Section 4.3
Air Quality

Introduction

This section describes existing air quality conditions in the project area, evaluates potential air quality impacts and potential greenhouse gas (GHG) emissions associated with construction and operation of the proposed project, and identifies applicant-proposed measures to reduce the expected level of impact.

Although project construction will result in temporary impacts to air quality in the project region, the project will comply with all federal, state, and local air quality regulations and all potential air quality impacts and GHG emissions associated with project construction and operation will be less than significant.

Methodology

Evaluation of potential air quality impacts from project construction and operation included reviewing federal and state air quality standards and relevant federal, state, and local air quality regulations; identifying the existing air quality conditions, air quality attainment status, and sensitive land uses within the project area; and estimating air pollutant emissions from construction and operation of the project.

Monterey and San Benito Counties are within Monterey Bay Unified Air Pollution Control District (MBUAPCD) jurisdiction; thus both counties are subject to the same air quality regulation process and standards. Existing air quality conditions and air quality attainment status in the project area were identified based on air quality data collected by the California Air Resources Board (ARB) and EPA. Sensitive land uses were identified based on site reconnaissance and aerial photo images of the project vicinity.

Construction of the Hollister Tower Segment will require approximately 13 months, and construction of the Hollister Pole Segment will require approximately 12 months. For the impact analysis, the two power line segments were assumed to be constructed at the same time in order to estimate the maximum, worst-case air quality impact to the project area. Construction emissions were estimated using the URBEMIS 2007 model (Version 9.2.0). URBEMIS 2007 uses EPA, ARB, and air district emissions factors to estimate typical emissions (construction, area source, and vehicular) associated with land

use development projects. Construction emissions (vehicle tailpipe emissions and fugitive dust) were modeled using the default equipment horsepower and load factor information from URBEMIS 2007, with conceptual construction schedule, phases, and equipment usage based on the most current available project planning information.

After the project is constructed, maintenance of the project facilities generally is performed as needed. Maintenance work is less extensive and takes place over a few days per year. In addition, maintenance activities are part of the existing environmental baseline, as the maintenance program is routinely performed for the existing power line facilities.

In summary, air quality impact analysis focused on emissions generated during construction of the project, because maintenance and operation of the project will not create a substantial source of new emissions.

Affected Environment

Regulatory Setting

The federal Clean Air Act (CAA) of 1970 regulates air quality in the United States. Air quality in California is governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, EPA administers the CAA. In California, the CCAA is administered by the ARB at the state level and by the air quality management district or air pollution control district at the regional and local levels. The MBUAPCD has local jurisdiction over the project area, which is within Monterey and San Benito Counties.

Federal and State Ambient Air Quality Standards

State and federal regulations establish emission standards for six criteria pollutants: carbon monoxide (CO), ozone (O_3), inhalable particulate matter (particulates 10 microns or less in diameter [PM10] and 2.5 microns or less in diameter [PM2.5], respectively), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). Primary standards have been set to protect public health and welfare with an adequate margin of safety. For some pollutants, more stringent secondary standards have been set based on other values (such as protection of crops, protection of materials, and avoidance of nuisance conditions). Note that, for some pollutants, separate standards have been set for different measurement periods.

The national ambient air quality standards (NAAQS), which describe acceptable conditions, were first authorized by the federal CAA. Air quality is considered in *attainment* if pollutant levels are below or equal to the NAAQS continuously and exceed them no more than once each year. The California ambient air quality

standards (CAAQS), which describe adverse conditions, were authorized by the state legislature in 1967. Pollution levels must be below the CAAQS before a basin is considered to be in attainment of the standard. California standards are generally more stringent than the national standards. The pollutants of greatest concern in the project area are CO, ozone, PM10 and PM2.5, and toxic air contaminants (TACs). Applicable federal and state ambient air quality standards (AAQS) are presented in Table 4.3-1. The following paragraphs present additional information on the criteria pollutants of greatest concern.

- **Ozone**. Ozone is an oxidant that attacks synthetic rubber, textiles, and other materials and causes extensive damage to plants by leaf discoloration and cell damage. It is also a severe eye, nose, and throat irritant and increases susceptibility to respiratory infections. Ozone is not emitted directly into the air, but instead is formed by a photochemical reaction in the atmosphere: ozone precursors, including reactive organic gases (ROG) and oxides of nitrogen (NO_x), are emitted by mobile sources and stationary combustion equipment and react in the presence of sunlight to form ozone. Because reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summertime problem.
- **Carbon monoxide.** CO is essentially inert to most materials and to plants but can significant affect human health because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches to nausea to death. Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter, when periods of light winds combine with the formation of ground-level temperature inversions—typically from evening through early morning. These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.
- **Inhalable particulate matter.** Particulate matter suspended in the atmosphere can reduce visibility, retard plant growth, corrode materials, and impact human health. Health concerns focus on particles small enough to reach the lungs when inhaled (inhalable particulate matter). Federal and state air quality standards for particulate matter apply to two classes of inhalable particulates: PM10 and PM2.5.
- **Toxic air contaminants.** TACs are a category of air pollutants that have been shown to affect human health but are not classified as criteria pollutants. Air toxics are generated by various kinds of sources, including stationary sources such as dry cleaners and gas stations; combustion sources; mobile sources such as diesel trucks, ships, and trains; and area sources such as farms, landfills, and construction sites. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. In October 2000, the ARB identified diesel particulate matter (DPM) as a TAC.

