

## 4.4 Air Quality

This section describes effects on air quality that would be caused by the implementation of the proposed Project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts for the proposed Project, and recommends measures to reduce or avoid adverse impacts anticipated from Project construction, and Project operation and maintenance. In addition, existing laws and regulations relevant to air quality are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that would occur with the implementation of the Project. The analysis of the impacts from the Project's direct and indirect greenhouse gas emissions is provided separately in Section 4.10, *Greenhouse Gas Emissions*.

The following discussion addresses existing environmental conditions that affect air quality in the affected area, addresses the applicable air quality regulations, and identifies and analyzes environmental impacts for the proposed Project's construction and operation. For this Supplemental Environmental Impact Report (SEIR), the discussion of the environmental conditions and applicable regulations focus on the changes that have occurred since the Lompoc Wind Energy Project (LWEP) EIR was approved in 2009.

### 4.4.1 Environmental Setting

The Strauss Wind Energy Project (SWEP) is located in southwestern Santa Barbara County, in the South Central Coast Air Basin, under the jurisdiction of the Santa Barbara County Air Pollution Control District (APCD). The South Central Coast Air Basin also includes the neighboring San Luis Obispo and Ventura County local air districts. These local air districts oversee programs to improve air quality in the region.

#### 4.4.1.1 Physical Setting

The environmental setting has not changed much since the LWEP EIR; however, there have been changes to the ambient air quality standards, applicable rules and regulations, and one minor change to the site area's ambient air quality standards attainment status.

#### Regional Meteorology and Climate

The basic physical characteristics of the Project site, including the climatic and meteorological conditions have not changed since the publication of the LWEP Final EIR. Please see Section 3.4.1.1 of the LWEP Final EIR for this description.

#### Pollutants Subject to Air Quality Management

Table 4.4-1 provides a list of the current and Project-relevant criteria air pollutant national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) showing the changes in the standards since the publication of the LWEP EIR.

**Table 4.4-1. National and California Ambient Air Quality Standards and Relevant Health Effects**

Pollutant	Averaging Time	California Standards	National Standards	Relevant Health Effects
Ozone	1-hour	0.09 ppm	—	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage.
	8-hour	0.070 ppm	<b>0.070 ppm</b>	
Respirable Particulate Matter (PM10)	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children.
	Annual Mean	20 µg/m <sup>3</sup>	—	
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m <sup>3</sup>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease, elderly, and children.
	Annual Mean	12 µg/m <sup>3</sup>	<b>12.0 µg/m<sup>3</sup></b>	
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.
	8-hour	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO <sub>2</sub> )	1-hour	<b>0.18 ppm</b>	<b>0.100 ppm</b>	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration.
	Annual Mean	<b>0.030 ppm</b>	0.053 ppm	
Sulfur Dioxide (SO <sub>2</sub> )	1-hour	0.25 ppm	<b>0.075 ppm</b>	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
	24-hour	0.04 ppm	<del>0.14 ppm</del>	
	Annual Mean	—	<del>0.03 ppm</del>	

Notes: ppm=parts per million; µg/m<sup>3</sup>= micrograms per cubic meter; “—” = no standard.

Source: ARB, 2016. Ambient Air Quality Standards Chart. <http://www.arb.ca.gov/research/aags/aags2.pdf>.

Standards that are new or revised after the LWEP EIR are shown in **bold**, standards that have been revoked since the LWEP EIR are shown with ~~strikeout~~.

**Criteria Air Pollutants.** Criteria air pollutants are also categorized as inert or photo-chemically reactive, depending on their subsequent behavior in the atmosphere. By definition, inert pollutants are relatively stable, and their chemical composition remains stable as they move and diffuse through the atmosphere. The photochemical pollutants may react to form secondary pollutants. For these pollutants, adverse health effects may be caused directly by the emitted pollutant or by the secondary pollutants created by atmospheric reactions. The reactive pollutants of primary concern are the ozone precursors, ozone, and the precursors to particulate matter.

## Toxic Air Contaminant (TACs)

TACs are chemicals or substances that are known or suspected to cause cancer, genetic mutations, birth defects, or other serious illnesses in humans. TACs may be emitted from three main source categories: (1) industrial facilities, (2) internal combustion engines (stationary and mobile), and (3) small “area sources” (such as solvent use). The ARB publishes lists of Volatile Organic Compound Species Profiles for many industrial applications and substances, some of which are classified as TACs. This Project’s TAC emissions are primarily in the form of diesel particulate matter (DPM) from the construction period’s off-road equipment and heavy on-road truck use. Operations would have minimal TAC emissions.

The Project site is located closely to an area of mapped ultramafic rock, which are designated by the State of California Department of Conservation, Division of Mines and Geology as areas more likely to contain naturally occurring asbestos (DOC, 2000). However, the geotechnical report did not find any of this ultramafic rock in areas that the Project would disturb, and it is believed this ultramafic rock occurrence, which may or may not contain naturally occurring asbestos, is located to the northwest of the Project site.

