

4.3 AIR QUALITY

4.3.1 Regulatory Setting

This section presents a description of the laws, policies, and plans relevant to air quality.

Ambient Air Quality Standards

Regulation of air quality in California is achieved through both federal and State ambient air quality standards and emission limits for individual sources of air pollutant emissions. Health-based air quality standards have been established for these pollutants by the United States Environmental Protection Agency (USEPA) at the national level and by the California Air Resources Board (CARB) at the State level. The National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution.

The Clean Air Act (CAA) requires the adoption of NAAQS to protect the public health and welfare from the effects of air pollution. USEPA established primary and secondary NAAQS that specify allowable ambient concentrations for criteria pollutants. Primary NAAQS are established at levels necessary, with an adequate margin of safety, to protect the public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Similarly, secondary NAAQS specify the levels of air quality determined appropriate to protect the public welfare from any known or anticipated adverse effects associated with air contaminants. Current standards are set for ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), sulfur dioxide (SO₂), and lead. CARB established CAAQS that are, in general, more restrictive than the NAAQS. CARB has also developed standards for sulfates, hydrogen sulfide (H₂S), visibility-reducing particulates, and vinyl chloride. Federal and State standards are shown in Table 4.3-1.

Imperial County is located in the Salton Sea Air Basin (SSAB). Specific geographic areas are classified as either “attainment,” “nonattainment,” or “unclassified” areas for each pollutant, based on the comparison of measured data with federal and State standards. The “unclassified” designation is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. The SSAB is currently designated as a nonattainment area for the NAAQS and CAAQS for 8-hour ozone and PM₁₀. A portion of Imperial County is designated as a nonattainment area for the NAAQS for PM_{2.5}. The SSAB is in attainment or unclassified with the NAAQS and CAAQS for the other applicable criteria pollutants. Table 4.3-2 shows the federal and State attainment status for the SSAB.

Federal Regulations

USEPA, under the provisions of the CAA, requires each state with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. The SIP is not a single document but a compilation of new and previously submitted attainment plans, emissions inventory, emissions reduction programs, district rules, state regulations, and federal controls.

Table 4.3-1: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
Ozone	1 hour	0.09 ppm (180 µg/m ³)	–	Same as primary standard
	8 hours	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	
Respirable particulate matter (PM ₁₀) ^f	24 hours	50 µg/m ³	150 µg/m ³	Same as primary standard
	Annual arithmetic mean	20 µg/m ³	–	
Fine particulate matter (PM _{2.5}) ^f	24 hours	–	35 µg/m ³	Same as primary standard
	Annual arithmetic mean	12 µg/m ³	12 µg/m ³	
Carbon monoxide	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	None
	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
	8 hours (Lake Tahoe)	6 ppm (7 mg/m ³)	–	
Nitrogen dioxide ^g	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as primary standard
	1 hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	None
Sulfur dioxide ^h	Annual arithmetic mean	–	0.030 ppm (for certain areas) ^h	–
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^h	–
	3 hours	–	–	0.5 ppm (1,300 µg/m ³)
	1 hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	–
Lead ^{i,j}	30-day average	1.5 µg/m ³	–	–
	Calendar quarter	–	1.5 µg/m ³ (for certain areas) ^j	Same as primary standard
	Rolling 3-month average	–	0.15 µg/m ³	
Visibility-reducing particles ^k	8 hours	See footnote j	No national standards	
Sulfates	24 hours	25 µg/m ³		
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)		
Vinyl chloride ⁱ	24 hours	0.01 ppm (26 µg/m ³)		

Notes: mg/m³ = milligrams per cubic meter; PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter

^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe),^h sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, 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 (CCR).

^b 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 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standards. Contact EPA for further clarification and current national policies.