Table 4.3-1. Federal and State Ambient Air Quality Standards

Pollutant	Symbol	Averaging Time	Standard (ppm)		Standard (µg/m^3)		Violation Criteria	
			California	National	California	National	California	National
Ozone	O_3	1 hour	0.09	NA	180	NA	If exceeded	NA
		8 hours	0.07	0.075	137	157	If exceeded	If fourth highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor within an area
Carbon monoxide	CO	8 hours	9	9	10,000	10,000	If exceeded	If exceeded more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded more than 1 day per year
Nitrogen dioxide	NO_2	Annual average	0.03	0.053	56	100	If exceeded	If exceeded more than 1 day per year
		1 hour	0.18	NA	338	NA	If exceeded	NA
Sulfur dioxide	SO_2	Annual average	NA	0.03	NA	80	NA	If exceeded
		24 hours	0.04	0.14	105	365	If exceeded	If exceeded more than 1 day per year
		1 hour	0.25	NA	655	NA	If exceeded	NA
Inhalable particulate matter	PM10	Annual geometric mean	NA	NA	20	NA	If exceeded	NA
		24 hours	NA	NA	50	150	If exceeded	If exceeded more than 1 day per year
	PM2.5	Annual geometric mean	NA	NA	12	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	NA	15	NA	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	NA	NA	NA	35	NA	If 3-year average of 98th percentile at each population-oriented monitor within an area is exceeded
Lead particles	Pb	30-day average	NA	NA	1.5	NA	If exceeded	NA
		Calendar quarter	NA	NA	NA	1.5	NA	If exceeded more than 1 day per year

Table 4.3-1. Continued

Pollutant	Symbol	Averaging Time	Standard (ppm)		Standard (µg/m^3)		Violation Criteria	
			California	National	California	National	California	National
Sulfate particles	SO_4	24 hours	NA	NA	25	NA	If equaled or exceeded	NA
Hydrogen sulfide	H_2S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C_2H_3Cl	24 hours	0.01	NA	26	NA	If equaled or exceeded	NA

ppm = Parts per million.
µg/m^3 = Micrograms per cubic meter.
mg/m^3 = Milligrams per cubic meter.

Source: ARB 2008a.

- **Greenhouse gases.** Greenhouse gases (GHGs) are any gas that absorbs infra-red radiation in the atmosphere. Increases in these gases lead to more absorption of radiation and warm the lower atmosphere further, thereby increasing evaporation rates and temperatures near the surface. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the global climate change. The most common GHG is carbon dioxide (CO2), which constitutes approximately 84 percent of all greenhouse gas emissions in California. GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and TACs, which are pollutants of regional and local concern.

California Air Resources Board Idling Limit Regulation

The ARB has adopted a regulation for In-Use Off-Road Diesel Vehicles, which became effective under California law on June 15, 2008. This regulation is designed to reduce harmful emissions from diesel-powered construction and mining vehicles operating in California. Fleet owners are subject to retrofit or accelerated replacement/repower requirements for which ARB must obtain authorization prior to enforcement from EPA under the CAA. However, this regulation also imposes idling limitations on owners, operators, renters, and lessees of off-road diesel vehicles, which the ARB is authorized to enforce.

The idling limits are effective and enforceable as of June 15, 2008. The regulation requires an operator of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and greater that were not designed to be driven on-road) to limit idling to no more than 5 minutes. These requirements are specified in Title 13 CCR Section 2449(d)(3).

Monterey Bay Unified Air Pollution Control District Air Quality Management Plan

Within the project area, the MBUAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. Air quality also is managed through land use and development planning practices.

The MBUAPCD developed an Air Quality Management Plan (AQMP) in 1991 to bring the Monterey air basin into compliance with state and federal ozone and PM10 air quality standards. The AQMP has been updated five times, most recently in 2008. The current AQMP updates the analysis of emissions reductions needed to meet and maintain the state ozone standard.

Projects directly related to population growth (i.e., residential projects) have been forecast in the AQMP using population forecasts adopted by the Association of Monterey Bay Area Governments (AMBAG). In general, population-related projects that are consistent with these forecasts are consistent with the AQMP

because emissions for such projects have been accounted for in the AQMP and have been mitigated on a regional level through implementation of control measures identified in the Plan. Thus, air quality impacts in the District associated with a proposed project that is consistent with the AQMP would be considered less than significant. The exceptions are projects that would generate more than 150 pounds per day of ROG or oxides of nitrogen (ozone precursors), as specified in the AQMP.

Monterey Bay Unified Air Pollution Control District California Environmental Quality Act Air Quality Guidelines

MBUAPCD has adopted emission thresholds in *CEQA Air Quality Guidelines* (MBUAPCD 2008) to determine the level of significance of project-related emissions. Table 4.3-2 summarizes applicable thresholds that are used in the analysis of project-related construction and operational emissions.

Table 4.3-2. MBUAPCD Significance Thresholds for Construction and Operational Emissions

Pollutant	Construction (pounds per day [ppd])	Operation[a] (ppd)
Reactive organic gases	NA[b]	137
Oxides of nitrogen	NA[b]	137
Carbon dioxide	NA	550
Particulate matter less than 10 microns in diameter (PM10)	82[c]	82
Oxides of sulfur	NA	150

Notes:

NA = Not applicable.