## Odorous Compounds

Odorous compounds can come from a number of types of sources, including: naturally occurring decomposition products or geogenic sources (hot springs vents); agricultural sources such as feedlots and certain crop fields; industrial processes or products such as rendering plants, waste water treatment plants, painting/solvent use, and reduced sulfur compounds from oil and gas production activities. The proposed Project would not have substantial emissions of odorous compounds; essentially none during operation and during construction the most notable odorous compound would be asphalt used to pave roads.

## Local Ambient Air Quality and Attainment Status

The U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and local air districts work together to classify local areas in California as in attainment, unclassified, or nonattainment. The classification depends on whether the monitored ambient air quality data show compliance (attainment), insufficient data available (unclassified), or non-compliance (nonattainment) with the ambient air quality standards. The general air quality attainments status for the Project area has not changed since the LWEP EIR, with the area being designated as attainment or unclassified for all NAAQS and designated as non-attainment of the ozone and PM10 CAAQS, and in attainment or unclassified for all other CAAQS. However, the state non-attainment designation level for ozone has been upgraded from moderate to transitional nonattainment (SBCAPCD, 2018a).

A review of long-term trends in Lompoc since the year 2000 show that, with known exceptional events excepted, ozone concentrations have had a very slowly decreasing trend or a flat trend, and that PM10 and PM2.5 concentrations have had a relatively flat trend.

The 2004 through 2006 monitoring site ambient air quality data presented in the LWEP EIR is now outdated. Therefore, the most recent local air quality monitoring data is provided below in Table 4.4-2 below.

**Table 4.4-2. Summary of Ambient Air Quality Data, Lompoc Monitoring Station**

Pollutant	Most Restrictive Standard	2015	2016	2017
Ozone (1-hour, ppm)	0.09 (CAAQS)	0.063	0.068	0.063
Ozone (8-hour, ppm)	0.070 (CAAQS)	0.060	0.061	0.056
Ozone (days over the 8-hour State standard)	—	0	0	0
PM10 (24-hour, µg/m <sup>3</sup> )	50 (CAAQS)	52.8	48.0	112.4 <sup>1</sup>
PM10 (annual average, µg/m <sup>3</sup> )	20 (CAAQS)	21.4	20.0	23.6 <sup>1</sup>
PM10 (days over the 24-hour State standard)	—	1	0	15 <sup>1</sup>
PM2.5 (24-hour, µg/m <sup>3</sup> )	35 (NAAQS)	21.2	30.9	53.4 <sup>1</sup>
PM2.5 (annual average, µg/m <sup>3</sup> )	12 (CAAQS)	7.0	7.0	—
PM2.5 (days over the 24-hour federal standard)	—	0	0	4
NO <sub>2</sub> (1-hour, ppm)	0.100 (NAAQS)	0.025	0.024	0.027
NO <sub>2</sub> (annual average, ppm)	0.030 (CAAQS)	0.004	0.003	0.004

Notes: ppm=parts per million; µg/m<sup>3</sup>= micrograms per cubic meter; “—” =not applicable or not available.

Source: ARB, 2018a. Air Quality Data Statistics for Lompoc (S. H Street).

<sup>1</sup> – These elevated PM10 and PM2.5 concentrations are exceptional events that occurred in December during a period with large active wildfires, such as the Thomas Fire, or were highly influenced by the high concentrations that occurred during these wildfires, and do not represent normal conditions.

The monitoring data shows that the Lompoc area, not including the wildfire-related particulate monitoring results for 2017, continues to have exceedances of the State PM10 standard, but the Lompoc area did not have any other AAQS exceedances indicated in the available 2015 to 2017 monitoring data.

#### 4.4.1.2 County Criteria Pollutant Emission Inventory

The Santa Barbara County emissions inventory estimated by CARB for 2017 is shown in Table 4.4-3.

Emissions of criteria air pollutants are inventoried by CARB into four main sources: stationary, areawide, mobile, and natural with subcategories under each. The inventory provided in Table 4.4-2 shows that natural sources (composed of biogenic sources, geogenic sources, and wildfires) emit substantial percentages of the county-wide emissions for all pollutants except NO<sub>x</sub> and SO<sub>x</sub>. Otherwise, there are no singularly dominating emissions sources beside the NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions from the other mobile sources category that are primarily from ocean-going vessels. Construction emissions are not separately inventoried but are rather included in several of the areawide and mobile source subcategories.