On June 2, 2010, a new 1-hour SO₂ 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 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California

Table 4.3-1: National and California Ambient Air Quality Standards

<p>^c Concentration expressed first in the units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°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 reference pressure of 760 torr; parts per million (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.</p> <p>^d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.</p> <p>^e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.</p> <p>^f On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.</p> <p>^g 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 the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of 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.</p> <p>Source: CARB 2013a</p>	<p>standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical of 0.075 ppm. The California Air Resources Board (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.</p> <p>The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 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 standards are approved.</p> <p>^k In 1989, 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 the “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.</p>
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Table 4.3-2: Federal and State Attainment Designations for Salton Sea Air Basin

Criteria Pollutant	State Designation	Federal Designation
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
PM ₁₀	Nonattainment	Nonattainment
PM _{2.5}	Unclassified	Partial Nonattainment
Ozone (8-hour)	Nonattainment	Nonattainment
Lead	Attainment	Unclassified/Attainment
Sulfates	Attainment	Not Applicable
H ₂ S	Unclassified	Not Applicable
Visibility Reducing PM	Unclassified	Not Applicable

Source: CARB 2014

CARB is the lead agency for developing the SIP in California. Local air districts and other agencies prepare Air Quality Attainment Plans (AQAPs) or Air Quality Management Plans (AQMPs) and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis. The local air district with jurisdiction over the proposed plan update is the Imperial County Air Pollution Control District (ICAPCD).

General Conformity

General conformity requirements were adopted by the United States Congress as part of the CAA Amendments of 1990 and were implemented by USEPA regulations in 1993. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine State or local efforts to achieve and maintain NAAQS. The General Conformity Rule applies to “...any activity that a department...of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves...” (40 Code of Federal Regulations [C.F.R.] Section 51.852).

The General Conformity Rule (40 C.F.R. Sections 51.850–51.860 and 93.150–93.160) requires any federal agency responsible for an action in a federal nonattainment or attainment/maintenance area to demonstrate conformity to the applicable SIP. To do so, the federal agency must determine that the action is either exempt from General Conformity Rule requirements or subject to a formal conformity determination. All reasonably foreseeable emissions predicted to result from the action—both direct and indirect—must be considered, and the location and quantity of emissions must be identified. Only federal nonattainment and maintenance pollutant emissions are considered under a general conformity analysis.

State Regulations

CARB oversees activities of local air quality management agencies and is responsible for incorporating AQAPs and AQMPs from local air districts into the SIP for USEPA approval. CARB also maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by CARB to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

The California CAA requires that each area exceeding the CAAQS for O₃, CO, SO₂, and NO₂ must develop a plan aimed toward achieving those standards (California Health and Safety Code 40911, *et seq.*). The California Health and Safety Code, Section 40914, requires air districts to design a plan that achieves an annual reduction in district-wide emissions of 5 percent or more, averaged every consecutive 3-year period. To satisfy this requirement, the local air districts are required to develop and implement air pollution reduction measures described in their AQAPs/AQMPs and outline strategies for achieving the CAAQS for any criteria pollutants for which the region is classified as nonattainment.

CARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both State and federal agencies. During the past decade, federal and State agencies have imposed numerous requirements on the production and sale of gasoline in California. CARB has also adopted control measures for diesel particulate matter (PM) and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne substances that are capable of causing short-term or long-term adverse health effects to humans. TACs are usually present in minute quantities in ambient air; however, their high toxicity may pose a threat to public health even at low concentrations. TACs include both organic and inorganic chemical substances. TACs may be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting

operations. Research and teaching facilities where a variety of chemicals are used for various experiments may also be a source of TACs.

The CAA Amendments of 1990 expanded the regulation of hazardous air pollutants (HAPs, the federal government terminology for TACs), establishing a list of 172 individual compounds and 17 compound categories to be regulated as HAPs. USEPA established stringent, technology-based emissions standards for stationary sources of emissions of these listed substances.

At the state level, TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [Chapter 1252, Statutes of 1987]). CARB continues to implement an ongoing program to identify toxic air contaminants, assess their public health risks, and develop air toxics control measures to reduce toxic emissions from specific source categories statewide. Local air districts then must adopt and implement the State-approved emission reduction measures.

Regional and Local Regulations

Imperial County Air Pollution Control District

The ICAPCD attains and maintains air quality conditions in Imperial County through a comprehensive program of planning, regulation, enforcement, and promotion of the understanding of air quality issues. The ICAPCD develops air quality plans that address State and federal requirements. The air quality plans include strategies and tactics to be used to attain and maintain acceptable air quality in Imperial County. The ICAPCD is also responsible for monitoring air pollution and adopting rules and regulations. The rules and regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts.