[a] Projects that emit other criteria pollutant emissions would result in a significant impact if emissions would cause or substantially contribute to the violation of state or national ambient air quality standards (AAQS). Criteria pollutant emissions also could result in a significant impact if they would alter air movement, moisture, temperature, climate, or create objectionable odors in substantial concentrations.

[b] The Monterey Bay Unified Air Pollution Control District (MBUAPCD) does not have significance thresholds for construction-related ozone precursors (i.e., reactive organic gases or oxides of nitrogen) from typical construction equipment (such as dump trucks, scrapers, bulldozers, compactors, and front-end loaders) because they are accommodated in the emission inventories of state- and federally required air plans and would not significantly affect the attainment and maintenance of ozone AAQS.

[c] Based on the construction threshold of 82 ppd of PM10, the MBUAPCD has identified levels of construction activity that could result in a significant impact. For construction activities with minimal earthmoving, the MBUAPCD has identified construction sites that disturb more than 8.1 acres per day as having the potential to exceed the District's 82-ppd threshold. For construction activities involving grading, excavation, and other earthmoving activities, the MBUAPCD has identified construction sites that disturb more than 2.2 acres per day as having the potential to exceed the District's 82-ppd threshold.

Source: MBUAPCD 2008.

Greenhouse Gas and Climate Change Regulations

Executive Order S-3-05

On June 1, 2005, Governor Schwarzenegger issued Executive Order S-3-05. It included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several state agencies to cooperate in the development of a Climate Action Plan. The Secretary of CalEPA leads a Climate Action Team (CAT) whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the Executive Order.

The first report to the governor and the legislature was released in March 2006 and will be issued bi-annually thereafter. The CAT report to the governor contains recommendations and strategies to help ensure that the targets in Executive Order S-3-05 are met (CalEPA 2006).

California Global Warming Solutions Act of 2006 (Assembly Bill 32)

In 2006, the California State Legislature adopted the California Global Warming Solutions Act of 2006 (AB 32). AB 32 establishes a cap on statewide GHG emissions and sets forth the regulatory framework to achieve the corresponding reduction in statewide emission levels. Under AB 32, GHG are defined as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

AB 32 requires the ARB to:

- Adopt early action measures to reduce GHG;
- Establish a statewide GHG emissions cap for 2020 based on 1990 emissions;
- Adopt mandatory report rules for significant GHG sources;
- Adopt a scoping plan indicating how emission reductions will be achieved via regulations, market mechanisms, and other actions; and
- Adopt regulations needed to achieve the maximum technologically feasible and cost-effective reductions in GHGs.

Senate Bill 97

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. The bill directs the California Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. OPR submitted a proposed amendment to the CEQA Guidelines on April 13, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010.

Actions Taken by California Office of Planning and Research

In June 2008, OPR issued a Technical Advisory on CEQA and Climate Change (OPR 2008). For projects subject to CEQA, this document recommends that emissions be calculated and mitigation measures be identified to reduce those emissions. The OPR report does not identify emission thresholds for GHGs, but instead recommends that each lead agency develop their own thresholds.

Actions Taken by California Attorney General's Office

The California Attorney General (AG) has filed comment letters under CEQA about a number of proposed projects. The AG also has filed several complaints and obtained settlement agreements for CEQA documents covering general plans and individual programs that the AG found either failed to analyze GHG emissions or failed to provide adequate GHG mitigation. The AG's office prepared a report listing the measures that local agencies should consider under CEQA to offset or reduce global warming impacts. The AG's office also has prepared a chart of modeling tools to estimate GHG emissions impacts of projects and plans. Information on the AG's actions can be found on the California Department of Justice Office of Attorney General web site (DOJ 2008).

California Air Pollution Control Officers Association Guidance

The California Air Pollution Control Officers Association (CAPCOA) released a report in January 2008 that describes methods to estimate and mitigate GHG emissions from projects subject to CEQA. The CAPCOA report evaluates several GHG thresholds that could be used to evaluate the significance of a project's GHG emissions. The CAPCOA report, however, does not recommend any one threshold. The report is designed as a resource for public agencies as they establish agency procedures for reviewing GHG emissions from projects subject to CEQA (CAPCOA 2008).

Project Setting

Climate and Topography

The project area is located within the North Central Coast Air Basin (NCCAB), which includes all of Monterey, Santa Cruz, and San Benito Counties. The MBUAPCD has jurisdiction over air quality issues throughout the three-county NCCAB.

The NCCAB lies along the central coast of California, covering an area of 5,159 square miles. The northwest sector of the basin is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary and, together with the southern extent of the Santa Cruz Mountains, forms the Santa Clara Valley—which extends into the northeastern tip of the Basin. Farther south, the Santa Clara Valley evolves into the San Benito Valley, which runs northwest to southeast and has the Gabilan Range as its western boundary. West of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to King City at the southeast end. The western side of the Salinas Valley is formed by the Sierra de Salinas, which also forms the eastern side of the smaller Carmel Valley; the coastal Santa Lucia Range defines the western side of the valley.

The semi-permanent high-pressure cell in the eastern Pacific is the basic controlling factor in the climate of the air basin. In summer, the high-pressure cell dominates and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High, forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement.

