5.2 Air Quality

5.2 AIR QUALITY

This section addresses construction related and operational air emissions. The analysis also addresses the Project's consistency with the air quality policies set forth within the South Central Coast Air Basin *2002 Clean Air Plan*. The analysis of Project-generated air emissions focuses on whether the Project would cause an exceedance of an ambient air quality standard or San Luis Obispo Air Pollution Control District (SLOAPCD) significance threshold. Information in this section is drawn primarily from the *CEQA Air Quality Handbook* (2012) prepared by the SLOAPCD. Air quality technical data is included as Appendix D, *Air Quality/Greenhouse Gas Emissions Data*.

5.2.1 ENVIRONMENTAL SETTING

REGIONAL SETTING

South Central Coast Air Basin

The Project site is located within the South Central Coast Air Basin, and is under the jurisdiction of the SLOAPCD. SLOAPCD's current guidelines and emission thresholds established in the *CEQA Air Quality Handbook* (CEQA Handbook) (updated April 2012) were adhered to in the assessment of the Project's air quality impacts.

Airflow around and within the South Central Coast Air Basin plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific High pressure system and other global weather patterns, topographical factors, and circulation patterns that result from temperature differences between the land and the sea. In the spring and summer months, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze. In the fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alteration of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, "trapping" pollutants near the surface. This effect is intensified when the Pacific High weakens or moves inland to the east. This may produce a "Santa Ana" condition in which air, often pollutant-laden, is transported into the South Central Coast Air Basin from the east and southeast. This can occur over a period of several days until the high-pressure system returns to its normal location, breaking the pattern. The breakup of this condition may result in relatively stagnant conditions and a buildup of pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they combine with

local emissions to cause high pollutant concentrations. Not all occurrences of the "post Santa Ana" condition lead to high ambient pollutant levels, but they do play an important role in the region's air pollution meteorology.[1] The South Central Coast Air Basin's climate is strongly influenced by its proximity to the Pacific Ocean.

LOCAL AMBIENT AIR QUALITY

Criteria Air Pollutants

The California Air Resources Board (CARB) monitors ambient air quality at approximately 250 air monitoring stations across the state. The South Central Coast Air Basin's closest monitoring station to the Project site is the Morro Bay Monitoring Station, located approximately 22 miles to the south. However, this station only monitors NO_2 and O_3. The San Luis Obispo-Higuera Street Monitoring Station is the next closest, which monitors SO_2, PM_{10}, and $PM_{2.5}$ and is approximately 35 miles south of the Project site. The Santa Maria Monitoring Station is the closest station that monitors CO and is located approximately 60 miles south of the Project site. Local air quality data from 2013 to 2015 is provided in Table 5.2-1, *Local Ambient Air Quality Levels*. This table lists the annual monitored maximum concentrations and number of exceedances of Federal/State air quality standards.

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources, as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are the most susceptible to adverse effects of CO exposure. Observed effects involve early onset of chest pain with exercise and reduction of oxygen supply to the heart. At high concentrations, CO exposure can cause headaches, dizziness, and unconsciousness and can result in death in confined spaces.

Ozone (O_3). O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately ten miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone) layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays (UV-B). "Bad" ozone is a photochemical pollutant that needs VOCs, NO_X, and sunlight to form. Therefore, VOCs and NO_X are ozone precursors. VOCs and NO_X are emitted from various sources throughout the Project area. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

[1] Cambria Community Services District, *Fiscalini Ranch Preserve Master EIR*, March 4, 2008.

Table 5.2-1
Local Ambient Air Quality Levels

Pollutant	Standards (Allowable Amount)		Year	Maximum Concentration[1]	Days (Samples) State/Federal Standards was Exceeded
	California	Federal Primary			
Ozone (O_3) (1-hour)[2]	0.09 ppm for 1 hour	Not Applicable	2013 2014 2015	0.067 0.070 0.064	0/0 0/0 0/0
Ozone (O_3) (8-hour)[2]	0.07 ppm for 8 hours	0.070 ppm for 8 hours	2013 2014 2015	0.056 0.066 0.057	0/0 0/0 0/0
Carbon Monoxide (CO) (1-hour)[3]	20 ppm for 1 hour	35 ppm for 1 hour	2013 2014 2015	2.59 2.78 2.93	0/0 0/0 0/0
Carbon Monoxide (CO) (8-hour)[3]	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2013 2014 2015	NM NM NM	0/0 0/0 0/0
Nitrogen Dioxide (NO_2) (1-hour)[2]	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2013 2014 2015	0.037 0.042 0.043	0/0 0/0 0/0
Sulfur Dioxide (SO_2) (24-hour) [4]	0.04 ppm for 24 hours	0.14 ppm for 24 hours	2013 2014 2015	0.003 0.003 NM	Not Applicable Not Applicable Not Applicable
Particulate Matter (PM_{10}) (24-hour)[4,5,6]	50 μg/m^3 for 24 hours	150 μg/m^3 for 24 hours	2013 2014 2015	70.5 μg/m^3 42.2 43.1	3/0 0/0 0/0
Fine Particulate Matter ($PM_{2.5}$) (24-hour)[4, 5]	No Separate State Standard	35μg/m^3 for 24 hours	2013 2014 2015	19.5 15.6 16.4	Not Applicable/0 Not Applicable/0 Not Applicable/0

Notes:
1. Maximum concentrations are measured over the same period as the California standard.
2. Data collected from the Morro Bay Monitoring Station, located at 899 Morro Bay Boulevard, Morro Bay, California 93422.
3. Data collected from the Santa Maria Monitoring station, located at 906 South Broadway, Santa Maria, California 93454.
4. Data collected from the San Luis Obispo – South Higuera Street Monitoring Station, located at 3220 South Higuera Street, San Luis Obispo, California 93401.
5. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: Aerometric Data Analysis and Measurement System, Summaries from 2013 to 2015 as found at http://www.arb.ca.gov/adam/

Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease, such as asthma and chronic pulmonary lung disease are considered the most susceptible to the harmful effects of ozone. Short-term ozone exposure, lasting for a few hours can lead to shortness of breath, reduced breathing capacity, and increased susceptibility to infections, lung tissue inflammation, and immunological changes. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to higher O_3 levels.

