air Contaminant Emission Methodology

The greatest potential for TAC emissions resulting from construction of the Project would originate from DPM emissions associated with heavy equipment operations. Project construction and decommissioning would result in the generation of DPM emissions from the use of off-road diesel construction equipment required for clearing and grading, as well as earthmoving, trenching, materials handling and installation, and other construction activities. Most DPM emissions associated with material delivery trucks and construction worker vehicles would occur off site. For the purposes of this analysis, PM_{10} exhaust emissions from on-site diesel-fueled construction equipment were used to represent DPM emissions, as DPM is considered to be less than or equal to 10 micrometers in diameter. Therefore, PM_{10} represents the upper limit for DPM emissions associated with construction of the Project (AECOM 2014d).

The generation of DPM from construction projects typically occurs in a single area for a short period of time. The dose of TACs to which 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 a person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period to a fixed amount of emissions results in a higher exposure level and higher health risks for the maximally exposed individual. According to the Office of Environmental Health Hazard Assessment's 2003 *Air Toxics Hot Spots Program Risk Assessment Guidelines*, which are used to determine the exposure of sensitive receptors to TAC emissions, cancer risk should be based on a 70-year exposure period; however, such assessments can be limited to the period/duration of activities associated with a project (AECOM 2014d).

The SCREEN3 emissions modeling program is used to estimate pollutant concentrations at specific distances from emission sources. SCREEN3 incorporates conservative assumptions, such as a single wind direction blowing toward the receptor, limited mixing (of air and pollutants), and simple terrain. A volume source in SCREEN3 was used to represent construction activities that would occur on the solar field site parcels. The edge of the volume source was assumed to be located at the boundary of the solar field site parcels closest to the nearest sensitive receptor (SR 17), which is located southeast of Assessor's Parcel Number (APN) 052-180-028 and north of State Route (SR-) 98. The location of this sensitive receptor is adjacent to two CUPs (CUPs 13-0036 and 13-0037) and would be subject to the highest potential emission concentrations. The area of the volume source was assumed to be the total acreage of CUPs 13-0036 and CUP 13-0037 to account for the fact that construction emissions may occur on a given day over that entire area. The volume sources representing emissions from the construction equipment were given an initial exhaust release height of five meters to account for the height of the equipment exhaust stack and initial plume rise of the heated exhaust. An initial vertical dimension of 1.2 meters was also applied to the volume sources (AECOM 2014d, p. 40).

The SCREEN3 assessment considers exposure via inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways. The risk is calculated by multiplying the dose by the inhalation potency factor. The inhalation potency factor for DPM is 1.1 milligrams per kilogram per day (mg/kg/day) (AECOM 2014d, p. 40).

D. PROJECT IMPACTS AND MITIGATION MEASURES

Conflict with an Air Quality Management Plan/Violate Air Quality Standards

Impact 4.4.1 Construction of each CUP (13-0036 thru 13-0052) would result in NO_X emissions exceeding the recommended threshold of significance. In addition, operation of each CUP would result in generation of fugitive dust emissions. Therefore, conflicts with an air quality management plan and violation of NOx and PM10 air quality standards are

considered to have a **potentially significant impact** with regard to Project construction and operation.

EACH CUP (13-0036 THRU 13-0052)

Construction

The Project was assumed to begin construction in July 2015. As a result, the seven-month construction schedule for each CUP area would occur in 2015 and 2016. The thresholds of significance for criteria pollutants are based on pounds per day; therefore, the number of years of construction would not affect the results of the analysis.

Assuming each CUP (13-0036 thru 13-0052) would be constructed over approximately seven months, the total construction schedule to build out all 17 CUPs would be 10 years. Construction of each CUP (i.e. Phased CUP Scenario) would include the same activities required for construction of the Full Build-out Scenario, including site preparation, post installation, electrical work, module installation, construction of the substation and O&M building, and construction of electrical transmission facilities. Construction activities would generally occur for eight hours per day, five days per week, which includes the use of three 5-horsepower (hp) diesel-powered generators that operate for eight hours per day. Construction emissions were quantified using the CalEEMod. **Table 4.4-9** shows the estimated criteria pollutant emissions from construction activities of a typical CUP (AECOM 2014d). Additional information is provided in Appendix A of the AQAI included as **Appendix C** of this EIR on the attached CD.

TABLE 4.4-9
ESTIMATED UNMITIGATED DAILY CONSTRUCTION EMISSIONS FOR EACH CUP (13-0036 THRU 13-0052)

Emissions Source	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM_{10} (lbs/day)[1,2]	$PM_{2.5}$ (lbs/day)[1]
2015 Maximum Daily Emissions	9.86	105.86	68.46	0.11	14.09	5.55
2016 Maximum Daily Emissions	3.51	33.76	29.71	0.04	2.79	1.76
Maximum Daily Emissions[3]	**9.86**	**105.86**	**68.46**	**0.11**	**14.09**	**5.55**
Thresholds of Significance	75	100	550	N/A	100	N/A
Significant Impact?	No	**Yes**	No	No	No	No

Source: AECOM 2014d, p. 35.

[1] PM10 emissions shown include the sum of particulate matter with aerodynamic diameter 0 to 2.5 microns and particulate matter with aerodynamic diameter 2.5 to 10 microns.

[2] Fugitive dust emissions were reduced based on watering two times per day, applying soil stabilizers, and limiting speeds on unpaved roads.

[3] Totals may not add correctly due to rounding.

ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter

As shown in **Table 4.4-9**, construction-related emissions of ROG, CO, SO_2, PM_{10}, and $PM_{2.5}$ for each individual CUP would not exceed the thresholds of significance and would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. However, construction-generated NO_X emissions for each CUP (13-0036 thru 13-0052) would exceed the applicable mass emission thresholds during construction. Therefore, temporary construction NOx emissions for each individual CUP (13-0036 thru 13-0052) would result in a **potentially significant impact** to regional air quality.

In addition, all construction sites (regardless of size) must comply with the requirements contained within ICAPCD Regulation VIII (Fugitive Dust Requirements) and implement standard mitigation measures for fugitive PM_{10} control. All construction sites over five acres in size must also implement

ICAPCD discretionary mitigation measures for PM_{10} control. The individual CUPs 13-0036 thru 13-0052) all exceed 5 acres in size. Therefore, mitigation measures would also be required to reduce PM_{10} emissions associated with construction of each CUP (AECOM 2014d) despite the fact that there is no significant impact from $PM_{10.}$ Including Fugitive Dust Requirements in the air quality mitigation measures informs the public and decision-makers of all the air quality-related protections the Project is providing. Likewise, including the Fugitive Dust Requirements as mitigation measures facilitates implementation by the Applicant and monitoring by the County.