The generally northwest-to-southeast orientation of mountain ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior of the Salinas and San Benito Valleys creates a weak low pressure, which intensifies the onshore airflow during the afternoon and evening.

In fall, the surface winds become weak and the marine layer grows shallow, dissipating altogether on some days. The airflow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB.

During winter, the Pacific High migrates southward and exerts less influence on the air basin. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional

storm systems usually result in good air quality for the basin as a whole in winter and early spring.

According to data recorded by the Hollister station, temperatures average 59 °F annually. Summer afternoon high temperatures average 80 °F, decreasing to an average 53 °F overnight. Winter temperatures average 75 °F in daytime and 47 °F in nighttime. Because of the moderating marine influence, which decreases with distance from the ocean, monthly and annual spreads between temperatures are greatest inland and smallest at the coast. Temperature has an important influence on basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry.

According to data recorded from the Hollister station, precipitation is highly variable seasonally. Rainfall averages 14 inches annually. Summers are often completely dry, with frequent periods of no rain through early fall. Annual rainfall is lowest in the coastal plain and inland valleys, higher in the foothills, and highest in the mountains.

Existing Air Quality Conditions

Existing air quality conditions in the project area can be characterized in terms of the AAQS established by the federal and state governments for various pollutants (Table 4.3-1) and by monitoring data collected in the region. Monitoring data concentrations typically are expressed in terms of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). The air quality monitoring station nearest to the project area is the Hollister monitoring station, located on Fairview Road in the City of Hollister. The Hollister monitoring station monitors for ozone and PM10. In addition, CO and PM 2.5 are monitored at the Salinas monitoring station, which is the only monitoring station in Monterey County that monitors CO. Air quality monitoring data from the Hollister and Salinas monitoring stations are summarized in Table 4.3-3. These data represent air quality monitoring data for the last 3 years (2005–2007) for which complete data are available. As indicated in Table 4.3-3, the Hollister monitoring station has experienced one violation of the state 1-hour ozone standard and eight violations of the state 8-hour ozone standard during the last 3 years. There were no violations of the PM10 standards at the Hollister monitoring station or of the CO and PM2.5 standards at the Salinas monitoring station during this period.

Table 4.3-3. Ambient Air Quality Monitoring Data from the Hollister and Salinas Monitoring Stations (2005–2007)

Pollutant Standard	2005	2006	2007
Ozone (O^3)			
Maximum 1-hour concentration (parts per million [ppm])	0.087	0.099	0.087
Maximum 8-hour concentration (ppm)	0.071	0.088	0.074
***Number of days standard exceeded*[a]**			
CAAQS 1-hour (>0.09 ppm)	0	1	0
NAAQS 8-hour (>0.075 ppm)	0	1	0
CAAQS 8-hour (>0.07 ppm)	1	5	2
Carbon monoxide (CO)			
Maximum 8-hour concentration (ppm)	0.9	1.0	1.2
Maximum 1-hour concentration (ppm)	2.1	2.5	2.0
***Number of days standard exceeded*[a]**			
NAAQS 8-hour (≥9.0 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
PM10[b]			
National[c] maximum 24-hour concentration (micrograms per cubic meter [$\mu g/m^3$])	36	45	40
National[c] second-highest 24-hour concentration ($\mu g/m^3$)	35	35	31
State[d] maximum 24-hour concentration ($\mu g/m^3$)	37	46	40
State[d] second-highest 24-hour concentration ($\mu g/m^3$)	37	36	32
National annual average concentration ($\mu g/m^3$)	15.3	15.8	16.8
State annual average concentration ($\mu g/m^3$)[e]	15.9	16.1	17.3
***Number of days standard exceeded*[a]**			
NAAQS 24-hour (>150 $\mu g/m^3$)[f]	0	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)[f]	0	0	0
PM2.5			
National[c] maximum 24-hour concentration ($\mu g/m^3$)	16.2	13.0	19.2
National[c] second-highest 24-hour concentration ($\mu g/m^3$)	14.2	12.7	15.6
State[d] maximum 24-hour concentration ($\mu g/m^3$)	16.2	13.0	19.2
State[d] second-highest 24-hour concentration ($\mu g/m^3$)	14.2	12.7	15.6
National annual average concentration ($\mu g/m^3$)	6.8	-	7.0
State annual average concentration ($\mu g/m^3$)[e]	6.8	-	7.0
***Number of days standard exceeded*[a]**			
NAAQS 24-hour (>35 $\mu g/m^3$)	0	0	0

Table 4.3-3. Continued

Notes:

CAAQS = California ambient air quality standards.
NAAQS = National ambient air quality standards.
– = Insufficient data available to determine the value.

[a] An exceedance is not necessarily a violation.

[b] Measurements usually are collected every 6 days.

[c] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[d] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.

[e] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

[f] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored.

Sources: ARB 2008b, EPA 2008.

Air Quality Attainment Status

Areas are classified as in attainment or in nonattainment with respect to state and federal AAQS. These classifications are made by comparing actual monitored air pollutant concentrations to state and federal standards. If a pollutant concentration is lower than the state or federal standard, the area is considered to be in attainment of the standard for that pollutant. If pollutant levels exceed a standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated as unclassified. This typically occurs in non-urbanized areas, where pollutant levels may be less closely monitored.