**Table 4.4-3. Santa Barbara County Emissions Estimate for 2017 (tons per year)**

Source Category	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	SO <sub>x</sub>
<b>Stationary Sources</b>						
Fuel Combustion	351	120	120	119	2,810	162
Waste Disposal	32	5	5	4	19	1
Cleaning and Surface Coatings	--	2,187	--	--	--	--
Petroleum Production and Marketing	29	1,272	9	9	112	95
Industrial Processes	60	86	262	47	106	130
— Total Stationary Sources	<b>1,866</b>	<b>3,929</b>	<b>396</b>	<b>179</b>	<b>3,047</b>	<b>389</b>
<b>Areawide Sources</b>						
Solvent Evaporation	--	2,646	--	--	--	--
Miscellaneous Processes	310	690	4,179	868	2,658	12
— Total Areawide Sources	<b>310</b>	<b>3,336</b>	<b>4,179</b>	<b>868</b>	<b>2,658</b>	<b>12</b>
<b>Mobile Sources</b>						
On-Road Motor Vehicles	2,236	1,128	219	102	8,523	15
Other Mobile Sources	20,827	1,914	266	241	14,785	416
— Total Mobile Sources	<b>23,063</b>	<b>3,042</b>	<b>485</b>	<b>343</b>	<b>23,309</b>	<b>432</b>
<b>Total Anthropogenic Sources</b>	<b>25,238</b>	<b>10,307</b>	<b>5,060</b>	<b>1,389</b>	<b>29,014</b>	<b>832</b>
<b>Natural Sources</b>						
— Total Natural Sources	<b>148</b>	<b>31,437</b>	<b>1,524</b>	<b>1,292</b>	<b>15,913</b>	<b>97</b>
<b>Grand Total for Santa Barbara County</b>	<b>25,386</b>	<b>41,744</b>	<b>6,584</b>	<b>2,682</b>	<b>44,927</b>	<b>929</b>

Note: NO<sub>x</sub> – Nitrogen Oxides (NO<sub>2</sub> and NO<sub>2</sub> precursor, ozone precursor, and PM10/PM2.5 precursor), ROG – Reactive Organic Gases (ozone precursor), PM10 – respirable particulate matter, PM2.5 – fine particulate matter, CO – Carbon monoxide, SO<sub>x</sub> – Sulfur oxides (SO<sub>2</sub> and PM10/PM2.5 precursor).

Source: ARB, 2018b. California Emissions Projection Analysis Model - CEPAM: 2016 – Standard Emission Tool Projections. Includes ocean going vessel emissions out to 24 nautical miles.

## 4.4.2 Regulatory Setting

The regulatory structure for air quality planning in California includes federal, state, regional, and local agencies. These agencies either have actual regulatory authority or are responsible for the development and implementation of programs and plans designed to reduce air pollution levels. The regulatory setting has not changed substantially since the LWEP EIR. The following summarizes what remains the same and provides any new regulatory information that is applicable to the Project.

### 4.4.2.1 Federal

Other than the noted changes to the NAAQS discussed above there have been no substantial changes to federal regulations that would affect the Project. Please see federal regulatory discussion in Section 3.4.2.1 of the LWEP EIR.

### 4.4.2.2 State

As noted above there have been revisions to the state NO<sub>2</sub> ambient air quality standards. However, other than that there have limited revisions or additions to State air quality regulations that would directly affect the Project. There are a number of new and updated state regulations that impact, and

are reducing, the tailpipe emissions from on-road vehicles and off-road equipment use. However, with a few exceptions these regulations would not directly regulate the construction or operations of the proposed Project. The one updated State regulation that may be directly applicable to Project construction and operation is listed below.

### **CARB Portable Equipment Registration Program (PERP)**

The Portable Equipment Registration Program allows owners or operators of portable engines and associated equipment commonly used for construction or farming to register their units under a statewide portable program that allows them to operate their equipment throughout California without having to obtain individual permits from local air districts. In order to qualify for this statewide registration program specific engine emissions standards (aka engine Tier standards) must be met. This program has been updated since 2009 to remove all Tier 0 engines and require that all newly registered engines under the PERP program be Tier 4, full Tier 4 for all engines 750 horsepower and lower and interim Tier 4 for all engines above 750 horsepower. This program also serves as the mechanism that administers the CARB Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower or Greater.

#### **4.4.2.2 Local**

##### **Santa Barbara County Air Pollution Control District**

The SBCAPCD has local jurisdiction for air pollution control. The SBCAPCD has completed three State ozone attainment plan revisions; 2010 Clean Air Plan, 2013 Clean Air Plan, and 2016 Ozone Plan since the certification of the LWEP EIR in 2009 (SBCAPCD, 2018b). However, these ozone attainment plans do not include control measures that would be applicable to the Project.

There have been limited revisions or additions to the SBCAPCD air quality regulations since 2009 that would directly affect the Project (SBCAPCD, 2018c). The following applicable regulation was promulgated after certification of the LWEP EIR:

##### ***Rule 345 – Control of Fugitive Dust from Construction and Demolition Activities***

This regulation's applicable requirements and performance standards are:

- Visible dust limitations
- Truck hauling bulk material control measure requirements for off-site hauling
- Track-out/Carry-out control measure requirements

The Project will be required to comply with dust control measures and performance standards included in this rule.

SBCAPCD updated its two CEQA guideline documents since the LWEP was approved<sup>1</sup>. The current relevant operations and construction significance criteria recommendations and their recommended construction emissions mitigation measures are as follows:

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<sup>1</sup> These guidelines are the 2015 update of the *Environmental Review Guidelines for the Santa Barbara County Air Pollution Control District* (SBCAPCD, 2015) and the 2017 update of the *Scope and Content in Air Quality Sections in Environmental Documents* (SBCAPCD, 2017).