Operation

The Project proposes an on-site O&M building for each CUP (13-0036 thru 13-0052). The Project is expected to generate approximately four average daily trips associated with worker commute trips to each individual CUP under the Phased CUP scenario (or 30 ADT for Full Build-out Scenario)[1]. Given the Project location, it was estimated that each one-way trip would be approximately 40 miles. On-site operation activities at each CUP (13-0036 thru 13-0052) would include panel washing, which would require approximately five acre-feet of water per year. Operational emissions would also result from intermittent use of one diesel-powered emergency generator for maintenance and testing purposes at each CUP (13-0036 thru 13-0052). Each 250-hp generator would be in operation for testing and maintenance for approximately one hour each week, for a total of 50 hours per year. **Table 4.4-10** shows the estimated criteria pollutant emissions from operational activities for each CUP (13-0036 thru 13-0052) (AECOM 2014d, p. 36). Additional details are included in Appendix A of the AQAI included as **Appendix C** of this EIR.

TABLE 4.4-10
PROJECT UNMITIGATED DAILY OPERATIONAL EMISSIONS FOR EACH CUP (13-0036 THRU 13-0052)

Emissions Source	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM_{10} (lbs/day)[2,3]	$PM_{2.5}$ (lbs/day)[1]
Operational Emissions	0.21	1.96	2.53	0.01	10.8	1.6
Thresholds of Significance	55	55	550	150[3]	150	N/A
Significant Impact?	No	No	No	No	No	No

Source: AECOM 2014d, p. 34.

[1] Emissions shown represent the maximum daily emissions that would occur from summertime or wintertime operations.

[2] Totals may not add correctly due to rounding.

[3] SO_2 emissions are used to represent SO_x emissions for purposes of comparing CUP area emissions to the threshold, as the ICAPCD does not have a threshold of significance for SO_2

ROG = reactive organic gases; NOX = oxides of nitrogen; CO = carbon monoxide; SO2 = sulfur dioxide; PM10 = suspended particulate matter; PM2.5 = fine particulate matter.

As shown in **Table 4.4-10**, each CUP's operational emissions would not exceed the thresholds of significance for the identified criteria pollutants. Therefore, each individual CUP (13-0036 thru 13-0052) would not result in a significant increase in operational emissions. However, the CUP would include unpaved areas, which would generate some fugitive dust when traveled upon (AECOM 2014d, p. 36). Therefore, while no potentially significant impact regarding generation of fugitive dust would occur during operation of the Full Build-out Scenario, the Applicant has agreed to provide a Dust Control Plan that will achieve a performance standard of no greater than 20 percent opacity for dust emissions.

[1] The CUP analysis conservatively assumed that each CUP area would include an on-site O&M building with four worker trips. However, construction of the entire project would not require staff at each O&M building based on the size and location of the CUP (i.e., adjacent CUPs would be managed by the same workers). Therefore, the total project would result in 30 worker trips per day.

Including a Dust Control Plan as part of the operational mitigation measures informs the public and decision-makers of all the air quality-related protections the Project is providing. Likewise, including the Dust Control Plan as a mitigation measure facilitates implementation by the Applicant and monitoring by the County.

Decommissioning

The decommissioning analysis for criteria pollutant emissions is applicable to both the Project-Level Analysis (Near-Term Full Build-out Scenario) and individual CUP Analysis (Phased CUP Scenario), because the maximum daily emissions for decommissioning for the Full Build-out Scenario would represent a conservative estimate of emissions in future years. Therefore, decommissioning impacts are discussed below, under Impact 4.4.2, Full Build-out Scenario.

FULL BUILD-OUT SCENARIO

Construction

Construction activities within the Air Quality Study Area for the Full Build-out Scenario would result in the temporary generation of ROG, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$ emissions. ROG, NO_X, CO, SO_2 emissions are primarily associated with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive PM dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on and off site. Construction emission estimates also include the use of five 5-hp diesel-powered generators that operate for eight hours per day (AECOM 2014d, p. 30).

Construction emissions can substantially vary from day to day, depending on the level of activity, the specific type of construction activity, and the prevailing weather conditions. The Full Build-out Scenario may be constructed over 18 months, or it may be built out as 17 individual CUPs over an approximately 10-year period. For purposes of developing a conservative analysis, the AQIA modeling assumed that the Full Build-out Scenario would be built over an 18-month period (see additional discussion under Methodology, above) (AECOM 2014d, p. 30).

As noted above, Project construction would include site preparation, post installation, electrical work, module installation, construction of the substation and O&M buildings, and construction of electrical transmission facilities. Construction activities would generally occur for eight hours per day and five days per week. The Project's construction emissions were modeled based on a worst-case scenario representing an intensive day of construction to conservatively estimate the maximum daily emissions. This assumes that all construction activities (except mobilization) would overlap for a few months during the construction period. Given that exhaust emissions rates of the construction equipment fleet in California are expected to decrease over time as stricter standards take effect, construction emissions were estimated using the earliest calendar year when construction could begin (i.e., 2015 Near-Term scenario) to generate conservative estimates. If construction were to occur in later years, advancements in engine technology, retrofits, and turnover in the equipment fleet are anticipated to result in lower levels of emissions. Therefore, using the earliest year of construction provides the most conservative estimate of construction emissions (AECOM 2014d, p. 30).

Table 4.4-11 shows the estimated criteria pollutant emissions from construction activities for the Full Build-out Scenario.

TABLE 4.4-11
UNMITIGATED DAILY CONSTRUCTION EMISSIONS – FULL BUILD-OUT SCENARIO

Construction Phase	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM10 (lbs/day)[1,2]	$PM_{2.5}$ (lbs/day)[1]
2015						
Mobilization	1.22	13.54	7.71	0.02	0.67	0.52
Site Preparation	22.51	279.03	130.84	0.28	27.35	11.67
Post Installation	6.30	42.95	54.33	0.06	4.50	2.98
Below Grade Electrical	4.06	29.93	39.21	0.05	3.50	2.07
Above Grade Electrical	1.15	3.54	20.65	0.02	1.88	0.57
Module Installation	1.68	10.34	26.00	0.03	2.27	0.93
Substation	2.56	19.88	28.29	0.03	2.64	1.27
Transmission Line	1.89	12.53	25.00	0.03	2.24	0.90
Miscellaneous	1.64	7.35	22.36	0.03	2.07	0.76
2015 Maximum Daily Emissions	**41.79**	**405.55**	**346.70**	**0.54**	**46.44**	**21.15**
2016						
Site Preparation	21.00	257.44	122.88	0.28	26.42	10.81
Post Installation	6.15	41.12	52.43	0.06	4.39	2.88
Below Grade Electrical	3.79	27.85	37.01	0.05	3.39	1.97
Above Grade Electrical	1.02	3.19	18.53	0.02	1.86	0.56
Module Installation	1.50	9.28	23.84	0.03	2.20	0.87
Substation	2.36	18.61	26.05	0.03	2.59	1.22
Transmission Lines[3]	1.72	11.57	22.63	0.03	2.20	0.87
O&M Buildings	2.36	18.62	26.06	0.03	2.59	1.22
Miscellaneous	1.47	6.70	20.14	0.03	2.04	0.73
Demobilization	1.22	13.54	7.71	0.02	0.67	0.52
2016 Maximum Daily Emissions	41.37	394.36	349.56	0.57	47.66	21.11
Maximum Daily Emissions[4,5]	**41.79**	**405.55**	**349.70**	**0.57**	**47.66**	**21.15**
Threshold of Significance?	75	100	550	N/A[6]	100	N/A[7]
Significant Impact?	No	**Yes**	No	No	No	No