Nitrogen Dioxide (NO_2). NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO_2 can irritate and damage the lungs, decrease lung function and lower resistance to respiratory infections such as influenza. Individuals with asthma and/or chronic obstructive pulmonary disease may have a greater susceptibility to harmful effects of NO_2 exposure. Short-term exposure to NO_2 may increase resistance to air flow and airway contraction. Continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Course Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than ten microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate the lungs and can potentially damage the respiratory tract. On June 19, 2003, CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (SB 25).

Fine Particulate Matter ($PM_{2.5}$). Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. Individuals with pre-existing respiratory and/or cardiovascular disease, the elderly and children may be more susceptible to adverse effects of particulate matter exposure. Exposure to varying levels of $PM_{2.5}$ has been associated with increased mortality due to cardiovascular or respiratory diseases, reduction in life-span and hospital admissions for acute respiratory conditions. In children, $PM_{2.5}$ exposure can lead to school absences, decreased respiratory function and increased medication use in those with asthma. Long-term particulate matter exposure has also been connected to reduced lung function growth in children.

Volatile Organic Compounds (VOCs or Reactive Organic Gases [ROG]). Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Lead (Pb). In the NCCAB, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes less than one percent of the material collected as total suspended particulate. Atmospheric lead concentrations have been reduced substantially in recent years

due to the lowering of average lead content in gasoline. Exceedances of the State air quality standard for lead (monthly average concentration of 1.50 μg/m^3) now are confined to densely populated areas, where vehicle traffic is greatest. Lead was not monitored at the nearby monitoring locations. The NCCAB has achieved attainment for lead under both State and Federal standards. Lead exposure primarily affects fetuses, breast-fed babies, infants and children. Low levels of lead exposure can negatively affect the central nervous system's development and function, resulting in learning disorders, deficits in attention and inability to follow simple commands. In adults, higher levels of lead exposure have been connected to increased blood pressure.

5.2.2 REGULATORY SETTING

FEDERAL

U.S. Environmental Protection Agency

The principal air quality regulatory mechanism at the Federal level is the Federal Clean Air Act (FCAA) and, in particular, the 1990 amendments to the FCAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O_3, CO, NO_2 (a form of NO_X), SO_2 (a form of SO_X), PM_{10}, $PM_{2.5}$, and lead (Pb); refer to Table 5.2-2, *National and California Ambient Air Quality Standards*. The EPA also has regulatory and enforcement jurisdiction over emission sources beyond State waters (outer continental shelf) and those that are under the Federal government's exclusive authority, such as aircraft, locomotives, and interstate trucking.

STATE

California Air Resources Board

CARB administers California's air quality policy. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 5.2-2, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates.

Table 5.2-2
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[3,4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	**Nonattainment**	N/A	**Nonattainment** Eastern SLO County - Attainment Western SLO County***
	8 Hours	0.070 ppm (137 μg/m^3)		0.070 ppm (147 μg/m^3)	
Particulate Matter (PM_{10})	24 Hours	50 μg/m^3	**Nonattainment**	150 μg/m^3	
	Annual Arithmetic Mean	20 μg/m^3		N/A	Attainment
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No State Standard	Attainment	35 μg/m^3	Unclassified*/Attainment
	Annual Arithmetic Mean	12 μg/m^3		12.0 μg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Unclassified*
	8 Hours	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	
Nitrogen Dioxide (NO_2)[5]	1 Hour	0.18 ppm (339 μg/m^3)	Attainment	100 ppb (188 μg/m^3)	Unclassified*
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)		53 ppb (100 μg/m^3)	
Lead (Pb)[7,8]	30 days Average	1.5 μg/m^3	Attainment	N/A	No Attainment Information
	Calendar Quarter	N/A		1.5 μg/m^3	
	Rolling 3-Month Average	N/A		0.15 μg/m^3	
Sulfur Dioxide (SO_2)[6]	1 Hour	0.25 ppm (655 μg/m^3)	Attainment	75 ppb (196 μg/m^3)	Unclassified*
	3 Hours	N/A		N/A	
	24 Hours	0.04 ppm (105 μg/m^3)		0.14 ppm (for certain areas)	
	Annual Arithmetic Mean	N/A		0.30 ppm (for certain areas)	
Visibility-Reducing Particles[9]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Attainment	**No Federal Standards**	
Sulfates	24 Hour	25 μg/m^3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	Attainment		
Vinyl Chloride[7]	24 Hour	0.01 ppm (26 μg/m^3)	N/A		

μg/m^3 = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

*Unclassified (EPA/Federal definition: Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for that pollutant.

***San Luis Obispo county has been designated non-attainment east of the -120.4 deg Longitude line, in areas of SLO County that are south of latitude 35.45 degrees, and east of the -120.3 degree Longitude line, in areas of SLO County that are north of latitude 34.45 degrees.

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
6. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
7. 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.
8. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
9. 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 "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board, Ambient Air Quality Standards, http://www.arb.ca.gov/research/aaqs/aaqs.htm. Accessed July 12, 2016.

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMP's also serve as the basis for preparation of California's State Implementation Plan (SIP). Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard, and are not used as a basis for designating areas as nonattainment. Similar to the FCAA, all areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates. Table 5.2-2 also illustrates the FCAA and CCAA attainment status for the NCCAB, where Monterey County (and the Project site) are located.

State Air Toxics Program

The California Air Toxics program regulates Toxic Air Contaminants (TACs). The statewide comprehensive program was established in the early 1980's along with the Toxic Air Contaminant Identification and Control Act, which was approved in 1983 to reduce exposure to air toxics. The air toxics program is mandated by Health and Safety Code (H&SC Section 39660 et seq.) Chapter 3.5 (Toxic Air Contaminants) and Part 6 (Air Toxics "Hot Spots" Information and Assessment) (H&SC Section 44300 et seq.). CARB, works in conjunction with the Office of Environmental Health Hazard Assessment (OEHHA) to identify TACs. Air toxic control measures are adopted to reduce the identified TAC's ambient concentrations to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through use of best available control technology for toxics (T-BACT). The program is administered by the CARB. Air quality control agencies, including the MBUAPCD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by CARB. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of TACs include cancer, birth defects, neurological damage, and death.