Ozone Air Quality Management Plan

As a result of the new ozone standards adopted by USEPA in 1997, strategies to decrease higher ozone concentrations were required. In response, the ICAPCD adopted the 8-hour Ozone AQMP in 2008. Subsequently, the ICAPCD requested further modifications to the AQMP. The final 2009 8-Hour Ozone Modified AQMP was adopted by the ICAPCD on July 13, 2010 (ICAPCD 2010). The AQMP includes control measures which are an integral part of how the ICAPCD currently controls the reactive organic gases (ROG) and NO_x emissions within the nonattainment area.

The local strategy of the ICAPCD is to rely on the reductions associated with the implementation of the Imperial County CEQA Air Quality Handbook (CEQA Handbook). The CEQA Handbook provides guidance to all interested parties on the significance of impacts resulting from the development of new residential, commercial, and industrial projects. Once the significance of the impact is determined, the CEQA Handbook provides a list of feasible mitigation measures that may be implemented to achieve a reduction of those direct and indirect emissions created by the development project. Specifically, the CEQA Handbook requires mitigation of construction and operational air emissions (ICAPCD 2007).

PM₁₀ State Implementation Plan

The final PM₁₀ SIP was adopted by the ICAPCD on August 11, 2009 (ICAPCD 2009). The PM₁₀ nonattainment status required the ICAPCD to begin the development of Best Available Control Measures (BACM) for fugitive dust. This process began prior to the development of the SIP. In

November 2005, the ICAPCD adopted revised fugitive dust control measures (Regulation VIII) which are the primary control strategy for the PM₁₀ SIP. On April 23, 2013, USEPA fully approved Regulation VIII fugitive dust rules into the Imperial County portion of the California SIP as BACM.

ICAPCD Rules and Regulations

ICAPCD regulations are primarily focused on stationary sources, indirect sources, and BACM to minimize air pollutants within their jurisdiction. The ICAPCD has established Regulation VIII to prevent, reduce, or mitigate the fugitive dust emissions. Compliance with Regulation VIII is mandatory on all construction sites regardless of the size of the project.

Imperial County

The *Conservation and Open Space Element* of the existing General Plan contains goals, policies, and programs that contribute to reducing criteria air pollutant emissions:

- Protection of Air Quality

Goal 9. The County shall actively seek to improve and maintain the quality of air in the region.

Objective 9.1. Ensure that all facilities shall comply with current federal and State requirements for attainment of air quality objectives.

Objective 9.2. Cooperate with all federal and State agencies in the effort to attain air quality objectives.

4.3.2 Existing Environmental Setting

Air quality is defined by the concentration of pollutants related to human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

Environmental Setting, Climate, and Meteorology

Imperial County is located in the southeastern corner of California and is surrounded by mountain ranges to the north, east, and west 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.

Rainfall at the El Centro Station, which represents the area's climate in the SSAB, averages approximately 2.64 inches annually (WRCC 2014). The heaviest precipitation occurs from January through March. The mean annual air temperature ranges from 55 degrees Fahrenheit (°F) in January to 92°F in July, with an annual average temperature of approximately 73°F (WRCC 2014).

Regional and Local Air Quality

Ambient air pollutant concentrations in Imperial County are measured at air quality monitoring stations operated by CARB and the ICAPCD. Five air quality monitoring stations are located in Imperial County. Table 4.3-3 lists the stations and the pollutants that are monitored at each station. Table 4.3-3 shows the locations of the monitoring stations.

Table 4.3-3: Ambient Air Quality Monitoring Stations – Imperial County

Monitoring Station	Location	Pollutants
El Centro	150 South 9 th Street El Centro, CA 92243	O ₃ , CO, NO ₂ , PM ₁₀ , PM _{2.5}
Brawley	220 Main Street Brawley, CA 92227	PM ₁₀ , PM _{2.5}
Westmorland	570 Cook Street Westmoreland, CA 92281	O ₃ , PM ₁₀
Niland	7711 English Road Niland, CA 92257	O ₃ , PM ₁₀
Calexico – Ethel Street	1029 Belcher Street Calexico, CA 92231	O ₃ , CO, NO ₂ , SO ₂ , PM ₁₀ , PM _{2.5}
Source: CARB 2014b		

While pollutant concentrations vary at each station, the El Centro monitoring station is considered representative of the air quality conditions in Imperial County. The station monitors ozone, CO, NO₂, PM₁₀, and PM_{2.5}.