Source: AECOM 2014d, p. 31; Paukovits 2014.

[1] PM_{10} emissions shown include the sum of particulate matter with aerodynamic diameter 0 to 2.5 microns and particulate matter with aerodynamic diameter 2.5 to 10 microns.

[2] Fugitive dust emissions were reduced based on watering two times per day, applying soil stabilizers, and limiting speeds on unpaved roads.

[3] Includes Project site parcel electric lines (All CUPs 13-0036 thru 13-0052), Electric Collector Line Corridor transmission line improvements, and Mount Signal Solar Farm Gen-Tie line upgrades.

[4] Totals may not add correctly due to rounding.
ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter

[5] The Project's construction emissions were modeled based on a worst-case scenario representing an intensive day of construction to conservatively estimate the maximum daily emissions. This assumes that all construction activities (except mobilization) will overlap for a few months during the construction period.

[6] The ICAPCD does not recommend thresholds of significance for SO_2 for construction-related emissions.

[7] The ICAPCD does not recommend thresholds of significance for $PM_{2.5}$ for construction-related or operational period emissions.

As shown in **Table 4.4-11**, construction-related emissions of ROG, CO, PM_{10} and $PM_{2.5}$ would not exceed the thresholds of significance and would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. However, construction-generated NO_X emissions for the

Full Build-out Scenario would exceed the applicable mass emission thresholds. Therefore, temporary construction emissions of NO_X during construction of the Full Build-out Scenario would result in a **potentially significant impact** to regional air quality (AECOM 2014d, p. 32).

In addition, all construction sites, regardless of size, must comply with the requirements contained within ICAPCD Regulation VIII (Fugitive Dust Requirements) and implement standard mitigation measures for fugitive PM_{10} control. All construction sites over five acres in size must also implementation ICAPCD discretionary mitigation measures for PM_{10} control. The Full Build-out Scenario including all solar field site parcels (CUPs 13-0036 thru 13-0052) covers a total of 2,793 acres. Therefore, mitigation measures would also be required to reduce PM_{10} emissions associated with construction of the Full Build-out Scenario (AECOM 2014d, p. 32) even though there is no significant impact from PM_{10}. Including these Fugitive Dust Requirements in the air quality mitigation measures informs the public and decision-makers of all the air quality-related protections the Project is providing. In addition, including Fugitive Dust Requirements as mitigation measures facilitates implementation by the Applicant and monitoring by the County.

Operation

Both the Full Build-out Scenario would incorporate an on-site O&M building for each CUP or grouping of CUPs. The Full Build-out Scenario is expected to generate approximately 30 average daily trips (ADT) associated with worker commute trips. Given the Project location, it was estimated that each one-way trip would be approximately 40 miles.

On-site operation activity throughout the Full Build-out Scenario would include panel washing, which would require approximately 60 acre feet of water per year. Operational emissions would also result from intermittent use of diesel-powered emergency generators for maintenance and testing purposes. Each 250-hp generator (one per each CUP; 17 for the Full Build-out Scenario) would be operated for testing and maintenance for approximately one hour each week, for a total of 50 hours per year (AECOM 2014d, p. 34). **Table 4.4-12** shows the estimated criteria pollutant emissions from operational activities throughout the Full Build-out Scenario. Additional details are included in Appendix A of the AQAI included as **Appendix C** of this EIR.

TABLE 4.4-12
UNMITIGATED OPERATIONAL EMISSIONS – FULL BUILD-OUT SCENARIO

Emissions Source	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM_{10} (lbs/day)[1,2]	$PM_{2.5}$ (lbs/day)[1]
Operational Emissions	2.34	26.34	17.64	0.06	44.35	7.34
Thresholds of Significance	55	55	550	150[3]	150	NA
Significant Impact?	No	No	No	No	No	No

Source: AECOM 2014d, p. 34.
[1] Emissions shown represent the maximum daily emissions that would occur from summertime or wintertime operations.
[2] Totals may not add correctly due to rounding.
[3] SO_2 emissions are used to represent SO_x emissions for purposes of comparing Project-related emissions to the threshold, as the ICAPCD does not have a threshold of significance for SO_2.
ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter.

As shown in **Table 4.4-12**, the operational emissions for the Full Build-out Scenario would not exceed the thresholds of significance for the identified criteria pollutants. Likewise, the Full Build-out Scenario would not result in a significant increase in operational emissions (AECOM 2014d, pp. 34-35). However, the Full Build-out Scenario would include unpaved areas and operational activities would include travel

on unpaved roads. Similar to construction-related PM_{10} impacts, mitigation measures are required to reduce PM_{10} emissions associated with Project operation. Therefore, the Project will implement mitigation measure MM 4.4.1a to reduce any potential impacts associated with the generation of fugitive dust emissions. This impact would be less than significant with mitigation."

Decommissioning

Decommissioning activities would increase air pollutant emissions as a result of earth-moving activities and exhaust from diesel equipment. Dust and exhaust generated during decommissioning would be typical of most construction sites and temporary in nature. Because the maximum daily emissions for decommissioning for the Full Build-out Scenario would represent a conservative estimate of emissions in future years, the decommissioning analysis for criteria pollutant emissions is applicable to both the Project-Level Analysis (Near-Term Full Build-out Scenario) and individual CUP Analysis (Phased CUP Scenario). As shown in **Table 4.4-13**, the daily emissions associated with decommissioning the Full Build-out Scenario would not exceed the thresholds of significance for ROG, NOx, CO, SO_2, PM_{10} or $PM_{2.5}$.