LOCAL

San Luis Obispo County Air Pollution Control District (SLOAPCD)

The Project site is located within the South Central Coast Air Basin, and is under the jurisdiction of the San Luis Obispo County Air Pollution Control District (SLOAPCD). SLOAPCD's current guidelines and emission thresholds established in the *CEQA Air Quality Handbook*

(CEQA Handbook) (updated April 2012) were adhered to in the assessment of the Project's air quality impacts.

Both the State of California and the Federal government have established health-based Ambient Air Quality Standards (AAQS) for six criteria air pollutants:

- Carbon monoxide (CO);
- Ozone (O_3);
- Nitrogen oxides (NO_X);
- Sulfur oxides (SO_X);
- Particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively); and
- Lead (Pb).

Ozone is formed by a photochemical reaction between NO_X and reactive organic gasses (ROGs). Thus, impacts from O_3 are assessed by evaluating impacts from NO_X and ROGs.

SAN LUIS OBISPO AIR POLLUTION CONTROL DISTRICT STANDARDS

Rule 202 - Permits

A. General

1. Authority to Construct: Any person building, erecting, altering or replacing any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, shall first obtain authorization for such construction from the Air Pollution Control Officer.

2. Permits to Operate: Before any article, machine, equipment or other contrivance, the use of which may cause, increase, eliminate, reduce or control the issuance of air contaminants may be operated or used, a Permit to Operate shall be obtained from the Control Officer, except as provided in subsection A.5.

Rule 401 – Visible Emissions

A. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any hour which is:

1. As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines.

2. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A.1 of this Rule.

Rule 402 - Nuisance

A. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 431 - Stationary Internal Combustion Engines

D. Exemptions: With the exception of recordkeeping and reporting requirements necessary to justify an exemption, the provisions of this Rule shall not apply to the operation of stationary internal combustion engines used under the following conditions: 3) Emergency standby engines operated during either an emergency or maintenance operation. Maintenance operation is limited to 100 hours per calendar year.

G. Recordkeeping: The operator of any engine subject to the provisions of Section D of this Rule shall maintain an inspection log that includes, on a monthly basis the following data:

   a. Date and results of each engine inspection;
   b. A summary of any preventive or corrective maintenance taken;
   c. The total hours of operation;
   d. The type and quantity of fuel used; and
   e. Any additional information required in the Engine Operator Inspection Plan.

   The operator shall maintain the inspection log for a period of three (3) years after the date of each entry. The log shall be available for inspection by the District upon request.

Emergency Coastal Development Permit (E-CDP) Conditions

Refer to Appendix C, *E-CDP Conditions of Approval*, for a list of E-CDP Conditions of Approval. E-CDP Condition 9 pertains to Air Quality.

5.2.3 SUMMARY OF WATER MASTER PLAN PEIR CONCLUSIONS

WMP PEIR Section 5.4, *Air Quality*, analyzes impacts concerning air quality conditions, as summarized below:

Short-Term Construction Emissions. Short-term emissions during the site preparation and construction of the WMP improvements may result in air quality impacts. Emissions produced during grading and construction activities are short-term, and would only occur during the project's construction phase. Construction emissions would include the on- and off-site generation of fugitive dust, on-site generation of construction equipment exhaust emissions, and the off-site generation of mobile source emissions. If construction related emissions of ROG, NOX, and PM_{10} exceed 2.5 tons per quarter, impacts would be significant and mitigation measures would be necessary to reduce impacts to less than significant levels. The analysis concluded that impacts would be less than significant following compliance with SLOAPCD's permitting requirements and implementation of the recommended mitigation.

Long Term Operational Emissions. The mobile and area source emissions from the WMP improvements may impact air quality, potentially exceeding thresholds for criteria pollutants. Electricity generation would result in stationary source emissions. Facilities are expected to be "unmanned," generating infrequent trips for maintenance. Through the County's development review process, WMP improvements would be evaluated to determine the appropriate permits for authorizing their use and the conditions for their establishment and operation. The analysis concluded that a less than significant impact would occur following compliance with SLOAPCD's requirements and implementation of the recommended mitigation.

Air Quality Conformance Analysis. The WMP improvements would not conflict with or obstruct the implementation of the SLOAPCD, CEQA, federal conformity guidelines, San Luis Obispo County General Plan, or the Ozone Attainment Plan. The WMP would result in less than significant impacts with mitigation incorporated. The WMP PEIR determined that a future project specific EIR/EIS may need to further discuss consistency with SLOAPCD's thresholds. The analysis concluded that a less than significant impact would occur in this regard.

5.2.4 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

SLOAPCD SIGNIFICANCE THRESHOLD CRITERIA

Under *CEQA*, the SLOAPCD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. The SLOAPCD reviews projects to ensure that they would not: 1) cause or contribute to any new violation of any air quality standard; 2) increase the frequency or severity of any existing violation of any air quality standard; or 3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan.

The SLOAPCD's *CEQA Air Quality Guidelines* provide significance thresholds for both construction and operation of projects within the SLOAPCD jurisdictional boundaries. If the SLOAPCD thresholds are exceeded, a potentially significant impact could result.

Operational Air Emission Thresholds

SLOAPCD's thresholds of significance for operational impacts, specific to the NCCAB, are shown in Table 5.2-3, *Operational Air Emissions Thresholds*.

Table 5.2-3
Operational Air Emissions Thresholds

Pollutant	Threshold[1]	
	Daily	Annual
ROG + NO_x (combined)[2]	25 lbs	25 tons
Diesel Particulate Matter[2]	1.25 lbs	-
Fugitive Particulate Matter (PM_{10}), Dust[2]	25 lbs	25 tons
CO	550 lbs	-

Notes:
1. Daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 and the CARB Carl Moyer Guidelines for Diesel Particulate Matter.
2. CalEEMod – Use winter operational emission data to compare to operational thresholds.