Significance Criteria:

*A proposed project will not have a significant impact on air quality, either individually or cumulatively, if operation of the project will:*

- *emit (from all project sources, both stationary and mobile) less than the daily trigger for offsets or Air Quality Impact Analysis set in the APCD New Source Review Rule, for any pollutant (i.e., 240 pounds/day for ROC or NO<sub>x</sub>; and 80 lbs/day for PM<sub>10</sub><sup>2</sup>). There is no daily operational threshold for CO; it is an attainment pollutant); and*
- *emit less than 25 pounds per day of NO<sub>x</sub> or ROC from motor vehicle trips only; and*
- *not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and*
- *not exceed the APCD health risk public notification thresholds adopted by the APCD Board (10 excess cancer cases in a million for cancer risk and a Hazard Index of more than one (1.0) for non-cancer risk; and*
- *be consistent with the latest adopted federal and state air quality plans for Santa Barbara County.*

Additionally, the District's Scope and Content guideline document notes:

*The District does not currently have quantitative thresholds of significance in place for short-term or construction emissions; however, the APCD uses 25 tons per year for ROC or NO<sub>x</sub> as a guideline for determining the significance of construction impacts.*

Construction Mitigation Measures:

The recommended construction mitigation measures are separated into PM<sub>10</sub> mitigation measures (fugitive dust control measures) and equipment exhaust mitigation measures.

**Construction PM<sub>10</sub> Mitigation Measures**

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.

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<sup>2</sup> These significance triggers are based on the APCD's NSR regulation approved at the time the guidelines were originally approved (1995 version of the NSR rule), which had offset thresholds of 240 pounds per day for NO<sub>x</sub> and VOC and 80 pounds per day for PM<sub>10</sub>.

- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

***Construction equipment exhaust mitigation measures:***

The following measures are required by state law:

- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-Road Diesel Vehicles (Title 13, California Code of Regulations (CCR), §2449), the purpose of which is to reduce oxides of nitrogen (NOx), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. Off-road heavy-duty trucks shall comply with the State Off-Road Regulation. For more information, see: [www.arb.ca.gov/msprog/ordiesel/ordiesel.htm](http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm).
- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use (On-Road) Heavy-Duty Diesel-Fueled Vehicles (Title 13, CCR, §2025), the purpose of which is to reduce DPM, NOx and other criteria pollutants from in-use (on-road) diesel-fueled vehicles. On-road heavy-duty trucks shall comply with the State On-Road Regulation. For more information, see: [www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm](http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm).
- All commercial off-road and on-road diesel vehicles are subject, respectively, to Title 13, CCR, §2449(d)(3) and §2485, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

The following measures are recommended by SBCAPCD:

- Diesel equipment meeting the CARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.
- On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible.
- Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on site where feasible.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.

- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch on site.

## Santa Barbara County

### *Environmental Thresholds and Guidelines Manual*

The County has updated their Environmental Thresholds and Guidelines Manual (County of Santa Barbara, 2018) twice since the LWEP was approved, most recently in February 2018. The County's current air quality quantitative significance thresholds are as follows:

- a. **Ozone Precursors (NO<sub>x</sub> and ROC).** A proposed project will not have a significant air quality effect on the environment, if:

Operation of the project will:

- emit (from all project sources,<sup>3</sup> mobile and stationary), less than the daily trigger for offsets set in the APCD New Source Review Rule, for any pollutant; and
  - emit less than 25 pounds per day of oxides of nitrogen (NO<sub>x</sub>) or reactive organic compounds (ROC) from motor vehicle trips only; and
  - not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and
  - not exceed the APCD health risk public notification thresholds adopted by the APCD Board; and
  - be consistent with the adopted federal and state Air Quality Plans.
- b. **Carbon Monoxide (CO).** A project will have a significant air quality impact if it causes, by adding to the existing background CO levels, a carbon monoxide "hot spot" where the California one-hour standard of 20 parts per million carbon monoxide is exceeded. This typically occurs at severely congested intersections.

#### **Project Screening for CO Impacts:**

- 1) If a project contributes less than 800 peak-hour trips, then CO modeling is not required.
- 2) Projects contributing more than 800 peak-hour trips to an existing congested intersection at level of service (LOS) D or below, or will cause an intersection to reach LOS D or below, may be required to model for CO impacts. However, projects that will incorporate intersection modifications to ease traffic congestion, are not required to perform modeling to determine potential CO impacts.

The proposed Project's traffic is below the screening levels for CO Impacts, so no additional CO "hot spot" impact assessment is necessary.

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<sup>3</sup> Portable equipment registered under and in compliance with the ARB PERP shall not be included as part of a proposed Project's emission total for comparison with these thresholds.

The County does not have approved significance thresholds for construction emissions. However, the County does have a requirement for construction projects to provide a construction dust control plan with control measures to reduce fugitive dust (PM10 and PM2.5) emissions.

#### ***Comprehensive Plan – Land Use Element, Air Quality Supplement***

The County's Comprehensive Plan includes an Air Quality Supplement in the Land Use Element (County of Santa Barbara, 2009). This supplement was adopted in 1981 and republished in 2009. This supplement primarily addresses land use control measures related to population growth, residential development, and related transportation effects on air quality; as well as integrating long-range planning and project approval with air quality planning requirements. There are no goals, policies, or measures in the air quality supplement that directly relate to the construction and operation of a utility scale renewable energy power plant.