TABLE 4.4-13
DECOMMISSIONING UNMITIGATED DAILY EMISSIONS FOR THE FULL BUILD-OUT SCENARIO[1]

Emissions Source	ROG (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM_{10} (lbs/day)[2,3]	$PM_{2.5}$ (lbs/day)[1]
Maximum Daily Emissions	9.06	29.03	77.49	0.23	22.82	3.99
Thresholds of Significance	75	100	550	N/A[4]	100	N/A[5]
Significant Impact?	No	No	No	No	No	No

Source: AECOM 2014d, p. 37.

[1] The decommissioning analysis for criteria pollutant emissions is applicable to both the Project-Level Analysis (Near-Term Full Build-out Scenario) and CUP Analysis (Phased CUP Scenario; each Individual CUP), because the maximum daily emissions for decommissioning for the Project would represent a conservative estimate of emissions in future years.

[2] PM_{10} emissions shown include the sum of particulate matter with aerodynamic diameter 0 to 2.5 microns and particulate matter with aerodynamic diameter 2.5 to 10 microns.

[3] Fugitive dust emissions were reduced based on watering two times per day, applying soil stabilizers, and limiting speeds on unpaved roads. ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter.

[4] The ICAPCD does not recommend thresholds of significance for SO_2 for construction-related emissions.

[5] The ICAPCD does not recommend thresholds of significance for $PM_{2.5}$ for either construction-related or operational period emissions.

Further, it is anticipated that regulatory compliance similar to or greater than those identified a part of mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c would be required at the end of each CUP or 30 years, whichever is later. It is also anticipated that the Best Available Control Technologies (BACTs) would be more stringent at the time of Project decommissioning. Therefore, criteria pollutant emissions impacts generated during decommissioning of each CUP and the Full Build-out Scenario would be **less than significant**.

Mitigation Measures

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

To reduce construction-related emissions, the following control measures shall be implemented for the duration of the construction period:

MM 4.4.1a Prior to commencing construction, each CUP owner shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} emissions and associated mitigation measures during the construction and operational phases of the Project. The Project Proponent shall submit a "Construction Notification Form" to the ICAPCD 10 days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the

ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20% opacity performance standard for dust control:

- All disturbed areas, including bulk material storage that is not being actively used, 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 groundcover. Bulk material is defined as earth, rock, silt, sediment, and other organic and/or inorganic material consisting of or containing PM with five percent or greater silt content.
- All on-site and off-site unpaved roads shall be effectively stabilized, and 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 emissions 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 shall be cleaned and/or washed at the delivery site after removal of bulk material.
- All track-out or carry-out, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, 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 new unpaved roads is prohibited within any area with a population of 500 or more, unless the road meets ICAPCD's 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.

Timing/Implementation: *Prior to the issuance of grading permit(s).*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department/ICAPCD.*

MM 4.4.1b Each CUP owner shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NOx emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimize idling time, either by shutting equipmen4t off when not in use or reducing the time of idling to five minutes at a maximum.

- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).
- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g. rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

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

MM 4.4.1c Each CUP owner shall use all available EPA Tier 3 or better construction equipment.

Timing/Implementation: *Prior to the issuance of grading permit(s).*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department/ICAPCD.*

MM 4.4.1d Consistent with the requirements of ICAPCD Policy 5, each CUP owner shall pay an emission mitigation fee sufficient to off-set the amount by which the Project's NO_X emissions exceed the 100 lbs/day threshold. ICAPCD allows a project to pay in-lieu impact fees using the most current Carl Moyer Cost Effective methodology to reduce excess NO_X emissions. Under the ICAPCD program, the exact amount of the fee cannot be calculated until the time of construction when more precise data regarding the construction equipment types and hours of operation are known and ICAPCD can calculate the fee. Prior to any earthmoving activity, each CUP owner shall submit to the ICAPCD a complete list of all construction equipment to be utilized during the construction phase identifying make, model, year, horsepower, and estimated hours of usage.

Timing/Implementation: *Prior to issuance of grading permit(s).*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department/ICAPCD.*

Significance After Mitigation

Construction-related NO_X emissions for each CUP (13-0036 thru 13-0052) and the Full Build-out Scenario would exceed the threshold of significance of 100 pounds per day. In addition, ICAPCD requires implementation of mitigation for Project-generated PM_{10} emissions, even in cases where there is no significant impact from PM_{10} criteria pollutant emissions. Implementation of mitigation measures MM 4.4.1a, MM 4.4.1b, MM 4.4.1c and MM 4.4.1d would reduce NO_X and PM_{10} criteria pollutant emissions associated with construction of each CUP and the Full Build-out Scenario, even though there is no significant impact from PM_{10} emissions. NO_X emission reductions were estimated for mitigation measure MM 4.4.1c, which requires the use of available Tier 3 engines. Potential NO_X reductions were not estimated or relied upon for MM 4.4.1a and MM 4.4.1b. The mitigated NO_X emissions based only on