EPA has classified Monterey County as an unclassified/attainment area for the 8-hour ozone, CO, PM10, and PM2.5 standards. The ARB has classified Monterey County as a moderate nonattainment area for the 1-hour ozone standard, an attainment area for the CO standard, a nonattainment area for the PM10 standard, and an attainment area for the PM2.5 standard.

EPA has classified San Benito County as an unclassified/attainment area for the 8-hour ozone, CO, PM10, and PM2.5 standards. The ARB has classified San Benito County as a moderate nonattainment area for the 1-hour ozone standard, an unclassified/attainment area for the CO standard, a nonattainment area for the PM10 standard, and an attainment area for the PM2.5 standard. The attainment status of Monterey and San Benito Counties for each of these pollutants relative to the NAAQS and CAAQS is summarized in Table 4.3-4.

Table 4.3-4. Air Quality Attainment Status of Monterey and San Benito Counties

Pollutant	Federal	State
Monterey County		
1-hour ozone	NA[a]	Moderate nonattainment
8-hour ozone	Unclassified/attainment	NA[b]
Carbon monoxide (CO)	Unclassified/attainment	Attainment
Particulate matter less than 10 microns in diameter (PM10)	Unclassified/attainment	Nonattainment
Particulate matter less than 2.5 microns in diameter (PM2.5)	Unclassified/attainment	Attainment
San Benito County		
1-hour ozone	NA[a]	Moderate nonattainment
8-hour ozone	Unclassified/attainment	NA[b]
CO	Unclassified/attainment	Unclassified
PM10	Unclassified/attainment	Nonattainment
PM2.5	Unclassified/attainment	Attainment

[a] Previously a nonattainment area, no longer subject to the 1-hour standard as of June 15, 2005.

[b] The California Air Resources Board (ARB) approved the 8-hour ozone standard on April 28, 2005; and it became effective on May 17, 2006. However, the ARB has not yet designated areas for this standard.

Source: ARB 2008c.

Sensitive Land Uses

The MBUAPCD generally defines a "sensitive receptor" as a location where human populations, especially children, seniors, and sick persons, are located where there is reasonable expectation of continuous human exposure according to the averaging period for the AAQS (e.g., 24-hour, 8-hour, and 1-hour). Sensitive receptors typically include residences, hospitals, and schools. Sensitive receptors in the project vicinity are primarily residences. Land uses along the Hollister Pole Segment are mostly agriculture lands, with a few homes on Buena Vista Road west of SR 156 that are located within 100–200 feet of the alignment. Land uses along the Hollister Tower Segment are mostly open space areas, with a few homes on Avenida Del Piero south of SR 156 that are located within 100–300 feet of the alignment. The Hollister Substation is surrounded by agriculture lands and industrial land uses. No residences are in the vicinity of the substation.

Environmental Effects

This section describes the potential air quality and GHG emission impacts associated with the proposed project. It lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate potentially significant impacts accompany each impact discussion.

Significance Criteria

For this analysis, an impact pertaining to air quality was considered potentially significant under CEQA if the project would result in any of the following environmental effects; these criteria are based on professional practice and Appendix G of the State CEQA Guidelines:

- Conflicts with, or obstructed implementation of, the applicable air quality plan.
- Violation of any air quality standard or substantial contribution to existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area under federal or state AAQS.
- Exposure of sensitive receptors to substantial pollutant concentrations.
- Objectionable odors affecting a substantial number of people.

In addition, an impact pertaining to GHG was considered potentially significant if the project would result in:

- Creation of substantial quantities of GHG emissions.

Impacts and Mitigation Measures

No conflict with MBUAPCD Air Quality Management Plan – no impact

A project is deemed inconsistent with an air quality plan if it would result in population or employment growth that exceeds the growth estimates in the applicable air quality plan—thus generating emissions not accounted for in the applicable air quality plan emissions budget. Consequently, proposed projects need to be evaluated to determine whether they would generate population and

employment growth and, if so, whether that growth would exceed the growth rate included in the relevant air quality plan.

The proposed project would not result in population or employment growth. Therefore, no impact is related to a conflict with or obstruction of MBUAPCD's AQMP.

Construction Impacts

Construction of the Hollister Tower Segment will require approximately 13 months, and the Hollister Pole Segment will require approximately 12 months. For the purpose of this impact analysis, the two project segments were assumed to be constructed in the same time frame beginning in 2010, in order to evaluate the maximum, worst-case potential impact to air quality in the project area. Construction phases will include construction the Hollister Tower Segment, the Hollister Pole Segment, and the Hollister Substation. For each segment, the staging areas and helicopter landing zones will be established as necessary prior to construction of the towers and poles.

The peak construction phases would occur during construction of the Hollister Pole Segment and Hollister Tower Segment. Construction of the power line segments is assumed to occur linearly along each segment. The Hollister Pole Segment is expected to be constructed at a progression rate of 900 feet per week, and the Hollister Tower Segment is expected to be constructed at a progression rate of 660 feet per week. Because construction will progress quickly, construction activities are not expected to take place near an existing residence for more than a few days.

Typical grading, excavation, and earthmoving equipment would be used for construction, including staging area preparation, access road construction, and pole/tower foundation excavation. Helicopters would be used to install towers, and to deliver materials and workers to locations where overland access is difficult. Table 4.3-5 summarizes the construction phases, schedule, and activities.