Please also see the local regulatory discussion in Section 3.4.2.3 of the LWEP EIR.

### **4.4.3 Significance Thresholds**

Project construction, although limited in duration, will produce substantial amounts of criteria pollutants, most notably NO<sub>x</sub> emissions from off-road equipment and on-road vehicles and PM10 from fugitive dust emissions sources, such as, unpaved vehicle travel and various earth-moving activities (scraping, dozing, excavating, grading, loading and unloading).

Project operations would produce small amounts of criteria pollutants from Project off-road equipment and from worker on-road vehicle emissions. The Santa Barbara County Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2018) defines separate significance thresholds for operation activities and construction activities as described below.

#### **4.4.3.1 County Thresholds for Construction Air Pollutants**

Emissions from construction activities are normally short term in nature. Currently, the County does not have emission thresholds established for short-term construction emissions. PM10 impacts from dust emissions should be discussed and standard mitigation measures implemented (e.g., watering) as required in the Scope and Content of Air Quality Sections in Environmental Documents (SBCAPCD, 2017) and the County Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2018). However, SBCAPCD notes the following regarding construction impacts assessment in its most recent Scope and Content guidance document:

*The District does not currently have quantitative thresholds of significance in place for short-term or construction emissions; however, the APCD uses 25 tons per year for ROC or NO<sub>x</sub> as a guideline for determining the significance of construction impacts.*

The County recommends use of this annual emissions threshold for all criteria pollutants, except CO (i.e. NO<sub>x</sub>, ROC, SO<sub>x</sub>, PM10 and PM2.5).

#### **4.4.3.2 County Thresholds for Operation Air Pollutants**

A project would not have a significant air quality effect on the environment if operation of the project would:

- Emit (from all project sources, mobile and stationary) less than the daily triggers of 55 pounds/day for ROC or NOx; and 80 lbs/day for PM10 Because PM10 includes PM2.5, emissions of PM2.5 are presumed to be subject to the PM10 threshold;
- Emit less than 25 pounds per day of NOx or ROC from motor vehicle trips only;
- Not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone);
- Not allow land uses that create objectionable odors or does not expose sensitive receptors to objectionable odors;
- Not exceed the APCD health risk public notification thresholds adopted by the APCD Board for air toxics; and
- Be consistent with the adopted federal and state Air Quality Plans.

The daily and annual trigger noted in the first bullet above have been revised, and are higher than those used in the LWEP, to reflect the changes in the referenced SBCAPCD New Source Review (NSR) rule offset triggers that form the basis for the County approved emissions significance thresholds.

#### 4.4.4 Environmental Impacts and Mitigation Measures

Table 4.4-4 below lists the impacts and mitigation measures identified for air quality in the LWEP Final EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

**Table 4.4-4. LWEP Impacts and Mitigation Measures – Air Quality**

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
AQ-1	<b>Short-term Construction NOx and ROC.</b> Exhaust emissions from construction equipment would result in short-term emissions of NOx and ROC.	None.	<u>Analysis and mitigation measures that were was included in Impacts AQ-1 and AQ-2 combined into revised Impact AQ-1 – Short-Term Construction Emissions.</u> <u>Updated MM AQ-1 to match SBCAPCD Tier 3 engine mitigation recommendation that is needed to ensure that the construction NOx emissions are below the significance threshold.</u>
AQ-2	<b>Short-term Construction PM10 Emissions.</b> Particulate matter emissions during construction would result from soil disturbance, travel on unpaved roads, mobile source exhaust emissions, and concrete batch plants.	AQ-1: Construction Equipment Emission Reduction Plan AQ-2: Dust Control Plan  <u>(Note: these mitigation measures have been moved to SWEP Impact AQ-1 – Short-Term Construction Emissions)</u>	Analysis that was included in Impacts AQ-1 and AQ-2 combined into revised impact Statement AQ-1.  <u>Updated MM AQ-1 to match SBCAPCD Tier 3 engine mitigation recommendation that is needed to ensure that the construction NOx emissions are below the significance threshold.</u>

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Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
AQ-3	<b>Long-term Emissions.</b> Exhaust emissions from workers driving on site and a forklift would result in long-term emissions of NOx and ROC. Fugitive dust emissions from workers driving on unpaved roads would result in long-term emissions of PM10.	None.	This impact has been revised and is now Impact AQ-2. No other changes are recommended.

The air quality impacts of the proposed SWEP are discussed below.

### Consistency with Plans

As discussed in the LWEP EIR, the proposed Project would be consistent with the SBCAPCD Clean Air Plan. The Project would generate electricity with minimal impacts to air quality, would be in compliance with Attainment Plan emissions control measures, and would not affect population growth or substantially add to the regional vehicle miles traveled.