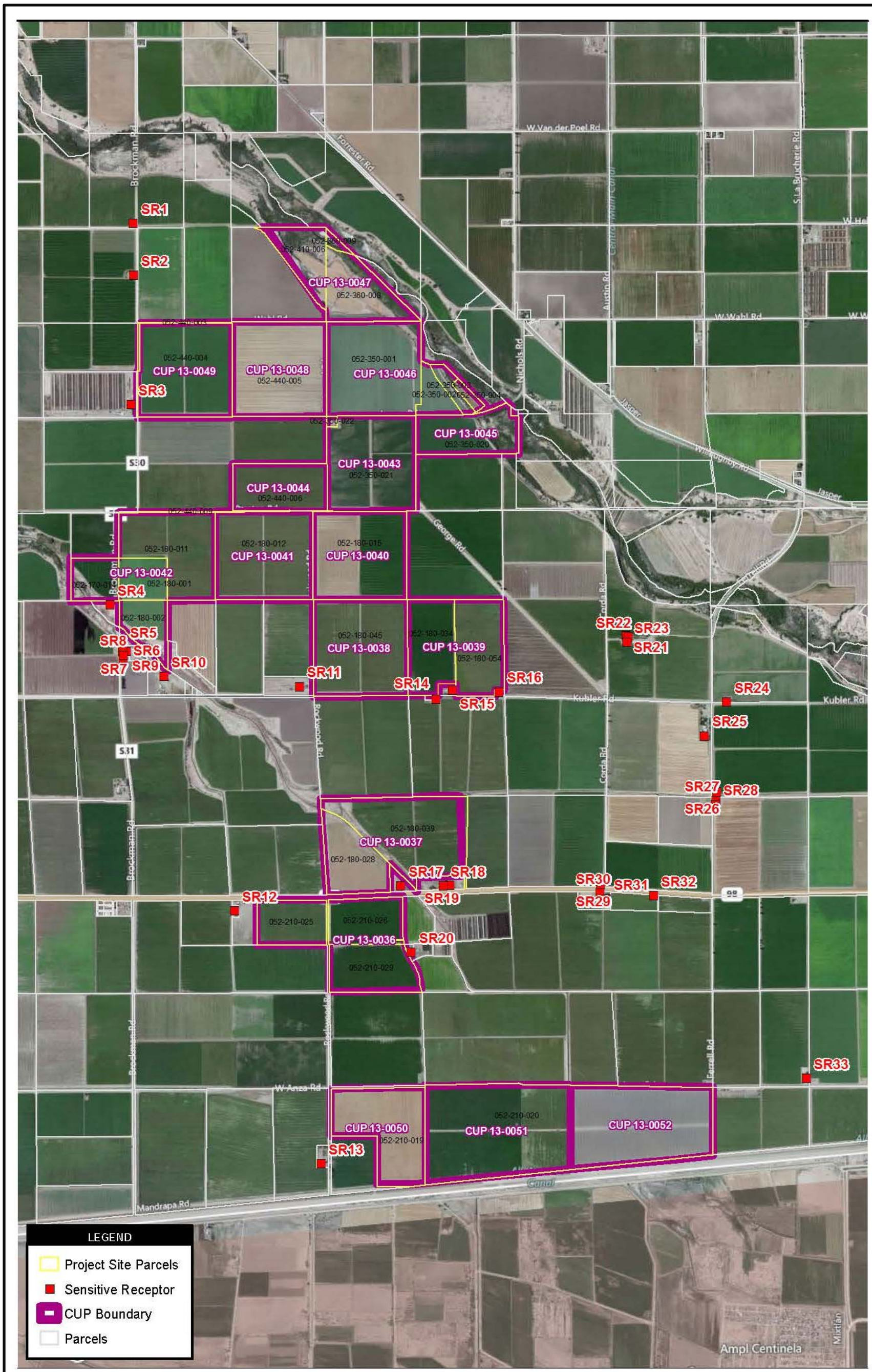

FIGURE 4.4-3
AIR QUALITY SENSITIVE RECEPTORS IN RELATION TO CUPS (13-0036 THRU 13-0052)

Source: AECOM 2014d.

reductions from MM 4.4.1c were estimated at 211.19 lbs/day in 2015 and 218.24 lbs/day in 2016. Therefore, construction-related NO_X emissions would still exceed the threshold of significance of 100 lbs/day. As such, mitigation measure MM 4.4.1d has also been imposed to require payment of an offset fee to reduce total construction-related emissions below the 100 lbs/day threshold of significance. The fees paid to the ICAPCD would be used to fund mitigation projects that reduce NO_X emissions throughout the County. Therefore, following implementation of mitigation measures MM 4.4.1a, MM 4.4.1b, MM 4.4.1c and MM 4.4.1d, construction of each CUP and the Full Build-out Scenario would not violate air quality standards or contribute substantially to an existing or projected air quality violation. This impact would be **less than significant after mitigation**.

Expose Sensitive Receptors to Substantial Pollutant Concentrations

Impact 4.4.2 Exhaust generated through use of diesel equipment during construction, operation and decommissioning could result in elevated levels of DPM. The Project would be required to comply with applicable regulations and BACTs. Therefore, exposure of sensitive receptors to substantial pollutant concentrations is considered a **less than significant impact.**

EACH CUP (13-0036 THRU 13-0052)

Construction

Some members of the population including children, older adults, and persons with preexisting respiratory or cardiovascular illness are especially sensitive to air pollutant emissions. These sensitive individuals are given additional consideration when evaluating air quality impacts of a given project. At-risk land uses sensitive to poor air quality would include residences, schools, day care centers, playgrounds, medical facilities, and nursing homes. Recreational land uses, such as parks, are also considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions. As a result, breathing can be impaired by air pollution, even though exposure periods during exercise are generally relatively short.

The AQIA included an analysis of the Project's potential TAC emissions. As described in the discussion of "Toxic Air Contaminant Emission Methodology" (above) the greatest potential for TAC emissions resulting from construction would originate from DPM emissions associated with heavy equipment operations. For the purposes of this analysis, PM_{10} exhaust emissions from on-site diesel-fueled construction equipment were used to represent DPM emissions, as DPM is considered to be less than or equal to 10 micrometers in diameter. Therefore, PM_{10} represents the upper limit for DPM emissions associated with construction of the Project (AECOM 2014d, p. 37).

The generation of DPM during construction typically occurs in a single area for a short period of time (refer to "Toxic Air Contaminant Emission Methodology, above). As shown in **Figure 4.4-3**, and summarized in **Table 4.4-6**, several residential properties are located adjacent to CUP 13-0037. These are considered the closest sensitive receptors that would be affected by construction of CUP 13-0037. As such, the residences near CUP 13-0037 are considered a conservative "worst case" for potential TAC emission impacts.

The greatest potential for TAC emissions resulting from construction of CUP 13-0037 would originate from DPM emissions associated with heavy equipment, off-road mobile source operations. The longest period that construction activities would occur at a distance reasonably considered to have an effect on a sensitive receptor is approximately seven months. Thus, if the duration of construction activities near a sensitive receptor is seven months, then the exposure would be approximately one percent of the total exposure period used for typical health risk calculations (AECOM 2014d).

The SCREEN3 emissions modeling included emissions associated with construction of both CUP 13-0036 and CUP 13-0037. The estimated cancer risk for CUP 13-0036 and CUP 13-0037 combined was less than the significance threshold of ten in one million. In addition, the chronic hazard index was less than the significance threshold of 1.0 for non-cancer health impacts. Additional details are provided in Appendix A of the AQAI included as **Appendix C** of this EIR. The impacts related to TAC emissions from CUP 13-0036 and CUP 13-0037 combined would not result in a significant impact during construction. Therefore, it can likewise be concluded that the impacts to sensitive receptors resulting from construction of each individual CUP (CUP 13-0036 thru 13-0052) would also be **less than significant** (AECOM 2014d, p. 41).

Operation

Operation of each CUP (13-0036 thru 13-0052) would primarily involve gasoline and/or diesel-fueled vehicles associated with worker commutes and panel washing. Operational emissions would be generated by the intermittent use of diesel-powered emergency generators (permitted by the ICAPCD) for maintenance and testing purposes. The emergency generators would meet emission limits consistent with California Airborne Toxic Control Measures (ACTMs) and ICAPCD permits. Based on the intermittent use of generators, it is not anticipated that this would be a significant source TAC emissions (Falzarano and Paukovits 2014). No other stationary sources of TAC emissions are anticipated to be located on CUPs 13-0036 thru 13-0052. As such, it is not anticipated that individual receptors would be exposed to TAC emissions during Project operations. Likewise, operation of CUPs 13-0036 thru 13-0052 would not expose sensitive receptors to substantial operational pollutant concentrations. Therefore, impacts to sensitive receptors would be **less than significant** (AECOM 2014d, p. 41) during Project operation.