Based on the construction activities described above, construction-related emissions were estimated using the URBEMIS 2007 model. Helicopter emissions were estimated for two heavy-duty helicopters and two light-duty helicopters that would operate an average of 10 hours per day for 120 days, for each helicopter. Results are presented in Table 4.3-6. Construction of the project would temporarily create emissions of fugitive dust and equipment diesel exhaust. Fugitive dust emissions are the dominant air pollutants generated from construction activities related to site grading and earthmoving.

Table 4.3-5. Construction Phases, Schedule, and Activities

Project Phase	Schedule	Total Disturbed Area (acres)	Maximum Daily Disturbed Area (acres)	Maximum Daily Excavation (cubic yards)	Maximum Daily Imported Concrete (cubic yards)	Maximum Daily Delivery Trucks
Hollister Tower Segment						
Establish staging area and access roads	13 months	45	2	0	0	3
Tower and transmission line construction		2	1	10	100	6
Hollister Pole Segment						
Establish staging area and access roads	12 months	40	2	0	0	3
Pole and transmission line construction		6	4	10	200	25
Hollister Substation	1 month	0	0	0	0	2

Table 4.3-6. Estimated Construction Emissions

	Construction Emissions (pounds per day)					
Construction Phase	**ROG**	**NO_X**	**CO**	**SO_2**	**PM10 Fugitive Dust**	**DPM Exhaust**
Hollister Tower Segment	8	68	40	0	31	3
Hollister Pole Segment	9	80	44	0	31	4
Hollister Substation	2	18	6	0	0	1
Helicopter operation[a]	2	122	41	8	0	8
Maximum daily emissions[b]	***11***	***202***	***85***	***8***	***62***	***12***
MBUAPCD thresholds of significance	**NA**	**NA**	**NA**	**NA**	**82**	**NA**

MBUAPCD = Monterey Bay Unified Air Pollution Control District.
NA = Not applicable.

[a] Helicopter emissions were estimated for two heavy helicopters operating a total of 10 hours per day and two light helicopters operating a total of 10 hours per day.

[b] Construction of each segment of the proposed project will require 12–13 months. Construction emissions were estimated based on construction of the Hollister Tower and Hollister Pole Segments simultaneously with the use of helicopters on one of the segment to estimate the maximum, worst-case air quality impact to the project area. The maximum daily emissions reflect this assumption.

Potential exceedance of PM10 thresholds near residences – less-than-significant impact

Table 4.3-6 summarizes emissions associated with construction of the proposed project, assuming that the Hollister Pole and Tower Segments are constructed concurrently. According to the MBUAPCD, construction projects using typical

construction equipment that temporarily emit precursors of ozone (i.e., ROG or NOx) are accommodated in the emission inventories of the MBUAPCD's AQMP and would not significantly affect attainment or maintenance of the ozone AAQS. Construction of the project would use typical construction equipment, such as graders, forklifts, backhoes, compactors, hole diggers, cement mixers, cranes, dump trucks, and water trucks (see Table 3-10 in Chapter 3, "Project Description," for equipment expected to be used during construction and estimated usage). Therefore, diesel exhaust emissions from the construction equipment would not significantly affect attainment or maintenance of the ozone AAQS.

According to MBUAPCD, construction activities (e.g., excavation, grading, and on-site vehicle use) that directly generate 82 pounds or more per day of PM10 fugitive dust emissions would result in a significant impact on local air quality, when they are located nearby and upwind of sensitive receptors. As shown in Table 4.3-6, the estimated PM10 fugitive dust emissions from construction of both power line segments concurrently are expected to be lower than the PM10 threshold. The estimate is based on planned activities and construction of the Hollister Tower and Hollister Pole Segments simultaneously to estimate the maximum, worst-case air quality impact to the project area. Actual construction emissions would vary substantially, depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content. Therefore, fugitive dust emissions could exceed the state PM10 thresholds at nearby homes, depending on the specific construction activities, site conditions, and weather conditions at any given location. Implementation of APM AIR-1 described below will ensure that construction-related emissions will be less than significant.

APM AIR-1: IMPLEMENT MBUAPCD MITIGATION MEASURES FOR CONSTRUCTION FUGITIVE DUST EMISSIONS.

PG&E will implement all applicable and feasible fugitive dust control measures required by MBUAPCD. This requirement will be incorporated into the construction contract. These measures include:

- Water all active construction sites at least twice daily. Frequency of watering should be based on the type of operation, soil, and wind exposure.
- Prohibit all grading activities during periods of high wind (over 15 mph).
- Haul trucks will maintain at least 2'0" of freeboard.
- On-site vehicles will be limited to a speed on unpaved roads that minimizes dust emissions.
- Cover all trucks hauling dirt, sand, or loose materials.
- Cover inactive storage piles.
- Install wheel washers at the entrance to construction sites for all exiting trucks.

- Sweep streets if visible soil material is carried out from the construction site.
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person will respond and take corrective action within 48 hours. The phone number of the MBUAPCD also will be visible to ensure compliance with Rule 402 (Nuisance).
- Limit the area under construction at any one time as feasible.