### Sensitive Receptor Impacts

The proposed Project site is not located near any schools or other sensitive receptors. While there will be substantial short-term construction emissions, the distance from sensitive receptors is substantial. The main Project construction areas are located more than three miles from any schools and the transmission construction is located more than three quarters of a mile from the nearest school. Residences are located adjacent to the San Miguelito Road improvement construction areas and some of the transmission line construction areas, but these construction activities will be limited in duration and in emissions impacts.

The operation emissions would be minimal and would not create significant impacts to sensitive receptors. The combination of the construction and operation TAC emissions, due to distance to receptors and duration of the higher construction emissions, would have minimal health impacts.

### Odor Impacts

The proposed Project's construction and operation would not involve emissions of significantly malodorous substances. The primary emissions sources are diesel and gasoline engine exhausts and fugitive dust which have limited odor impacts. Construction would include asphalt road paving operations on San Miguelito Road, but road paving odors are not unusual or highly objectionable.

### Short-term Construction Emissions

Impacts AQ-1 and AQ-2 from the LWEP EIR, which both address short-term air pollutant emissions during construction, have been combined into a single impact discussion for the SWEP.

**AQ-1 Short-Term Construction Emissions.** Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

The proposed Project’s construction emissions have been estimated using the SBCAPCD-approved CalEEMod emissions estimating model, and additional calculations to address emissions not covered in the CalEEMod program. The Applicant provided initial CalEEMod inputs and separate emissions calculations. The County has reviewed, revised as necessary, and approved the CalEEMod model inputs and additional emissions calculations and resulting construction emissions estimates. Please see Appendix B, which includes a list of the emission estimate additions and revisions that were performed, for the construction emissions estimate details. Table 4.4-5 provides the unmitigated construction emissions estimate.

**Table 4.4-5. Unmitigated Construction Emissions (tons per year)**

	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	SO <sub>x</sub>
Total Emissions	26.80	9.58 <del>8.83</del>	85.87	9.94	15.07	0.28
Significance Thresholds	25	25	25	25	-	25
Significant?	Yes	No	Yes	No	NA	No

Source: Appendix B

Table 4.4-5 indicates that the unmitigated construction NO<sub>x</sub> and PM10 emissions would exceed the significance thresholds. The LWEP has two approved mitigation measures (MMs), MM AQ-1 that would reduce NO<sub>x</sub> emissions and MM AQ-2 that would require fugitive dust controls and a Dust Control Plan per County requirements. These two measures have been updated for SWEP to reflect the changes in the recommendations or requirements of these measures since the approval of the LWEP.

**Mitigation Measures**

The changes in MM AQ-1 (below) include removing the idling restriction item due to it being a regulation. Other noted emissions reduction regulations in the SBCAPCD guideline document that will be complied with during construction, and that are not necessary to be included in a mitigation measure are the PERP or local air district permitting requirements for portable equipment, and the fleet owner regulatory requirements for owners of mobile off-road construction equipment and on-road vehicles.

**MM AQ-1 Construction Equipment Emission Reduction Plan.** A Construction Equipment Emission Reduction Plan shall be prepared by the Applicant that contains the following elements.

- a. **Off-Road Engine Tier** – Diesel equipment shall be powered with engines certified to comply with Tier 3 or better standards, as defined in the California Emission Standards for Off-Road Compression-Ignition Engines in California Code of Regulations (CCR) Title 13, Division 3, Chapter 9, Article 4, Section 2423, or newer or more stringent emissions performance standards.
- b. **On-Road Heavy Truck Age** – On-road heavy-duty equipment with model year 2010 engines or newer shall be used.

- c. **Equipment Replacement** – Diesel-powered equipment will be replaced by electric equipment whenever feasible.
- d. **Alternative Fuel Vehicles** – Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on-site where feasible.
- e. **Catalytic Converters** – Ensure that catalytic converters are installed on all gasoline- powered equipment, if feasible.
- f. **Engine Maintenance** – Maintain engines and emission systems in proper operating condition.
- g. **Engine Size** – The engine size of construction equipment will be the minimum practical size.
- h. **Number of Equipment** – The number of construction equipment operating simultaneously will be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- i. **Worker Trips** – Construction worker trips will be minimized by requiring carpooling and by providing for lunch on site.

**Plan Requirements.** All requirements shall be shown on grading and building plans prior to the issuance of zoning clearance for ~~the first phase of construction and prior to issuance of zoning clearance for subsequent Project phases.~~

**Timing.** County staff will ensure measures are included in the Construction Equipment Emission Reduction Plan. A Construction Equipment Emission Reduction Plan shall be prepared prior to zoning clearance.

**Monitoring.** Condition will be enforced throughout all construction periods. County staff shall perform periodic site inspections of construction contractor maintenance activities.

The changes to MM AQ-2 provide more specificity on the mitigation requirements, add requirements for monitoring personnel, add track-out controls, ~~and add the Applicant's proposal to gravel or pave all onsite Wind Turbine Generator (WTG) access roads.~~

**MM AQ-2 Dust Control Plan.** A Dust Control Plan shall be prepared by the Applicant that contains the following elements.