Decommissioning

As described above, SCREEN3 emissions modeling was used to estimate pollutant concentrations from construction activities. The estimated cancer risk was less than the ICAPCD significance threshold of ten in one million. In addition, the chronic hazard index was less than the significance threshold of 1.0 for non-cancer health impacts. Because the decommissioning activities would require approximately one-half the off-road equipment as the initial construction period, it can be expected that the impacts associated with decommissioning would also be less than significant. Furthermore, construction equipment used during decommissioning would be operating with cleaner engines (e.g., Tier 4 or better) that significantly reduce criteria pollutant and TAC emissions. Therefore, decommissioning of each of the individual CUPs (13-0036 thru 13-0052) would not expose sensitive receptors to substantial pollutant concentration. Likewise, impacts to sensitive receptors would be **less than significant** (AECOM 2014d, p. 41) during decommissioning of each CUP (13-0036 thru 13-0052).

FULL BUILD-OUT SCENARIO

Construction

The AQIA included an analysis of the Project's potential TAC emissions as described under each CUP (13-0036 thru 13-0052), above. As shown in **Figure 4.4-3**, the land uses surrounding the solar field site parcels consist primarily of agricultural land and solar generation facilities. Residences occur adjacent to several CUPs (refer to **Table 4.4-6**). These are considered the closest sensitive receptors that would be affected by construction of the Project.

Eighteen months is the longest period[2] (i.e. worst case scenario) that construction activities would occur at a distance considered to reasonably have an effect on a sensitive receptor. Thus, if the duration of

[2] Even if the Project were constructed more slowly over 10 years, development of the CUP closest to a sensitive receptor would be completed in approximately 7 months. This would result in a much shorter exposure period

construction activities near a sensitive receptor is 18 months, then the exposure would be approximately two percent (18 months ÷ by 840 months [12 months x 70]) of the total exposure period used for typical health risk calculations (i.e., 70 years) (AECOM 2014d, p. 38). If the Phased CUP Scenario were implemented and the Project was constructed in phases over 10 years, development of the CUP closest to a sensitive receptor would be completed in approximately 7 months. Therefore, the potential exposure time of a sensitive receptor would be less than would occur under the Full Build-out Scenario (i.e. 18 month exposure).

As discussed above under "Methodology," the SCREEN3 emissions modeling program is used to estimate pollutant concentrations at specific distances from emission sources. The results of the SCREEN3 dispersion modeling estimated that the nearest sensitive receptor (SR 17) would be exposed to an average annual DPM concentration of 0.18 micrograms per cubic meter (µm /m^3) (AECOM 2014d, p. 40).

The SCREEN3 analysis considers exposure via inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways. The risk is calculated by multiplying the dose by the inhalation potency factor. The inhalation potency factor for DPM is 1.1 milligrams per kilogram per day (mg/kg/day). The resulting estimated cancer risk is 1.20 in one million. The estimated cancer risk was based on the annual average DPM concentration estimated with the SCREEN3 model, inhalation potency factor, and default estimates of breathing rate, body weight, and exposure period. (Note: Additional details are provided in Appendix A of the AQAI included as **Appendix C** of this EIR.) Based on a total construction schedule of 10 years for all 17 CUP areas, each CUP area would be constructed over approximately seven months. Therefore, the longest period that construction activities would occur at a distance considered to reasonably have an effect on a sensitive receptor is seven months. The exposure would be approximately one percent (7 months ÷ by 840 months [12 months x 70]) of the total exposure period used for typical health risk calculations (i.e., 70 years) (Falzarano and Paukovits 2014). The modeled cancer risks would not exceed the significance threshold of ten in one million. Therefore, construction-related cancer risk to sensitive receptors generated by the Full Build-out Scenario would be **less than significant** (AECOM 2014d, p. 40).

In addition to the potential cancer risk, DPM may result in chronic (i.e., long-term) non-cancer health impacts. The chronic non-cancer inhalation hazard indices for the Project were calculated by dividing the modeled annual average DPM concentrations by the Reference Exposure Level (REL). The REL is the concentration below which no adverse non-cancer health effects are anticipated. The Office of Environmental Health Hazard Assessment (OEHHA) has recommended an ambient concentration of five ug/m^3 as the chronic inhalation REL for DPM. No inhalation REL for acute (i.e., short-term) effects has been determined for DPM by OEHHA. The chronic hazard index for the nearest sensitive receptor would be 0.035 ug/m^3, which is less than the significance threshold of 1.0 ug/m^3 for non-cancer health impacts. Therefore, the non-cancer TAC health impacts to sensitive receptors generated by construction of the Full Build-out Scenario would be **less than significant** (AECOM 2014d, p. 40).

than 18 month exposure conservatively assumed here. During the remainder of the 10 year build-out period, construction of the other CUPs would be too far from the sensitive receptor to have a potential impact because the heavy equipment would be moved away from the sensitive receptor to perform construction activities elsewhere on the Project site. In short, there is no development scenario where heavy construction equipment would be used for a continuous 10 year period near a sensitive receptor.

Operation

Operation of the Project would primarily involve gasoline and/or diesel-fueled vehicles associated with worker commutes and solar panel washing. Worker commutes would involve 30 ADTs and would occur off site. Panel washing would involve substantially fewer vehicles than construction activities (up to four vehicles per day), and diesel equipment used for panel washing would operate intermittently over the Full Build-out Scenario. Operational emissions would also result from intermittent use of diesel-powered emergency generators (permitted by the ICAPCD) for maintenance and testing purposes. No stationary sources of TAC emissions are anticipated to be located within the Full Build-out Scenario/Air Quality Study Area. As such, sensitive receptors are not anticipated to be exposed to TAC emissions during Project operation. Therefore, impacts associated with exposure of sensitive receptors to TACs during operation of the Full Build-out Scenario would be **less than significant** (AECOM 2014d, pp. 32-33).

Decommissioning

Decommissioning activities would increase PM_{10} and DPM emissions as a result of earth-moving activities and exhaust from diesel equipment. Exhaust would be typical of most construction sites and temporary in nature. However, it is anticipated that regulatory compliance similar to or greater than those identified in mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c would be required at the time of decommissioning. It is also anticipated that the BACTs required to be implemented would be more stringent at the time of decommissioning. Because the proposed Project would be required to comply with applicable regulations and BACTs, TAC emissions are anticipated to be **less than significant** during decommissioning of the Full Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Create Objectionable Odors Affecting a Substantial Number of People

Impact 4.4.3 Use of diesel equipment during Project construction, operation and decommissioning activities could result in temporary emissions of adverse odors. This is considered a **less than significant impact.**

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. While rarely causing physical harm, offensive odors can be very unpleasant and can generate citizen complaints to local governments and regulatory agencies (AECOM 2014d, p. 42).