Source: SLOAPCD, *CEQA Air Quality Handbook*, April 2012.

The SLOAPCD also uses many of regulations set forth by the EPA and CARB as the basis for determining the significance of air quality impacts under CEQA, including the following:

Ambient Air Quality Standards. Exceedance of the NAAQS and CAAQS is considered a significant impact to air quality.

New Source Review Offset Requirements. New Source Review programs require stationary sources of air pollution to get permits before they start construction. The MBUAPCD uses federal offset thresholds for PM_{10} and CO as criteria for significance (82 and 550 lbs/day, respectively). New or modified stationary sources that would emit 137 pounds per day or more of VOC or NO_x are required to offset their emissions.

Conformity. Federal regulations requiring that certain general and transportation projects conform to the State Implementation Plan (SIP) are used to help determine the cumulative significance of air quality impacts.

Air Quality Management Plans. Project emissions that are not accounted for in the emissions inventory are considered a significant cumulative impact to regional air quality.

Construction Emissions Thresholds

The SLOAPCD has established screening thresholds analyzing PM_{10} emissions. A construction site with minimal earthmoving activity would have potentially significant PM_{10} impacts when active construction covers 8.1 acres or more per day. A construction site with earthmoving activity would have potentially significant PM_{10} impacts when active construction covers 2.2 acres or more per day. Projects that exceed these screening thresholds would potentially exceed PM_{10} emissions of 82 pounds per day. The SLOAPCD requires larger projects to quantify their emissions and identify applicable mitigation measures for projects that exceed the quantitative threshold of 82 pounds per day. It is noted that the SLOAPCD does not have construction thresholds for other criteria pollutants. Implementation of construction equipment best management practices ensure that construction emission of other criteria pollutants would not have a significant impact.

Localized Carbon Monoxide Emissions

According to the SLOAPCD, indirect sources which would significantly affect Levels of Service (LOS) at intersections or road segments could cause or substantially contribute to violation of State or federal AAQS for carbon monoxide. The following would represent a potentially significant impact to roadway intersections or segments:

- Intersections or road segments that operate at LOS D or better that would operate at LOS E or F with the Project's traffic;
- Intersections or road segments that operate at LOS E or F where the volume-to-capacity (V/C) ratio would increase 0.05 or more with the Project's traffic;
- Intersections or road segments that operate at LOS E or F where delay would increase by 10 seconds or more with the Project's traffic;
- Unsignalized intersections which operate at LOS E or F where the reserve capacity would decrease by 50 or more with the Project's traffic (this criterion is based on the turning movement with the worst reserve capacity); or
- The Project would generate substantial heavy-duty truck traffic, substantial traffic along urban street canyons, or substantial traffic near a major stationary source of CO.

Odors

According to the SLOAPCD, if the Project would emit pollutants associated with objectionable odors in substantial concentrations, this could result in significant impacts if odors would cause injury, nuisance, or annoyance to a considerable number of persons or endanger the public's comfort, health, or safety.

CEQA SIGNIFICANCE CRITERIA

The issues presented in the CEQA Guidelines Appendix G Initial Study Environmental Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project impact would be considered significant if it would:

- Conflict with or obstruct implementation of the applicable air quality plan. For purposes of this analysis and based on the SLOAPCD CEQA Guidelines, the Project is analyzed for consistency with the SLOAPCD Clean Air Plan (CAP) (refer to Impact Statement 5.2-5);

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (refer to Impact Statements 5.2-1 and 5.2-2);

- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors) (refer to Impact Statements 5.2-1 and 5.2-2);

- Expose sensitive receptors to substantial pollutant concentrations (refer to Impact Statement 5.2-4); and/or

- Create objectionable odors affecting a substantial number of people (refer to Impact Statement 5.2-3).

Based on these standards, the Project's effects have been categorized as "less than significant impact" or "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a significant impact cannot be reduced to a less than significant level through the implementation of mitigation, it is categorized as a significant and unavoidable impact.

5.2.5 IMPACTS AND MITIGATION MEASURES

As discussed in detail in Section 5.0, *Environmental Analysis*, for purposes of the following impact analyses, "Sustainable Water Facility" (SWF) involves the built and operational Project

components, whereas "Mitigation Measures (Project modifications)" involve proposed Project modifications in compliance various SWF mitigation measures.

IMPACT 5.2-1 CONSTRUCTION-RELATED EMISSIONS

- **WOULD THE PROJECT RESULT IN VIOLATIONS OF AIR QUALITY STANDARDS OR CONTRIBUTE SUBSTANTIALLY TO EXISTING OR PROJECTED AIR QUALITY VIOLATIONS DURING CONSTRUCTION?**

Impact Analysis:

SUSTAINABLE WATER FACILITY

General SWF construction activities include clearing, grading (nominal), excavating, trenching, pipe installation, placement of backfill, and installation of other limited equipment/ improvements on structural footings and concrete housekeeping pads. The SWF required a minimal amount of earthmoving activities for the installation of the pipelines and water facilities. Installation of the leachate collection and removal system (LCRS), and the vadose zone monitoring system at the evaporation pond required minimal grading, while the installation of the impermeable liner required removal of the pond's vegetation. Along the evaporation pond's southern berm, an existing spillway was demolished to provide a uniform slope elevation around the pond. Minimal excavation was necessary for the Advanced Water Treatment Plant (AWTP), since it is housed within pre-fabricated containers. Of the approximately 4,630 LF of pipeline, the majority (4,150 LF) was installed above grade. The below grade pipelines (480 LF) were installed using both trenching and horizontal directional drilling methods. Approximately 50 cubic yards (CY) of cut and 50 CY of fill were generated during construction of the wells and AWTP, and approximately 200 CY of cut and 200 CY of fill were generated during pipeline installation. Refer also to Section 3.5.2, *Project Characteristics – Mitigation Measures (Project Modifications)*.