- a. **Water Application** – Apply water sprays to all disturbed active construction areas a minimum of two times per day, except when soil water content would exceed the level recommended by the soils engineers for compaction or when weather conditions warrant a reduction in water application. At a minimum, this should include wetting down active areas in the late morning and after work is completed for the day. Additionally, use adequate dust control to keep fugitive dust from being transmitted outside of the Project site boundary. Perform increased dust control watering when wind speeds exceed 15 miles per hour. The amount of additional watering would depend upon soil moisture content. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- b. **Soil Stabilization** – Minimize the amount of disturbed area and stabilize any disturbed area that would not be covered with base or paving within 14 days after completion of disturbing activities by use of soil coating mulch, non-toxic dust palliatives, compaction, reseeding, or other approved methods. Soil stockpiled for more than 2 days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting soil or other fine bulk materials will be covered in transit.
- c. **Construction Monitoring** – The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off site. Their duties will include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.
- d. **Limit Traffic Speed** – Reduce traffic speeds on all unpaved roads to 15 miles per hour or less.
- e. **Track-out Controls** – Gravel pads or other wheel washing controls will be installed at all access points to prevent tracking of mud onto public roads. If any mud or soil is tracked onto the pavement of the road, it shall be removed from the pavement as soon as possible but no later than one hour after it has been deposited on the paved road.
- f. **On-site Access Road Treatment** – The on-site WTG access road segments to each WTG that will be paved shall be ~~graveled~~ or paved prior to beginning installation of that WTG and the associated collection system.

**Plan Requirements.** All requirements shall be shown on grading and building plans prior to the issuance of zoning clearance, including roads segments to be gravelled or paved.

**Timing.** Condition will be enforced throughout all construction periods.

**Monitoring.** County staff will ensure measures are included in the Dust Control Plan and shall perform periodic site inspections to ensure compliance.

The mitigated construction emissions estimate, also completed using the CalEEMod program and additional separate calculations provided in Appendix B, is shown in Table 4.4-6.

**Table 4.4-6. Mitigated Construction Emissions (tons per year)**

	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	SO <sub>x</sub>
Total Emissions	20.33	8.48	22.11	3.07	18.53	0.28
Significance Thresholds	25	25	25	25	-	25
Significant?	No	No	No	No	NA	No

Source: Appendix B

As Table 4.4-6 indicates the NO<sub>x</sub> and PM10 emissions after implementation of MMs AQ-1 and AQ-2 are below the significance thresholds, so the construction emissions impacts would not be significant after mitigation (Class II).

The proposed SWEP has an anticipated Project life of 30 years. At the end of the Project’s useful life, it could be repowered, renovated, upgraded, or decommissioned. The air pollutant emission impacts of these activities would be similar to, although likely smaller than, Project construction. In particular, the

tailpipe emissions from off-road equipment and on-road vehicles used after the 30-year Project life would be expected to be cleaner than those from currently available equipment and vehicles. Given the fact that similar MMs, if necessary for off-road and on-road engines and for fugitive dust control, would be required during any type of major post-Project-life activity, decommissioning or other events that could occur at the end of the Project life would have similar impacts to Project construction (Class II).

**AQ-2 Long-term Operation Emissions.** Operation emissions could result in an increase of pollutants that could violate air quality standards or contribute substantially to an existing or projected air quality violation.

The operation emissions were calculated by the Applicant using CalEEMod and the model input assumptions were reviewed, amended as necessary, and approved by the County. Please see Appendix B, which includes a list of the emission estimate additions and revisions that were performed, for the construction emissions estimate details. The operation emissions consist of employee commute trips, off-road equipment use for Project operations and road maintenance, on-site WTG maintenance and inspection trips, and area emissions (such as consumer goods ROG emissions). Table 4.4-7 provides the maximum daily emissions summaries applicable to the County significance thresholds.

**Table 4.4-7. Unmitigated Maximum Daily Operation Emissions (pounds per day)**

	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	SO <sub>x</sub>
Total Daily Emissions	12.57	1.27	<del>63.36</del> 46.07	<del>21.58</del> 7.51	6.86	0.01
Significance Thresholds	55	55	80	80	--	--
Significant?	No	No	No	NA	NA	NA
On-Road Mobile Emissions Only	0.09	0.02	0.08	0.02	0.28	0.00
Significance Thresholds	25	25	-	-	-	-
Significant?	No	No	NA	NA	NA	NA

Source: Appendix B

As shown above in Table 4.4-7 the proposed Project’s estimated normal worst-case daily ongoing operations emissions would be below all of the County significance thresholds, so the proposed Project’s operation emissions impacts would not be significant (Class III).

At the end of the Project’s useful life it could be repowered, renovated or upgraded or decommissioned. The air pollutant emissions from these activities could be similar to the minor operations emissions estimated for the proposed Project if the Project is renovated or repowered, or if the Project is decommissioned then there would be no ongoing operations emissions. Therefore, Project decommissioning or other end of Project life activities would result in less-than-significant operations emissions impacts (Class III).

**4.4.5 Cumulative Effects**

**Geographic Extent/Context**

The geographic area of analysis for cumulative air quality impacts is the South Central Coast air basin, because the vast majority of Project-related and cumulative project emissions would be confined to the region. Cumulative effects may also be experienced within the immediate vicinity of the sources.