EACH CUP (13-0036 THRU 13-0052)

Construction

Construction odor impacts for each CUP (13-0036 thru 13-0052) would be similar to the Full Build-out Scenario. Odors from construction activities, including diesel exhaust, would be localized and generally confined to the immediate area surrounding the construction site. The odors would be temporary in nature, disburse into the atmosphere, and cease once construction is completed. Each CUP is located in a rural industrial area of the County, rather than a densely populated urban area. As a result, construction of each CUP would not create objectionable odors affecting a substantial number of people. Therefore, a **less than significant impact** would occur in association with creation of objectionable odors during construction of each CUP (AECOM 2014d, p. 42).

Operation

Odors from operational activities, including diesel exhaust from any heavy equipment intermittently required for maintenance, would be localized and generally confined to the immediate area surrounding the activity. Operation of each CUP would not be expected to add new odor sources based on the nature of the proposed use (i.e. a solar energy generation facility). As a result, operation of each CUP would not create objectionable odors affecting a substantial number of people. Therefore, a **less than significant impact** would occur in association with creation of objectionable odors during operation of each CUP (13-0036 thru 13-0052) (AECOM 2014d, p. 42).

Decommissioning

Odors generated in association with decommissioning activities, including diesel exhaust from heavy equipment, would be localized and generally confined to the immediate area surrounding the decommissioning activities. The odors would be temporary in nature, disburse into the atmosphere, and cease once decommissioning is completed. As a result, decommissioning of each CUP would not create objectionable odors affecting a substantial number of people. Therefore, a **less than significant impact** would occur in association with creation of objectionable odors during decommissioning of each CUP (13-0036 thru 13-0052) (AECOM 2014d, p. 42).

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

Potential sources that may emit odors during construction of the Full Build-out Scenario include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors (see **Figure 4.4-3**) are not anticipated to be adversely affected by diesel exhaust odors associated with Project construction. Odors from these sources would be localized and generally confined to the immediate area surrounding the CUP under construction. As a result, the Full Build-out Scenario would not create objectionable odors affecting a substantial number of people (AECOM 2014d, p. 42). Therefore, a **less than significant impact** would occur in association with creation of objectionable odors during construction of the Full Build-out Scenario (AECOM 2014d, p. 42).

Operation

The proposed Full Build-out Scenario is as a solar energy generation facility, and, as such, is not anticipated to generate objectionable odors. Similar to the construction phase, potential sources that may emit odors during operational maintenance activities include temporary exhaust from diesel equipment. Odors from diesel equipment would be localized and generally confined to the immediate area surrounding the maintenance activity. Operation of the Full Build-out Scenario would not be expected to add new odor sources. As a result, the Full Build-out Scenario would not create objectionable odors affecting a substantial number of people (AECOM 2014d, p. 42). Therefore, a **less than significant impact** would occur in association with creation of objectionable odors during operation of the Full Build-out Scenario (AECOM 2014d, p. 42).

Decommissioning

Similar to construction, potential sources that may emit odors during decommissioning activities at the Full Build-out Scenario include exhaust from diesel equipment. Odors from diesel would be, temporary in nature, localized, and generally confined to the immediate area surrounding each decommissioning activity. Therefore, a **less than significant impact** would occur in association with creation of objectionable odors during decommissioning of the Full Build-out Scenario (AECOM 2014d, p. 42).

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 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 include (but are not limited to) any existing, recently approved, proposed, and reasonably foreseeable development envisioned by the Imperial County General Plan, a partial list of which is provided in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, of this Draft EIR.

This cumulative analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact because the emissions from all but the largest individual sources are too small to have by itself a pollution effect on ambient air quality so large that it would be directly responsible for causing a significant human health impact. The nonattainment status of regional pollutants is a combined result of past and present development within the SSAB, and this regional impact is cumulative rather than being attributable to any one source. Accordingly, controls have been implemented to regulate construction and operational project emissions on a regional basis. The AQMP and SIP for PM_{10} and O_3 set forth a comprehensive program for bringing the SSAB into compliance with all federal and state air quality standards. The ICAPCD's implementation and enforcement of Regulation VIII – Fugitive Dust Rules will also lead the SSAB into compliance with air standards consistent with the AQMP. As discussed in Section 4.4.1.D, Regulation VIII rules prevent, reduce and mitigate PM_{10} impacts by requiring, among other things, the phasing of work to minimize disturbed surface areas, application of water or chemical stablizers to disturbed soils, covering or providing adequate freeboard space to ensure no spillage and loss of bulk material during transport, and maintenance of track-out or carry-out paths. Compliance with Regulation VIII is mandatory on all construction sites, regardless of size.

The ICAPCD developed thresholds of significance for the region based on projections of development activity for the entire SSAB. Because of the inherently cumulative nature of air quality conditions, the ICAPCD CEQA Handbook provides that the same thresholds of significance apply to both a direct and cumulative impact analysis for air quality impacts. As such, the thresholds of significance identified in Section 4.4.3.D are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. If a project's emissions would be less than those threshold levels, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact when taken in combination with past, present, and future development projects (AECOM 2014d, p. 47.)

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Violation of Air Quality Standard/Cause Air Quality Violation

Impact 4.4.4 The proposed Project, in combination with other proposed, approved and reasonably foreseeable cumulative projects, would generate criteria pollutant emissions during

construction. However, emissions of criteria pollutants would be reduced below significance thresholds on a project-by-project basis through compliance with recommended and required mitigation measures. Therefore, the Project's cumulative contribution to a violation of an air quality standard is considered a **less than cumulatively considerable**.

EACH CUP (13-0036 thru 13-0052)

Construction

As previously discussed under Impact 4.4.1, development of each CUP (13-0036 thru 13-0052) would generate NO_X emissions at levels exceeding ICAPCD thresholds for construction activities at the Project-specific level. The ICAPCD thresholds are designed to identify projects that would result in significant levels of air pollution and to assist the region in attaining the applicable State and Federal ambient air quality standards. Projects that would not exceed ICAPCD thresholds of significance would not contribute a considerable amount of criteria air pollutant emissions to the region's emissions profile, and would not impede attainment and maintenance of ambient air quality standards.