Stationary or mobile powered on-site construction equipment involved trucks, excavator, loader, paver, paving equipment, roller, rubber tired dozer, rubber-tired loaders, skid-steer loaders, crane, trencher, and other equipment. Based on the nominal amount of daily work trips required for SWF construction, construction worker trips do not substantially contribute to or affect traffic flow on local roadways, and are therefore not considered notable emission sources. The analysis of daily construction emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod). Refer to Appendix D for the CalEEMod modeling outputs and results. Table 5.2-4, *SWF Construction Air Emissions*, provides estimates of the construction-related emissions that occurred.

Table 5.2-4
SWF Construction Air Emissions

Emissions Source	Pollutant[1]		
	ROG + NO_X (tons/quarter)[2]	Diesel Particulate Matter (tons/quarter)[2]	Fugitive Particulate Matter (PM_{10}) (tons/quarter)[2]
Unmitigated Construction Emissions	2.20	0.18	0.34
Mitigated Construction Emissions	2.20	0.18	0.15
SLOAPCD Tier 1 Thresholds[3]	2.5	0.13	2.5
Is Tier 1 Threshold Exceeded?	**No**	**Yes**	**No**
SLOAPCD Tier 2 Thresholds	6.3	0.32	--
Is Tier 2 Threshold Exceeded?	**No**	**No**	**No**

ROG = reactive organic gas PM10 = fine particulate matter (up to 10 microns in diameter) NOX = nitrogen oxides tons/quarter-year = tons per quarter of a year

1. Emissions calculated using the CalEEMod, as recommended by the SLOAPCD.
2. Construction was completed over approximately 180 days. Therefore, construction period is two quarters.
3. For construction projects lasting more than one quarter, exceedance of the quarterly threshold requires Standard Mitigation Measures. It is noted that the Standard Mitigation Measures were required in E-CDP Condition 9.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the Project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including demolition as well as construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Additionally, most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} (particulate matter smaller than 10 microns) generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. PM_{10} sources include open fields, roadways, storage piles, earthwork, etc. As presented in Table 5.2-4, total PM_{10} emissions do not exceed the SLOAPCD thresholds during construction and are less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities included emissions associated with the transport of machinery and supplies to and from the Project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As presented in Table 5.2-4, construction equipment and worker vehicle exhaust emissions are below the SLOAPCD Tier 2 thresholds. Therefore, air quality impacts from equipment and vehicle

exhaust emissions are less than significant. Notwithstanding, compliance with Mitigation Measure AQ-1 (E-CDP Condition 9) is required to further minimize emissions.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. The ROG emissions associated with paving and painting have been quantified with CalEEMod. As shown in Table 5.2-4, ROG emissions are below SLOAPCD thresholds and are less than significant.

Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the California Air Resources Board (CARB) in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the Project area. As naturally occurring asbestos is not present at the Project site, there is no impact in this regard.

Total Daily Construction Emissions

In accordance with the SLOAPCD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_x, and PM_{10}. Table 5.2-4 indicates that Mitigation Measure AQ-1 (E-CDP Condition 9) was required due to the exceedance of the Tier 1 thresholds. However, the SWF's total daily construction emissions do not exceed the SLOAPCD Tier 2 construction thresholds. Therefore, SWF construction-related air quality impacts are less than significant for all criteria pollutants with implementation of Mitigation Measure AQ-1 (E-CDP Condition 9).

SWF Construction-Related Measures/Standards: Compliance with construction-related measures/standards occurred before/during SWF construction, as substantiated in the E-CDP MMRP. In compliance with E-CDP Condition 9, the measures outlined in E-CDP Condition 9, including the additional construction equipment measures, were incorporated into the SWF's construction phase and shown on all applicable plans. Finally, the specified fugitive PM_{10} measures were shown on applicable construction plans.

MITIGATION MEASURES (PROJECT MODIFICATIONS)

The proposed mitigation measures (Project modifications) would require construction-related activities to decommission the spray evaporator system, dispose of residual RO concentrate from the evaporation pond, and construct the SWTP and conveyance pipelines. Specifically, construction activities for the Project modifications would include trenching, minor grading (nominal), pipeline installation, and decommissioning the evaporation pond. Construction activities for the mitigation measures (Project modifications) would require minimal earthmoving activities and SWTP equipment installation, and the evaporation pond would be emptied and repurposed as a potable water supply storage basin. As such, the primary sources of construction air emissions would result from trenching approximately 5,700 LF for new conveyance pipelines, and 2,350 mobile trucks trips from decommissioning the evaporation pond (2,320 round trips from evaporation pond RO concentrate (residual) disposal and 30 trips from decommissioning the spray evaporators). Stationary or mobile powered construction equipment would include hauling trucks (evaporation pond RO concentrate disposal), excavators, and backhoes.

The analysis of daily construction emissions has been prepared utilizing CalEEMod. Refer to Appendix D for the CalEEMod modeling outputs and results. Table 5.2-5, *Mitigation Measures (Project Modifications) Construction Air Emissions*, provides estimates of the construction-related emissions that would occur during construction of the proposed Project mitigation measures.

Total Daily Construction Emissions

In accordance with the SLOAPCD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, and PM_{10}. Table 5.2-5 indicates that construction-related emissions from the mitigation measures (Project modifications) would not exceed the SLOAPCD Tier 1 or Tier 2 thresholds. It is noted that although the construction-related emissions from the Project modifications would not exceed SLOAPCD thresholds, construction activities would still be required to comply with SLOAPCD Rules 202, 401, and 402 (see Mitigation Measure AQ-1). Therefore, construction-related air quality impacts associated with the mitigation measures (Project modifications) would be less than significant for all criteria pollutants.

Table 5.2-5
Mitigation Measures (Project Modifications) Construction Air Emissions

Emissions Source	Pollutant[1]		
	ROG + NO_X (tons/quarter)	Diesel Particulate Matter (tons/quarter)	Fugitive Particulate Matter (PM_{10}) (tons/quarter)
Unmitigated Construction Emissions	1.88	0.04	0.09
Mitigated Construction Emissions	1.88	0.04	0.09
SLOAPCD Tier 1 Thresholds	2.5	0.13	2.5
Is Tier 1 Threshold Exceeded?	**No**	**No**	**No**
SLOAPCD Tier 2 Thresholds	6.3	0.32	--
Is Tier 2 Threshold Exceeded?	**No**	**No**	**No**

ROG = reactive organic gas PM10 = fine particulate matter (up to 10 microns in diameter) NOX = nitrogen oxides tons/quarter-year = tons per quarter of a year

1. Emissions calculated using the CalEEMod, as recommended by the SLOAPCD.

Standards and Regulations:

SLOAPCD

- Rule 202, *Permits*;
- Rule 401, *Visible Emissions*; and
- Rule 402, *Nuisance*.