Table 4.3-4 summarizes the exceedances of the NAAQS and CAAQS and the highest pollutant levels recorded at this station from 2010 through 2012. As shown in Table 4.3-4, ambient air concentrations of CO and NO₂ at the El Centro monitoring station have not exceeded the NAAQS or the CAAQS in the past three years. Ozone concentrations have exceeded the NAAQS and CAAQS in 2010 through 2012. Concentrations of PM₁₀ exceeded the CAAQS in 2012, and PM_{2.5} exceeded the NAAQS in 2011.

Table 4.3-4: Ambient Air Quality Monitoring Data

Pollutant Standards		2010	2011	2012
Carbon Monoxide				
	Maximum 8-hour concentration (ppm)	5.61	9.01	3.64
Number of days standard exceeded				
	NAAQS 8-hour (≥ 9 ppm)	0	0	0
	CAAQS 8-hour (≥ 9.0 ppm)	0	0	0
Nitrogen Dioxide				
	Maximum 1-hour concentration (ppm)	0.141	0.117	0.059
	Annual average (ppm)	0.004	0.009	*
Number of days standard exceeded				
	NAAQS 1-hour	0	0	0
	CAAQS 1-hour	0	0	0
Ozone				
	Maximum 1-hour concentration (ppm)	0.122	0.103	0.111
	Maximum 8-hour concentration (ppm)	0.082	0.084	0.091
Number of days standard exceeded				
	CAAQS 1-hour (>0.09 ppm)	3	5	9
	CAAQS 8-hour (>0.070 ppm)	29	21	26
	NAAQS 8-hour (>0.075 ppm)	10	12	14
Particulate Matter (PM₁₀)^a				
	National maximum 24-hour concentration ($\mu\text{g}/\text{m}^3$)	69.4	81.9	75.6
	State maximum 24-hour concentration ($\mu\text{g}/\text{m}^3$)	70.2	80.3	72.1
	National annual average concentration ($\mu\text{g}/\text{m}^3$)	32.9	32.6	33.4
	State annual average concentration ($\mu\text{g}/\text{m}^3$)	*	*	33.5
Number of days standard exceeded				
	NAAQS 24-hour ($>150 \mu\text{g}/\text{m}^3$)	0	0	0
	CAAQS 24-hour ($>50 \mu\text{g}/\text{m}^3$)	*	*	6
Particulate Matter (PM_{2.5})^a				
	National maximum 24-hour concentration ($\mu\text{g}/\text{m}^3$)	19.9	54.4	26.4
	State maximum 24-hour concentration ($\mu\text{g}/\text{m}^3$)	19.9	54.4	26.4
	National annual average concentration ($\mu\text{g}/\text{m}^3$)	6.5	7.5	7.5
	State annual average concentration ($\mu\text{g}/\text{m}^3$)	6.6	7.5	*
Number of days standard exceeded				
	NAAQS 24-hour ($>35 \mu\text{g}/\text{m}^3$)	0	2	0
ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter ^a State and national statistics may differ for the following reasons: State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State statistics are based on local conditions, while national statistics are based on standard conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria. * Insufficient or no available data available. Source: CARB 2014c				

4.3.3 Significance Criteria

The thresholds for significance of impacts for the analysis are based on the environmental checklist in Appendix G of the State California Environmental Quality Act (CEQA) Guidelines. Consistent with the CEQA Guidelines and the professional judgment of the County's staff and environmental consultants, the proposed Project would result in a significant impact on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutants concentrations
- Create objectionable odors affecting a substantial number of people

4.3.4 Impacts and Mitigation

AQ-1: Conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard, or result in a cumulatively considerable net increase of any criteria pollutant