Construction-generated PM10 and ozone precursors in a nonattainment area – less-than-significant impact

Principal air quality concerns during construction relate to (1) generation of fugitive dust on the active construction site; and (2) exhaust emissions from construction equipment and haul/delivery trucks. Although construction of the project would result in temporary generation of PM10 and ozone precursor (i.e., ROG or NOx) emissions in the project area, construction activities would require a small amount of equipment operating intermittently, over a short duration. In addition, construction projects using typical construction equipment that temporarily emit precursors of ozone (i.e., ROG or NOx) are accommodated in the emission inventories of the MBUAPCD's AQMP and would not significantly affect attainment or maintenance of the ozone AAQS. The implementation of above mitigation APM AIR-1 would further reduce PM10 emissions during construction. Therefore, generation of construction emissions is not expected to make a cumulatively considerable contribution to existing air quality problems in the NCCAB. This impact is considered less than significant, and no mitigation is required.

Elevated health risk from exposure to construction-related emissions – less-than-significant impact

In October 2000, the ARB identified DPM as a TAC with potential human health impacts. In addition, the MBUAPCD has identified acrolein from construction exhaust as a pollutant of concern. Construction of the project would require the use of diesel-powered equipment, which would generate DPM emissions; anticipated DPM emission levels are presented in Table 4.3-6.

The assessment of health risks associated with exposure to diesel exhaust typically is associated with chronic exposure, in which a 70-year exposure period often is assumed. In the project area, few existing homes are identified along the Hollister Pole Segment and Hollister Tower Segment that are within 100–300 feet of each alignment. Construction of the approximately 9-mile Hollister Pole Segment and approximately 7-mile Hollister Tower Segment would take approximately 12–13 months. The Hollister Pole Segment is expected to be constructed at a progression rate of approximately 900 feet per week, and the Hollister Tower Segment is expected to be constructed at a progression rate of approximately 660 feet per week. Because the power line segments would be constructed linearly along each segment and would progress quickly, construction activities are not expected to take place near an existing residence

for more than a few days. Only a small number of diesel-powered equipment would be used at any tower or pole construction site. Furthermore, as required by ARB regulation, in-use off-road diesel vehicles may not idle for more than 5 consecutive minutes. Therefore, health impacts associated with TAC pollutants emitted by diesel equipment are expected to be less than significant, and no mitigation is required.

To further reduce the potential exposure to diesel exhaust, PG&E will implement APM AIR-2, as described below.

APM AIR-2: IMPLEMENT BMPS TO REDUCE CONSTRUCTION TAILPIPE EMISSIONS.

PG&E will implement all applicable and feasible measures to reduce tailpipe emissions from diesel-powered construction equipment. This requirement will be incorporated into the construction contract. These measures include:

- Maximize use of diesel construction equipment meeting CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- Use emission control devices at least as effective as the original factory-installed equipment.
- Maintain all diesel-powered equipment in a manner to minimize visible soot emissions.
- Locate stationary diesel-powered equipment and haul truck staging areas as far as practicable from sensitive receptors.
- Minimize unnecessary idling time through application of a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes required by California law—if a vehicle is not required immediately or continuously for construction activities, its engines will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
- Use ground equipment in place of helicopters where practicable.

Construction-generated odors from diesel exhaust – less-than-significant impact

Diesel exhaust from construction activities may generate temporary odors. Once construction activities have been completed, these odors will cease. This impact is considered less than significant. In addition, implementation of APM AIR-2 (Implement BMPs to reduce construction tailpipe emissions) would further reduce exhaust emissions during construction. No mitigation is required.

Increase in greenhouse gas contaminant emissions during construction – less-than-significant impact

The principal source of GHG associated with project construction would be tailpipe emissions from construction equipment and haul trucks. The URBEMIS 2007 model was used to estimate GHG levels from construction tailpipe emissions. Helicopter emissions were estimated for two heavy-duty helicopters and two light-duty helicopters that would operate 10 hours per day for 120 days, for each helicopter. Because the principal source of emissions would be internal combustion, the principal GHG produced would be CO_2. Table 4.3-7 presents estimated CO_2 emissions for construction of each project element.

Table 4.3-7. Estimated Greenhouse Gas Emissions from Construction without Applicant-Proposed Measures

	Carbon Dioxide (CO_2) Emissions (tons per year [tpy])	
Project Phase	**Year 1**	**Year 2**
Hollister Tower Segment	352	32
Hollister Pole Segment	465	
Hollister Substation	21	
Helicopter operation	1,773	
Total project CO_2 (tpy)	**2,643**	

Because the MBUAPCD has not established GHG guidelines or specific significance thresholds for GHG emissions, these estimated CO_2 emissions are provided for information purposes only. The temporary GHG emissions generated by the proposed construction project would be an inconsequentially small fraction of the worldwide GHG emissions during the brief construction period. Therefore, project-related impacts are expected to be less than significant.

PG&E will implement APM AIR-2 (Implement BMPs to reduce construction tailpipe emissions) and APM AIR-3 described below to further reduce GHG emissions during project construction. (Also see the company-wide measures discussed under "Operations Impacts.")

APM AIR-3: MINIMIZE GREENHOUSE GAS EMISSIONS DURING CONSTRUCTION.