Mitigation Measures: The following mitigation measures pertain to both the SWF and Project modifications, unless otherwise noted.

AQ-1 The following measures shall be incorporated into the construction phase of the Project and shown on all applicable plans:

a. Maintain all construction equipment in proper tune according to manufacturer's specifications;
b. Fuel all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
c. Maximize to the extent feasible, the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines;
d. Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other APCD approved emission reduction retrofit devices (determination of the appropriate CBACT control device(s) for the Project must be performed in consultation with APCD staff).

Additional Construction Equipment Measures:

e. Electrify equipment where feasible;
f. Substitute gasoline-powered for diesel-powered equipment, where feasible;
g. Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel;
h. Use equipment that has Caterpillar pre-chamber diesel engines;
i. Implement activity management techniques as follows:
    i. Develop of a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period;
    ii. Schedule of construction truck trips during non-peak hours to reduce peak hour emissions;
    iii. Limit the length of the construction work-day period, if necessary;
    iv. Phase construction activities, if appropriate.

Fugitive PM_{10} Mitigation Measures. All required PM_{10} measures shall be shown on applicable grading or construction plans. In addition, the developer shall designate personnel to insure compliance and monitor the effectiveness of the required dust control measures (as conditions dictate, monitor duties may be necessary on weekends and holidays to insure compliance); the name and telephone number of the designated monitor(s) shall be provided to the APCD prior to construction/ grading permit issuance.

j. Reduce the amount of the disturbed area where possible;
k. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (nonpotable) water should be used whenever possible;
l. All dirt stock-pile areas should be sprayed daily as needed;
m. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities;
n. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established;
o. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;
p. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;

q. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
r. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.

(E-CDP Condition 9)

Level of Significance: Less Than Significant With Mitigation Incorporated.

IMPACT 5.2-2 OPERATIONAL EMISSIONS

- **WOULD THE PROJECT RESULT IN VIOLATIONS OF AIR QUALITY STANDARDS OR CONTRIBUTE SUBSTANTIALLY TO EXISTING OR PROJECTED AIR QUALITY VIOLATIONS DURING OPERATIONS?**

Impact Analysis:

SUSTAINABLE WATER FACILITY

Operation of the SWF does not result in significant operational air quality impacts, as this type of facility does not directly emit air pollutants. Power for the AWTP is obtained from a PG&E supplied pad mount transformer with an estimated capacity of 750 Kilovolt-ampere (kVA) at 480/277 volts. In addition, a 300 kVA at 480/277 volts pad mount transformer and associated components supply power to the evaporation pond/evaporators. It is noted that the SWF components are not considered onsite sources of air pollutants, as they are electrically powered. The SWF's total annual electrical demand is approximately 1,489 MWh; see Table 3-7 and Table 3-9. Table 5.2-6, *SWF Operational Air Emissions*, provides estimates of the operational emissions that occur from energy consumption during SWF operations. As presented in Table 5.2-6, operational emissions from energy consumption would not exceed SLOAPCD thresholds. Therefore, the SWF would result in less than significant impacts concerning operational air emissions. Should any backup generators be utilized, they would be subject to compliance with SLOAPCD Rule 431, which addresses stationary internal combustion engines.

Additionally, the SWF would result in negligible operational mobile-source pollutant emissions. Operating and maintaining the equipment requires onsite full-time staff, although, the AWTP is designed to operate automatically with no onsite operator. Up to two employees visit the site daily to visually inspect and maintain the AWTP. Therefore, mobile source emissions generated by SWF-related trips are nominal and result in less than significant impacts.

Table 5.2-6
SWF Operational Air Emissions

Emissions Source	Pollutant[1]		
	ROG + NO_X (lbs/day)	Diesel Particulate Matter (lbs/day)	Fugitive Particulate Matter (PM_{10}) (lbs/day)
AWTP Energy Consumption	0.20	0.06	N/A
Evaporator System Energy Consumption	0.94	0.30	N/A
Total Emissions	*1.14*	*0.37*	*N/A*
SLOAPCD Threshold[3]	25	1.25	25
Is Threshold Exceeded?	**No**	**No**	**No**

ROG = reactive organic gas
NO_X = nitrogen oxides
PM_{10} = fine particulate matter (up to 10 microns in diameter)
tons/quarter-year = tons per quarter of a year

1. Criteria emissions based on emissions factors from the EPA eGrid Database and the California Energy Commission, Reference Appendices for the 2008 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, revised June 2009.

MITIGATION MEASURES (PROJECT MODIFICATIONS)

Energy Consumption and Mobile Emissions

As discussed above, power for the AWTP is obtained from a PG&E supplied pad mount transformer with an estimated capacity of 750 Kilovolt-ampere (kVA) at 480/277 volts, and the service is 1,200 amp. This transformer currently supplies power to the AWTP, which would continue to be operated. Therefore, a new power supply would be required for the SWTP.

The SWTP's power demand is estimated to be 700 kVA. Power for the SWTP would be obtained from a new PG&E supplied pad mount transformer. The estimated capacity of the transformer would be 750 kVA at 480/277 volts. To serve the SWTP, the contractor (in cooperation with PG&E) would install a transformer pad, secondary conductors, transformer, and meters for a 1,200 amp service. The overhead power lines and poles at the site would have adequate capacity to supply the additional transformer for the SWTP. It is noted that these facilities are not considered onsite sources of air pollutants, as they would be electrically powered.

Additionally, the RO concentrate discharged into the four Baker tanks at the SWTP would be hauled off-site daily to the Kettleman Hills Hazardous Waste Facility (Kettleman) for treatment and disposal, located approximately 85 miles northeast of the Project site. This would result in as many as eight round trips per day to Kettleman. As such, the majority of operational air emissions associated with the SWTP would come from mobile emissions. No additional employees beyond those identified above for the SWF would be required to operate the SWTP.