Construction

As described in Section 4.3.1 above, the SSAB is currently designated as a nonattainment area for the NAAQS and CAAQS for 8-hour ozone and PM₁₀. Additionally, a portion of Imperial County is designated as a nonattainment area for the NAAQS for PM_{2.5}. Furthermore, ambient air concentrations of ozone at the El Centro monitoring station have exceeded the NAAQS and CAAQS every year, while concentrations of PM₁₀ and PM_{2.5} have exceeded the CAAQS and NAAQS at least once in the past three years. Construction of renewable energy facilities associated with the proposed Project would generate emissions of PM₁₀, PM_{2.5} and ozone which would contribute to the existing designations of nonattainment for these pollutants. Furthermore, construction of renewable energy facilities would result in emissions of other criteria pollutants that could change their attainment status within Imperial County. Emissions of these criteria pollutants would result from site preparation activities, site grading, vehicles driving on unpaved surfaces and roadways, exhaust from vehicles transporting construction materials and personnel, and emissions from heavy-duty construction equipment. Construction emissions would vary based on the number and types of heavy-duty vehicles and equipment in use, the intensity of construction activities, the number of construction personnel involved, and the length of time over which these construction activities would occur. Additionally, the potential for construction to exacerbate existing nonattainment designations within Imperial County would increase with the greater level of intensity of each of these factors. The types of emissions would be similar for construction of each renewable energy technology. The level of emissions would vary on a "project-by-project" basis based on the characteristics of individual projects.

Although it is anticipated that construction of renewable energy facilities may exacerbate existing nonattainment designations, estimates of future criteria pollutant emissions for comparison to ICAPCD

standards cannot be calculated at this time. The proposed Project would be implemented on a “project-by-project” basis based on County approval of individual renewable energy projects. Because the proposed Project only identifies locations suitable for renewable energy facilities and does not contain specific development proposals, construction-related emissions that may occur at any one time are speculative and cannot be accurately determined at this stage of the planning process. Consequently, it is not possible to quantitatively analyze whether the proposed Project would violate established ICAPCD standards. Nonetheless, future development of renewable energy facilities in the proposed overlay zones would have the potential to violate established ICAPCD standards and result in a significant impact.

Operation

Operation of renewable energy facilities associated with the proposed Project would generate emissions that could exacerbate existing nonattainment designations and or change the attainment status of other criteria pollutants in Imperial County. Vehicle and equipment use during operation and maintenance activities would emit criteria pollutants. Potential impacts associated with these activities could be exacerbated if they occurred on unpaved surfaces because they could also generate dust. Furthermore, operation of renewable energy facilities may require installation and use of new stationary or portable equipment whose emissions could exacerbate existing nonattainment designations and or change the attainment status of other criteria pollutants. Operation of solar energy facilities would require natural gas combustion for auxiliary heating and stationary boilers or combustion turbines that may emit hazardous or toxic air pollutants. Similarly, operation of geothermal energy facilities may contribute to existing nonattainment designations by releasing geothermal steam containing hazardous or toxic air pollutants and aerosols and particles dissolved in the steam or cooling water. Backup power generators and water-pumping engines for fire suppression that may be included under all types of renewable energy facilities could also contribute to existing nonattainment designations by emitting diesel or natural gas combustion by-products, including hazardous or toxic air pollutants that could increase air pollutant concentrations.

As described under the analysis for construction impacts, the proposed Project would be implemented on a “project-by-project” basis based on County approval of individual renewable energy projects. Consequently, estimates of future criteria pollutant emitted during project operation for comparison to ICAPCD standards cannot be calculated at this time. Nonetheless, future operation of renewable energy facilities in the proposed overlay zones would have the potential to violate established ICAPCD standards and result in a significant impact.

Mitigation Measures

AQ-1a: Prior to commencing construction, each project proponent shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM₁₀ emissions and associated mitigation measures during the construction and operational phases of their future renewable energy 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-percent 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 5 percent or greater silt content.

- All onsite and offsite 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 1.0 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 6 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.

AQ-1b: Each project proponent shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NO_x emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

- Use alternative-fueled or catalyst-equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimize idling time, either by shutting equipment 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).

AQ-1c: Each project proponent shall use all available USEPA Tier 3 or better construction equipment.

AQ-1d: Consistent with the requirements of ICAPCD Policy 5, each project proponent shall pay an emission mitigation fee sufficient to offset the amount by which the project's NO_x emissions exceed the 100 pounds per 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, allowing ICAPCD to calculate the fee. Prior to any earthmoving activity, each project proponent 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.