Implementation of mitigation measures MM 4.4.1a, MM 4.4.1b, MM 4.4.1c and MM 4.4.1d at the Project-specific level would reduce NO_X and PM_{10} criteria pollutant emissions associated with construction of each CUP (13-0036 thru 13-0052) to a level of less than significant. Further, other cumulative projects in the SSAB will also be required to comply with the air quality regulations set forth in the AQMP, SIP and ICAPCD Rules, including Regulation VIII. Therefore, upon mitigation of NO_X and PM_{10} emissions at the Project-specific level, and because other cumulative projects will be required to implement measures consistent with the AQMP, SIP and ICAPCD regulations designed to alleviate the cumulative impacts associated with NO_X and PM_{10}, contributions of each CUP (13-0036 thru 13-0052) toward a cumulative net increase of criteria pollutants during Project construction are **less than cumulatively considerable** (AECOM 2014d, p. 48).

Operation

As discussed earlier, operation of a typical CUP would not generate emissions at levels that exceed the thresholds of significance for any criteria pollutants. Project operation would result in emission of fugitive dust and DPM during maintenance activities. Implementation of mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c at the Project level at each CUP (13-0036 thru 13-0052) would reduce operational PM_{10} and DPM emissions in accordance with ICAPCD Fugitive Dust Rules. Imperial County is in a non-attainment area for PM_{10} and for O_3 (8-hour). As discussed in connection with cumulative construction impacts, other cumulative projects in the SSAB will also be required to comply with the air quality regulations set forth in the AQMP, SIP and ICAPCD Rules, including Regulation VIII, during operations. Therefore, implementation of mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1 at the Project level, in combination with ICAPCD's lawful application of its regulations, AQMP, and SIP (that are designed to alleviate cumulative air quality impacts) to proposed existing and future cumulative projects, assure that the cumulative net increase of criteria pollutants during Project operation are **less than cumulatively considerable** (AECOM 2014d, p. 48).

Decommissioning

The decommissioning analysis for criteria pollutant emissions is applicable to both the Project-Level Analysis (Near-Term Full Build-out Scenario) and individual CUP Analysis (Phased CUP Scenario), because the maximum daily emissions for decommissioning for the Full Build-out Scenario would represent a conservative estimate of emissions in future years. As such, please refer to the discussion under Full Build-out Scenario, below.

FULL BUILD-OUT SCENARIO

Construction

Many of the projects in the SSAB, including those listed in Table 3.0-1 are large scale solar 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.

As discussed under Impact 4.4.1, above, implementation of the Full Build-out Scenario would generate NO_X emissions at levels exceeding the ICAPCD threshold of 100 pounds per day during construction activities. To address exceeding the thresholds, the ICAPCD requires mitigation for Project-generated PM_{10} emissions. Implementation of mitigation measures MM 4.4.1a, MM 4.4.1b, MM 4.4.1c and MM 4.4.1d during Project construction would reduce NO_X and PM_{10} criteria pollutant emissions associated with construction of the Full Build-out Scenario to a level of less than significant at the Project-specific level. Other cumulative projects in the SSAB will also be required to comply with the air quality regulations set forth in the AQMP, SIP and ICAPCD Rules, including Regulation VIII, designed to alleviate the cumulative impacts associated with NO_X and PM_{10}. Therefore, contributions of the Full Build-out Scenario toward a cumulative net increase of criteria pollutants during construction are **less than cumulatively considerable** (AECOM 2014d, p. 47).

Operation

Operation of the Full Build-out Scenario would result in emission of fugitive dust and DPM during maintenance activities. Implementation of mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c would reduce operational PM_{10} and DPM emissions for the Full Build-out Scenario in accordance with ICAPCD Fugitive Dust Rules. Other cumulative projects in the SSAB will also be required to comply with the air quality regulations set forth in the AQMP, SIP and ICAPCD Rules, including Regulation VIII, designed to alleviate the cumulative impacts associated with operational PM_{10} and DPM emissions. Therefore, contributions of the Full Build-out Scenario toward a cumulative net increase of criteria pollutants during Project operation are **less than cumulatively considerable** (AECOM 2014d, p. 48).

Decommissioning

Decommissioning activities at each CUP (13-0036 thru 13-0052) and the Full Build-out Scenario would increase air pollutant emissions as a result of earth-moving activities and exhaust from diesel equipment. Dust and exhaust generated during decommissioning would be temporary in nature and cease once decommissioning activities are complete.

The decommissioning analysis for criteria pollutant emissions is applicable to both the Project-Level Analysis (Near-Term Full Build-out Scenario) and individual CUP Analysis (Phased CUP Scenario), because the maximum daily emissions for decommissioning for the Full Build-out Scenario would represent a conservative estimate of emissions in future years. As shown in **Table 4.4-13** above, the daily emissions associated with decommissioning would not exceed ICAPCD thresholds of significance. Further, it is anticipated that regulatory compliance similar to or greater than those identified in mitigation measures MM 4.4.1a, MM 4.4.1b and MM 4.4.1c would be required at the end of each CUP or 30 years, whichever is later. It is also anticipated that BACTs would be more stringent at the time of Project decommissioning and that other, cumulative projects at the time will be required to implement such requirements as may be set forth in any applicable AQMP, SIP and ICAPCD Rules, including Regulation VIII. Therefore, contributions of each CUP (13-0036 thru 13-0052) and the Full Build-out Scenario toward a cumulative net increase of criteria pollutants during Project decommissioning would be considered **less than cumulatively considerable** (AECOM 2014d, p. 37).

Mitigation Measures

Implementation of mitigation measures MM 4.4.1a, MM 4.4.1b, MM 4.4.1c, and MM 4.4.1d would reduce construction NO_x and PM_{10} emissions to **less than significant** levels on a Project-specific basis. No additional mitigation measures are required.

Significance After Mitigation

Following implementation of mitigation measures MM 4.4.1a, MM 4.4.1b, MM 4.4.1c, and MM 4.4.1d at the Project-specific level, NO_x and PM_{10} emissions would be reduced below ICAPCD significance thresholds for both each CUP (13-0036 thru 13-0052) and the Full Build-out Scenario throughout construction, operation and decommissioning. In addition, other cumulative projects will be required to comply with the air quality regulations set forth in the AQMP, SIP and ICAPCD Rules, including Regulation VIII, designed to alleviate the cumulative impacts associated with NO_x and PM_{10} emissions. Therefore, the construction emissions generated by each CUP (13-0036 thru 13-0052) the Full Build-out Scenario would not cumulatively contribute to conflicts or obstruction of an air quality plan or a violation of air quality standards. Impacts would be **less than cumulatively considerable** for each CUP (13-0036 thru 13-0052) and the Full Build-out Scenario during project construction, operation and decommissioning.

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