Table 5.2-7, *Total Operational Air Emissions with Mitigation Measures (Project Modifications)*, provides estimates of the operational emissions from the proposed mitigation measures

(Project modifications), which include SWTP energy consumption emissions and RO concentrate disposal hauling/mobile (truck trip) emissions. Table 5.2-7 also shows the total operational air emissions generated by the Project, which includes the AWTP energy consumption (see Table 5.2-6) emissions plus the SWTP energy consumption and RO concentrate disposal hauling/mobile (truck trip) emissions. It is noted, the evaporator system energy consumption operational emissions would not occur, since the evaporators would be decommissioned, as part of the Project modifications. As presented in Table 5.2-7, the Project's total operational emissions (SWF plus the mitigation measures (Project modifications)) would not exceed SLOAPCD thresholds. Therefore, the combined total Project operations would result in less than significant impacts concerning operational air emissions. Should any backup generators be utilized for the Project modifications, they would be subject to compliance with SLOAPCD Rule 431, which addresses stationary internal combustion engines.

Table 5.2-7
Total Operational Air Emissions
With Mitigation Measures (Project Modifications)

Emissions Source	Pollutant[1]		
	ROG + NO_X (lbs/day)	Diesel Particulate Matter (lbs/day)	Fugitive Particulate Matter (PM_{10}) (lbs/day)[2]
AWTP Energy Consumption	0.20	0.06	0.00
SWTP Energy Consumption	0.99	0.32	0.00
RO Concentrate Disposal Hauling/Mobile Emissions	21.60	0.55	0.00
Total Project Emissions[3]	*22.80*	*0.93*	*0.00*
SLOAPCD Threshold	25	1.25	25
Is Threshold Exceeded?	**No**	**No**	**No**

ROG = reactive organic gas
NO_X = nitrogen oxides
PM_{10} = fine particulate matter (up to 10 microns in diameter)
tons/quarter-year = tons per quarter of a year

1. Criteria emissions based on emissions factors from the EPA eGrid Database and the California Energy Commission, Reference Appendices for the 2008 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, revised June 2009.
2. Fugitive dust emissions would be negligible since the majority of the access road would be paved and the number of trucks per day is relatively low.
3. As a result of the proposed mitigation measures (Project modifications), the spray evaporator system would be decommissioned. Therefore, operational emissions from energy consumption associated with the spray evaporator system are excluded from Project emissions.

Standards and Regulations:

SLOAPCD

- Rule 431, *Stationary Internal Combustion Engines.*

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

IMPACT 5.2-3 EXPOSURE TO ODOROUS EMISSIONS

- **WOULD THE PROJECT CREATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE?**

Impact Analysis:

SUSTAINABLE WATER FACILITY

The SWF's construction activities generate airborne odors from the operation of construction vehicles (i.e., diesel exhaust). However, construction related odors are typically from localized sources and do not emanate far from the source. Thus, odors are isolated to the immediate vicinity of the construction site. The SWF involves construction and operation of water supply facilities. Given their nature and scope, water wells and pipelines do not generate any odors. The AWTP generated RO concentrate, which is disposed of at the evaporation pond for evaporation, does not create objectionable odors. Additionally, the evaporators are controlled with weather stations, which turn the evaporators on or off depending on wind speed and/or direction to control drift. The weather stations, installed onsite, measure site weather conditions, including wind velocity, wind direction, humidity and temperature. The evaporators operate only when wind direction, wind velocity, temperature and humidity are within the preset ranges, which limits the dispersion of any potential odors from the evaporation pond. Therefore, the SWF does not create objectionable odors affecting a substantial number of people.

MITIGATION MEASURES (PROJECT MODIFICATIONS)

Construction activities associated with the mitigation measures (Project modifications) would generate airborne odors from the operation of construction vehicles (i.e., diesel exhaust). However, as discussed above, construction-related odors are typically from localized sources and do not emanate far from the source. Thus, construction activities associated with the Project modifications would not create objectionable odors affecting a substantial number of people.

Given the nature and scope of the proposed mitigation measures (Project modifications), the proposed pipelines, Baker tanks, pumps, etc., would not generate any odors. The RO concentrate discharge from the AWTP would be contained within four Baker tanks, and would be hauled offsite daily for disposal. As such, operations at the SWF would not generate any odorous emissions affecting a substantial number of people.

Standards and Regulations: No standards or regulations are applicable to odors.

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

IMPACT 5.2-4 LOCALIZED AIR QUALITY IMPACTS

- **WOULD THE PROJECT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS?**

Impact Analysis:

SUSTAINABLE WATER FACILITY

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The sensitive receptors located in the Project's vicinity include the Washburn Primitive Campground located on a ridgeline to the south, the San Simeon Creek Campground located along the west side of Van Gordon Creek Road to the west, and two single-family dwellings (State Park camp hosts), also located to the west (beyond Van Gordon Creek Road, approximately 750 feet south of San Simeon Monterey Creek Road).

Construction-related emissions are primarily due to the use of construction equipment diesel engines. Diesel engines emit diesel particulate matter, which is defined by the CARB as a carcinogen. Under SLOAPCD, the proximity of sensitive receptors to a construction site constitutes a special condition and may require a more comprehensive evaluation of toxic diesel particulate matter impacts. As discussed previously, construction-related emissions result in a less than significant impact with implementation of Mitigation Measure AQ-1 (E-CDP Condition 9). Construction activities are also subject to compliance with SLOAPCD Section 2.1.1(a): *Idling Restrictions Near Sensitive Receptors for Both On and Off-Road Equipment*. Compliance with the SLOAPCD rules and regulations ensures that construction-related impacts involving toxic air contaminants are less than significant and no further mitigation is necessary.