AQ-1e: Future renewable energy facilities that utilize combustion sources during operation would be required to obtain a "Permit to Operate" from ICAPCD. Future project proponents would be required to demonstrate consistency with ICAPCD regulations regarding combustion activities prior to permit approval.

Significance After Mitigation

Implementation of the mitigation measures AQ-1a through AQ-1e would reduce impacts to a level less than significant.

AQ-2: Expose sensitive receptors to substantial pollutants concentrations

Construction

Construction of renewable energy facilities associated with the proposed Project would generate emissions that could expose sensitive receptors to substantial pollutants concentrations. Site preparation activities, site grading, vehicles driving on unpaved surfaces and roadways, exhaust from vehicles transporting construction materials and personnel, and emissions from heavy-duty construction equipment could emit pollutants that could be harmful to sensitive receptors. The concentrations of these pollutants would vary based on the level of intensity of each component of construction. The types of emissions would be similar for construction of each renewable energy technology. The level of emissions would vary on a "project-by-project" basis based on the characteristics of individual projects.

The proposed Project has taken steps to minimize impacts of pollutant concentrations on sensitive receptors by developing a 0.5-mile buffer around all urban areas for the overlay zones. Consequently, all future renewable energy facilities developed under the proposed Project would be located at least 0.5

mile from any urban area within Imperial County, thereby allowing pollutant concentrations to dissipate between the construction site and boundary of the urban area. Although this would minimize exposure of sensitive receptors within urban areas to substantial pollutant concentrations, heavy construction activities may still develop pollutant concentrations with affects beyond 0.5 mile. Furthermore, rural development located within the proposed overlay zone is not subject to a 0.5-mile buffer and may be directly exposed to pollutant concentrations during construction.

As described in the analysis presented in AQ-1, the proposed Project would be implemented on a “project-by-project” basis based on County approval of individual renewable energy projects. Consequently, estimates of future pollutant concentrations emitted during construction cannot be calculated at this time. Nonetheless, future construction of renewable energy facilities in the proposed overlay zones would have the potential to expose sensitive receptors to substantial pollutant concentrations and result in a significant impact. These potential impacts would include disturbing desert soils and generation of PM₁₀ and PM_{2.5} that could irritate existing cases of asthma or result in new cases of Valley Fever.

Operation

Operation of renewable energy facilities associated with the proposed Project would generate emissions that could expose sensitive receptors to substantial pollutant concentrations. Vehicle and equipment exhaust during operation and maintenance activities and dust emissions from activity on unpaved surfaces could generate pollutant concentrations. Similarly, natural gas combustion, stationary boilers or combustion turbines for solar facilities and release of geothermal steam containing hazardous or toxic air pollutants and aerosols and particles dissolved in the steam or cooling water by geothermal facilities could result in pollutant concentrations. As described under the analysis for construction impacts, the proposed Project would be implemented on a “project-by-project” basis based on County approval of individual renewable energy projects. Consequently, estimates of future pollutant concentrations emitted during operation cannot be calculated at this time. Nonetheless, future operation of renewable energy facilities in the proposed overlay zones would have the potential to expose sensitive receptors to substantial pollutant concentrations and result in a significant impact.

Mitigation Measures

Mitigation measures AQ-1a through AQ-1e would also be implemented to reduce impacts associated with exposure of sensitive receptors to pollutant concentrations.

AQ-2a: New stationary air pollution point sources such as, but not limited to, combustion sources, emergency-use engines, geothermal wells or steam vents, and cooling towers shall be located away from residential areas and other air quality–sensitive land uses.

AQ-2b: Depending on the size of individual future renewable energy facilities developed under the proposed Project, a health risk assessment may be required to identify potential impacts and mitigation measures to reduce impacts to a level less than significant.

Significance After Mitigation

Implementation of mitigation measures AQ-1a through AQ-2b would reduce impacts associated with exposure of sensitive receptors to pollutant concentrations to a level less than significant. Implementation of mitigation measure AQ-1a described above would minimize dust generated during

project construction and reduce impacts related to asthma to a level less than significant. The incidence rate of Valley Fever in Imperial County is low (4.8 cases per 100,000 population in 2012), and the County's average annual incidence rate is low as well (1.1 to 2.0 per 100,000 population). Furthermore, none of the documented cases of Valley Fever have been linked to construction of existing renewable energy facilities that were developed in Imperial County. Therefore, the potential for the proposed Project to result in new cases of Valley Fever is very low and would be reduced to a level less than significant through implementation of dust control measures described in mitigation measure AQ-1a. Implementation of mitigation measure AQ-1a combined with the 0.5-mile buffer around all urban areas for the overlay zones would also prevent disproportionate concentrations of low-income and/or minority populations from being exposed to pollutant concentrations or high levels of PM₁₀ and PM_{2.5} during construction and operation of the proposed Project.

