2.2 Air Quality

This section discusses potential impacts to air quality resulting from implementation of the Campo Wind Project with Boulder Brush Facilities (Project). The analysis is based on review of existing resources; technical data; applicable laws, regulations, and guidelines; and technical reports prepared for the Project, including the Air Quality and Greenhouse Gas Emissions Analysis Technical Report (Appendix C to this Environmental Impact Report [EIR]).

Comments received in response to the Notice of Preparation included concerns regarding air pollutant emissions generated during construction activities, emissions and odors associated with the temporary batch plant, and fugitive dust generated as a result of vehicle travel and equipment movement on unpaved roads. These concerns were considered in the preparation of this section. A copy of the Notice of Preparation and comment letters received in response to the Notice of Preparation are included in Appendix A of this EIR.

2.2.1 Existing Conditions

The approximately 2,520-acre Project Site is located in southeastern San Diego County, California (Figure 1-1, Project Location, and Figure 1-2, Project Area, of Chapter 1, Project Description, of this EIR). The Project consists of both the Campo Wind Facilities, which would be located on Campo Band of Diegueño Mission Indians Reservation (Reservation) land within the Reservation Boundary under the jurisdiction of the Bureau of Indian Affairs (BIA), and the Boulder Brush Facilities, which would be located on adjacent private lands within the Boulder Brush Boundary under the land use and permitting jurisdiction of the County of San Diego (County).

The Campo Wind Facilities would be located within the approximately 2,200-acre Campo Corridor inside the Reservation Boundary. The BIA is the lead agency for the Project under the National Environmental Policy Act (NEPA) and has prepared an Environmental Impact Statement (EIS) for the Project.

The Boulder Brush Facilities would be located within the approximately 320-acre Boulder Brush Corridor inside the Boulder Brush Boundary. Collectively, the Campo Corridor and the Boulder Brush Corridor comprise the approximately 2,520-acre Project Site.

The Project Site is located within the San Diego Air Basin (SDAB). The Boulder Brush Facilities would be subject to the guidelines and regulations of the San Diego Air Pollution Control District (SDAPCD). The SDAB is one of 15 air basins that geographically divide California. The SDAB lies in the southwest corner of California, covers approximately 4,260 square miles, and comprises the entire San Diego region.

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions are also important because factors such as wind speed and direction, air temperature gradients, sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of criteria air pollutants.[1] These factors are described in Section 2.2.1.1, Climate and Topography, and Section 2.2.1.2, Air Pollution Climatology. Criteria air pollutants and toxic air contaminants (TACs) are summarized in Section 2.2.1.3, Pollutants and Effects. Section 2.2.1.4, San Diego Air Basin Attainment Designation, and Section 2.2.1.5, Local Ambient Air Quality, present the SDAB attainment designations of ambient air quality standards and ambient air quality monitored at nearby stations, respectively.

2.2.1.1 Climate and Topography

Regional Climate and Meteorological Conditions

The climate of the San Diego region, as in most of Southern California, is influenced by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round. The SDAB is characterized as a Mediterranean climate with dry, warm summers and mild, occasionally wet winters. Average temperature ranges (in degrees Fahrenheit [°F]) from the mid-40s to the high 90s, with an average of 201 days warmer than 70°F. The SDAB experiences 9 to 13 inches of rainfall annually, with most of the region's precipitation falling from November through March, with infrequent (approximately 10%) precipitation during the summer. El Niño and La Niña patterns have large effects on the annual rainfall received in San Diego, where San Diego receives less than normal rainfall during La Niña years.

The interaction of ocean, land, and the Pacific High maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). The winds tend to blow onshore in the day and offshore at night. Local terrain is often the dominant factor in terms of influencing wind patterns inland, as winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

[1] The discussion of meteorological and topographical conditions of the SDAB is based on information provided in the SDAPCD 2016 Monitoring Plan (SDAPCD 2017a), the County of San Diego Guidelines for Determining Significance – Air Quality (County of San Diego 2007), the County of San Diego General Plan Update EIR (County of San Diego 2011), and the CARB Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard (CARB 2011).

Topographical Conditions

Topography in the San Diego region varies greatly, from beaches in the west to mountains and desert in the east; much of the topography in between consists of mesa tops intersected by canyon areas. Along with local meteorology, topography influences the dispersal and movement of pollutants in the SDAB. Mountains to the east prohibit dispersal of pollutants in that direction and help trap pollutants in inversion layers.