According to the California Air Pollution Control Officers Associations (CAPCOA) *Health Risk Assessments For Proposed Land Use Projects*, a Health Risk Assessment (HRA) applies if the SWF was considered a new land use project that generates toxic air contaminants (such as gasoline stations, distribution facilities, or asphalt batch plants) that impact sensitive receptors. The SWF does not include such uses, and thus, due to the lack of stationary source emissions, no health risk assessment is required. Also, as the SWF's mobile-source emissions are nominal, it would not result in localized operational impacts to surrounding sensitive receptors. Impacts in this regard are less than significant.

MITIGATION MEASURES (PROJECT MODIFICATIONS)

As discussed above, the Project modifications would not result in construction-related and/or operational air emissions in exceedance of SLOAPCD thresholds. As such, nearby sensitive receptors (Washburn Primitive Campground to the south, the San Simeon Creek Campground to the west, and two single-family dwellings (State Park camp hosts) to the west) would not be exposed to toxic air contaminants. In addition, construction-related activities would be subject to compliance with SLOAPCD Section 2.1.1(a): *Idling Restrictions Near Sensitive Receptors for Both On and Off-Road Equipment.* Compliance with the SLOAPCD rules and regulations would ensure that construction-related impacts involving toxic air contaminants are less than significant.

Standards and Regulations:

SLOAPCD

- Section 2.1.1(a), *Idling Restrictions Near Sensitive Receptors for Both On and Off-Road Equipment.*

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

IMPACT 5.2-5 AIR QUALITY PLAN CONSISTENCY

- **WOULD CONSTRUCTION-RELATED AND OPERATIONAL CRITERIA POLLUTANT EMISSIONS CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN?**

Impact Analysis:

SUSTAINABLE WATER FACILITY

The purpose of a consistency finding is to determine whether a project is inconsistent with the assumptions and objectives of regional air quality plans, and thus whether it would interfere with the region's ability to comply with Federal and State Ambient Air Quality Standards (AAQS). Therefore, it is necessary to assess the SWF's consistency with the land use and transportation control measures and strategies outlined in the Clean Air Plan (CAP) for the South Central Coast Air Basin. If the SWF is consistent with these measures, it is then considered consistent with the CAP. Assumptions programmed within the CAP are based on the growth assumptions and land use designations in local general plans. Therefore, consistency with the CAP is analyzed concerning the SWF's consistency with the *County of San Luis Obispo General Plan*.

San Luis Obispo County (County) is classified as a State and Federal attainment area for CO and $PM_{2.5}$. The County is also classified as a Federal attainment area for PM_{10}, and attainment for ozone

in the western portion of the County. However, the SWF is located within a classified State non-attainment area for ozone and PM_{10}. The SWF generates construction-related emissions from stationary and mobile equipment, typical of infrastructure construction projects. As discussed in Impact Statement 5.2-1 above, construction-related emissions are below applicable SLOAPCD thresholds with mitigation incorporated. Construction-related emissions ceased following completion of SWF construction activities. The SWF does not involve amendments to the County's General Plan or conflict with the CAP assumptions regarding growth and long-term air quality; see Section 6.3, *Growth-Inducing Impacts*. Additionally, the SWF does not generate a significant increase in pollutant emissions due to additional vehicular traffic or stationary sources (operational emissions). Therefore, due to the SWF's nature and scope, the SWF does not conflict with or obstruct implementation of the CAP and a less than significant impact will occur in this regard.

MITIGATION MEASURES (PROJECT MODIFICATIONS)

The Project modifications would result in construction-related emissions from stationary and mobile equipment, typical of infrastructure projects. As discussed in Impact Statement 5.2-2 above, construction-related emissions from the mitigation measures (Project modifications) would be below applicable SLOAPCD thresholds. The Project modifications would not involve amendments to the County's General Plan or conflict with the CAP assumptions regarding growth and long-term air quality. Additionally, the Project's total operational emissions (SWF plus the mitigation measures (Project modifications)) would not exceed SLOAPCD thresholds. Therefore, due to the Project's nature and scope, the Project would not conflict with or obstruct implementation of the CAP and a less than significant impact will occur in this regard.

Standards and Regulations: No standards or regulations are applicable to compliance with the South Central Coast Air Basin's CAP.

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

5.2.6 CUMULATIVE IMPACTS

- **WOULD THE PROJECT, COMBINED WITH OTHER CUMULATIVE DEVELOPMENT CAUSING RELATED IMPACTS, RESULT IN SIGNIFICANT CUMULATIVE AIR QUALITY IMPACTS?**

Impact Analysis: For purposes of cultural resource analysis, cumulative impacts are considered for related projects proposed throughout the North Coast Planning Area, and according to the WMP; see Section 4.0, *Basis of Cumulative Analysis*. Cumulative projects would have the potential to affect air quality.

As summarized above, the WMP PEIR concluded that construction-related and operational impacts resulting from WMP implementation would be less than significant following compliance with SLOAPCD's permitting requirements and implementation of the recommended mitigation. Further, the air quality conformance analysis concluded that WMP implementation would result in a less than significant impact in this regard.

As with most development, the greatest source of emissions is from vehicular traffic that can travel well out of the local area. Therefore, in terms of air quality, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for a project's air quality analysis must be regional in nature.

Construction and operation of cumulative projects would further degrade the local air quality, as well as the South Central Coast Air Basin's air quality. Air quality would be temporarily degraded during construction activities that occur separately or simultaneously. However, the greatest cumulative impact on the quality of regional air would be the incremental addition of pollutants from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Mobile source emissions generated by Project-related trips would be below SLOAPCD thresholds. Therefore, due to the Project's nature and scope, the contribution to the South Central Coast Air Basin air emissions is not "cumulatively considerable."

Additionally, adherence to SLOAPCD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the SWF does not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, cumulative operational impacts associated with Project implementation are less than significant.

Standards and Regulations:

SLOAPCD

- Rule 202, Permits;
- Rule 401, Visible Emissions;
- Rule 402, Nuisance;
- Rule 431, Stationary Internal Combustion Engines; and
- Section 2.1.1(a), *Idling Restrictions Near Sensitive Receptors for Both On and Off-Road Equipment.*

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

5.2.7 SIGNIFICANT UNAVOIDABLE IMPACTS

Project implementation would result in less than significant air quality impacts.

5.2.8 SOURCES CITED

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