PG&E or its contractors will implement the following measures during construction to reduce greenhouse gas emissions:

- Encourage construction workers carpooling to the job site to the extent feasible.
- Encourage recycling of construction waste where feasible.
- Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
- Encourage use of natural gas-powered vehicles for passenger cars and light-duty trucks where feasible and available.
- Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible.

With implementation of APM AIR-2, the construction equipment operation hours are expected to be reduced by 1 hour per day, by minimizing the idling limit to the minimum necessary and as far as possible below 5 consecutive minutes.

PG&E will provide a plan to encourage its employees and construction workers to carpool, which is expected to reduce the GHG emissions generated from commuter trips by 20%. Table 4.3-8 summarizes the estimated CO_2 emissions of each construction phase with the above measures.

Table 4.3-8. Estimated Greenhouse Gas Emissions from Construction with Applicant-Proposed Measures

	Carbon Dioxide (CO_2) Emissions (tons per year [tpy])	
Project Phase	**Year 1**	**Year 2**
Hollister Tower Segment	286	26
Hollister Pole Segment	398	
Hollister Substation	18	
Helicopter operation	1,773	
Total project CO_2 (tpy)	**2,501**	

Operations Impacts

Gaseous effluents from corona activity during operations – no impact

Corona activity on electrical conductors surrounded by air can produce very tiny amounts of gaseous effluents: ozone and NOx. Ozone is a naturally occurring part of the air, with typical rural ambient levels around 10 to 30 parts per billion (ppb) at night and peaks of 100 ppb and higher. In urban areas, concentrations greater than 100 ppb are common. The NAAQS for oxidants is 120 ppb, not to be exceeded as a peak 1-hour concentration on more than 1 day a year (the standard for NO_2 is 140 ppb). Ozone is the primary photochemical oxidant, representing 90 to 95 percent of the total. In general, the most sensitive ozone measurement instrumentation can measure about 1 ppb.

Gaseous effluents can be produced by corona activity on high-voltage power line electrical conductors during rain or fog conditions and can occur for any configuration or location. Typically, concentrations of ozone at ground level for 230 kV and lower voltage power lines during heavy rain are significantly less than the most sensitive instruments can measure, and thousands of times less than ambient levels (and nitrogen oxides are even smaller). In general, newer equipment will minimize corona and gap discharges that would lead to the emissions described above. It is expected that the newly installed conductor will produce gaseous effluents at a level similar to or less than the existing line. Consequently, no impact is associated with corona activity related to project components.

Greenhouse gas emissions during operations – no impact

GHG emissions associated with operation of a substation are limited to sulfur hexafluoride (SF6). SF6 is a non-hazardous inert gas that is used as both an arc-quenching and insulating medium in high-voltage switchgear, circuit breakers, and gas-insulated substations. Although a GHG, it is the best circuit breaker electrical insulation medium available under current technology. No changes are proposed from the environmental baseline of the currently operating Hollister Substation that would affect the amount of SF6 emissions; therefore, no air quality impacts related to GHG are associated with operation of the substation.

In addition, PG&E is implementing several voluntary company-wide actions to further reduce GHG emissions. Continuing implementation of these GHG reduction actions will help to meet the State goal of reducing GHG emissions to 1990 levels by 2020 relative to operational emissions. The voluntary actions by PG&E summarized below will reduce GHG emissions in the future relative to the current emissions deadline.

- PG&E is an active member of the EPA SF6 Emission Reduction Partnership, which focuses on reducing emissions of SF6 from transmission and distribution operations. Since 1998, PG&E has reduced the SF6 leak rate by 89% and absolute SF6 emissions by 83%.
- PG&E supports the Natural Gas STAR, a program promoting the reduction of methane (at least 21 times as potent as CO_2 on a per-ton basis) from natural gas pipeline operations. Since 1998, PG&E has avoided the release of thousands of tons of methane.
- In June 2007, PG&E launched the ClimateSmart program, a voluntary GHG emission reduction program that allows its customers to balance out the GHG emissions that are produced by the energy they use, making their energy use "climate neutral." For ClimateSmart customers, PG&E calculates the amount needed to make the GHG emissions associated with the customer's energy use "climate neutral" and adds this tax-deductible amount to their monthly energy bill. One hundred percent of customer payments are applied to funding new GHG emission reduction projects in California, such as projects that capture methane gas from dairy farms and landfills, and those that conserve and restore California's forests.

- PG&E is offsetting all of the GHG emissions associated with the energy used in PG&E's buildings by participating in its ClimateSmart program. In 2007, this amounted to over 50,000 tons of CO_2 reductions.

The ARB will review and adopt Early Action Measures (pursuant to the California Global Warming Solutions Act of 2006) by January 1, 2010; and equipment used during operation of the project facilities after 2010 will be subject to these requirements. For example, future truck or vehicle operation will be required to comply with any future emissions reduction measures adopted by the ARB, which would further reduce the project's contribution to GHG emissions. PG&E will implement the ARB Early Action Measures for public-owned electric utilities as these policies become effective. These actions will further reduce company-wide GHG emissions for all PG&E projects.

Emissions associated with maintenance activities – no impact

Maintenance activities are routinely performed for the existing power lines and substation; this is the environmental baseline. Emissions associated with maintenance activities for the upgraded facilities would not noticeably differ from those generated by ongoing maintenance activities for the existing facilities. Therefore, no air quality impacts are associated with maintenance activities.

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