AQ-3: Create objectionable odors affecting a substantial number of people

Construction

Construction of renewable energy facilities would result in diesel exhaust and/or application of asphalt pavement that may be considered offensive to some people. The level of odor impact from these sources would vary based on the level of intensity each component of construction and distance of people from the future project site. Potential impacts during construction would be similar for each renewable energy technology. As described in the analysis presented in AQ-1, the proposed Project would be implemented on a "project-by-project" basis based on County approval of individual renewable energy projects. Consequently, potential odor impacts during construction cannot be evaluated at this time. Nonetheless, future construction of renewable energy facilities in the proposed overlay zones would have the potential to expose people to objectionable odors and result in a significant impact.

Operation

It is not anticipated that operation of solar or wind energy facilities would emit objectionable odors; however, operation of geothermal energy facilities associated with the proposed Project would generate odors that may be considered objectionable to people living within a mile of a geothermal project. The level of impact would depend on the intensity of geothermal production at the future facility and the distance of people from the project site. As described in the analysis presented in AQ-1, the proposed Project would be implemented on a "project-by-project" basis based on County approval of individual renewable energy projects. Consequently, potential odor impacts during operation of geothermal energy facilities cannot be evaluated at this time. Nonetheless, future construction of geothermal energy facilities in the proposed overlay zones would have the potential to expose people to objectionable odors and result in a significant impact.

Mitigation Measures

Mitigation measures AQ-1b, AQ-1c, and AQ-2a would also be implemented to reduce impacts associated with objectionable odors.

Significance After Mitigation

Implementation of the mitigation measures AQ-1b, AQ-1c, and AQ-2a would reduce impacts to a level less than significant.

4.3.5 Cumulative Impacts

Implementation of the proposed Project in conjunction with existing, approved, proposed, and reasonably foreseeable projects within the jurisdiction of ICAPCD would have the potential to result in cumulative impacts related to air quality. Although it is not anticipated that a single future renewable energy facility developed under the proposed Project would cause a violation of a federal or State criteria pollutant standard, the potential exists that future facilities in conjunction with existing and future sources of emissions could result in cumulative air quality impacts. As described in Section 4.3.1, the ICAPCD attains and maintains air quality conditions in Imperial County through a comprehensive program of planning, regulation, enforcement, and promotion of the understanding of air quality issues.

As shown in Table 4.3-4 above, ozone concentrations have exceeded the NAAQS and CAAQS in 2010 through 2012. Similarly, concentrations of PM₁₀ exceeded the CAAQS in 2012; and PM_{2.5} exceeded the NAAQS in 2011. Due to these existing violations and the cumulative nature of the NAAQS and CAAQS attainment thresholds, all existing and foreseeable projects within the County may contribute to cumulative effects for air quality.

It is unlikely, however, that the majority of the foreseeable projects within the County would be under construction at the same time as future renewable energy facilities developed under the proposed Project. Furthermore, future renewable energy facilities developed under the proposed Project would occur over a long period of time; and it is unlikely that a large number of future facilities would be developed over time. Due to the long duration that both foreseeable projects within the County and facilities to be developed under the proposed Project would be spread across, it is unlikely that high levels of construction emissions would occur at once. Furthermore, implementation of mitigation measures AQ-1a through AQ-2b described above would mitigate emissions associated with future renewable energy facilities developed under the proposed Project to a level less than significant. Implementation of mitigation measure AQ-1a for future renewable energy facilities and similar mitigation for existing facilities would reduce levels of PM₁₀ generated by operation and maintenance activities on unpaved roads to a level cumulatively less than significant. Therefore, implementation of the proposed Project would not generate cumulatively considerable air quality emissions; and cumulative impacts would be less than significant.

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