Therefore, this analysis focuses on cumulative projects that are shown on Figure 3-1 that are within the immediate area of the proposed Project. Cumulative projects include new or modified projects that are reasonably foreseeable and have the potential to generate substantial air pollutant emissions, above existing baseline conditions, during their construction or operation that would occur at the same time as the Project’s construction or operation. Other existing land uses, such as the existing nearby agricultural land uses and industrial uses like the Imerys diatomaceous earth mining and processing facility, that are located in the immediate vicinity of proposed Project are part of the air quality baseline and are not considered cumulative projects for the purposes of the cumulative air quality impact assessment.

### Cumulative Effects

As listed in Table 3-1 and shown in Figure 3-1, there are no cumulative projects within three miles of the Project site or any cumulative projects within two miles of the San Miguelito Road improvement construction area. There are a few cumulative projects located near or adjacent to areas of minor road work needed through the City of Lompoc for trucking in the wind turbine blades and two within a half-mile of the northern most portion of the Project’s proposed transmission line construction route and new switchyard location near Highway 1 and Somerset Place and Sheffield Drive. However, the minor road work needed in the City of Lompoc; such as tree removals, bus bench removal, and later replacement of these removals, would have minimal air pollutant emissions and so would not have the potential to create substantial cumulative air quality impacts. Additionally, a small amount of power line reconductoring is also required north of the new switchyard, but that would also create minimal air pollutant emissions that would not have the potential to create substantial cumulative air quality impacts. Therefore, the Project activity with the only potential to create substantial air quality cumulative effects is the transmission line and switchyard construction. Table 4.4-8 provides relevant description of the cumulative projects that are within a half-mile of the proposed transmission line construction route and new switchyard.

**Table 4.4-8. Cumulative Projects Relevant to Air Quality**

Map Key #	Project Name	Project Description/Status	Discussion of Relevance to Cumulative Impacts
16	Sepulveda Bldg Materials Mining Rev	Continuation of existing Rock Mining Operations through 2045 with up to 2,000 tons per year of finished product.	Small mining operation with limited off-road equipment use and fugitive dust emissions.
84, 102	Santa Rita Hills Wine Center 300 North Twelfth Street	Phase 1 of the project (Wine storage and production facility) is complete, no applications have been submitted for anticipated/planned additional phases.	Initial project elements are complete, additional elements (Resort Hotel/Spa and Retail Buildings) will be applied for later, with no known date for construction/completion.

The rock mining project, where there are multiple mining locations associated with this mining activity, with only one within a half mile of the project, would not change or increase activities; and so would not create any new cumulative air quality impacts. Phase 1 of the Santa Rita Hills Wine Center facility has been constructed, and the other potential elements of this project (hotel/spa and retail shops) has no known date for construction.

**Construction.** Cumulatively adverse air quality impacts would occur if the projects identified above were constructed concurrently with the Project and within 0.5 mile of a sensitive receptor. The potential for cumulative construction emissions to cause excessive air pollutant concentrations would be greatest for any sensitive receptors located proximate to two or more work sites that are active at

the same time. The potential for construction activities to overlap cannot be predicted. However, there is no current schedule for the additional phases of the Santa Rita Hills Wine Center project, so it does not appear that there would be any overlap in construction emissions. Therefore, given the lack of nearby cumulative emissions sources, there does not appear to be the potential for substantive cumulative air quality emissions during Project construction and the construction cumulative air quality impacts would not be significant.

**Operation and Maintenance.** A significant cumulative air quality impact could occur if the proposed Project would provide a substantial contribution to a combination of nearby projects’ total emissions of PM10 or ozone precursors (NOx or ROC) that could exceed the County thresholds because emissions over these levels could contribute substantially to existing nonattainment conditions. However, as can be seen in reviewing Table 4.4-7 the proposed Project does not have significant operation emissions, and is not located nearby any cumulative projects, and so would not substantially contribute to any cumulative projects’ exceedance of County thresholds. Therefore, the proposed Project’s contribution toward a cumulative operation air quality impact would not be significant.

#### 4.4.6 Residual Impacts

As summarized in Section 4.4.4, Impact AQ-2 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impact AQ-1 would be less than significant.

#### 4.4.7 Impact and Mitigation Summary

Table 4.4-9 below provides a summary of the SWEP’s impacts related to air quality. The table also indicates the mitigation measures proposed to reduce each significant impact.

**Table 4.4-9. SWEP Impact and Mitigation Summary – Air Quality**

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
AQ-1	<b>Short-Construction Emissions.</b> Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	AQ-1: Construction Equipment Emission Reduction Plan AQ-2: Dust Control Plan	Class II
AQ-2	<b>Long-term Operation Emissions.</b> Operation emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	None required.	Class III

**Class I.** Significant unavoidable adverse impact.

**Class II.** Significant environmental impacts that can be feasibly mitigated or avoided.

**Class III.** Adverse impacts found not to be significant.

**Class IV.** Impacts beneficial to the environment.

#### 4.4.8 References

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