The topography of the SDAB also drives pollutant levels, and the SDAB is classified as a "transport recipient," whereby pollutants are transported from the South Coast Air Basin to the north and, when the wind shifts direction, from Tijuana, Mexico, to the south.

Site-Specific Conditions

The local climate in western San Diego County is characterized as semi-arid with consistently mild, warmer temperatures throughout the year. The average summertime high temperature in the region is approximately 81°F. The average wintertime low temperature is approximately 43.7°F, although record lows have approached 32°F in January. Average precipitation in the local area is approximately 14.8 inches per year, with the bulk of precipitation falling December through March (WRCC 2017).

The Project Site is largely undeveloped open rangeland/desert. The on-site elevation ranges from approximately 3,280 to 4,120 feet above mean sea level.

2.2.1.2 Air Pollution Climatology

The favorable climate of San Diego also works to create air pollution problems. Sinking or subsiding air from the Pacific High creates a temperature inversion known as a subsidence inversion, which acts as a "lid" to vertical dispersion of pollutants. Weak summertime pressure gradients further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic emissions combined with strong sunshine leads to photochemical reactions that result in the creation of ozone (O_3) at this surface layer. In addition, light winds during the summer limit ventilation.

In the fall, the SDAB is often impacted by Santa Ana winds, which are the result of a high-pressure system over the Nevada and Utah regions that overtakes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. The Santa Ana winds are powerful and can blow the SDAB's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase O_3 concentrations in the San Diego area.

Under certain conditions (weak Santa Ana winds), atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3

concentrations, as measured at air pollutant monitoring stations within the County. The transport of air pollutants from Los Angeles to San Diego can also occur within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

2.2.1.3 Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. These pollutants are discussed below.[2] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone (O_3). O_3 is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface (tropospheric O_3). The O_3 that the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects. Stratospheric O_3 occurs naturally in the upper atmosphere, where it beneficially reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere.

Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, older adults, and young children.

[2] The descriptions of health effects herein are based on U.S. Environmental Protection Agency's Six Common Air Pollutants (EPA 2017a) and California Air Resources Board's Glossary of Air Pollutant Terms (CARB 2017).

Nitrogen Dioxide (NO_2). NO_2 is present in all urban atmospheres, where the major mechanism for its formation is the oxidation of nitric oxide. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect terrestrial and aquatic ecosystems. Major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016a).

Carbon Monoxide (CO). CO is formed by the incomplete combustion of hydrocarbon, or fossil fuels. Therefore, CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November through February. The highest levels of CO typically occur during the colder months, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide (SO_2). SO_2 is primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary-source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter, approximately 1/7 the thickness of a human hair. Major sources

of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter, roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases, such as chlorides and ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces where they settle, and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and older adults may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances; anemia; kidney disease; and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern is low-level lead exposure during infancy and childhood. Such exposure is associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds (VOCs). Hydrocarbons, like VOCs, are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the main sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Non-Criteria Pollutants

Toxic Air Contaminants (TACs). A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. Examples of TACs include diesel particulate matter (DPM), certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills.

Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter (DPM). DPM is part of a complex mixture that makes up diesel exhaust. More than 90% of DPM is less than 1 micrometer in diameter (approximately1/70th the diameter of a human hair), and is a subset of $PM_{2.5}$ (CARB 2016a). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including more than 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016a). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) as a TAC in August 1998 (17 CCR 93000).

DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with

DPM, CARB adopted a Diesel Risk Reduction Plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016a). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and older adults who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and is subjective, since people may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Other Concerns Related to Air Emissions

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

Valley Fever is not considered highly endemic to San Diego. Per the San Diego County Health and Human Services Agency, the 10-year average (2008–2017) for Coccidioidomycosis cases in the San Diego County is 4.5 cases per 100,000 people per year (Nelson pers. comm. 2018). The Project Site is wholly contained within the 91917 zip code. For the 91917 zip code, there were only two cases of Coccidioidomycosis between 2008 and 2017, which is too few cases for an incidence rate to be calculated (Nelson pers. comm. 2018). Statewide incidences in 2016 were 13.7 per 100,000 people (CDPH 2017).

Even if present at a site, earth-moving activities may not result in increased incidence of Valley Fever. Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the

potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000).

2.2.1.4 San Diego Air Basin Attainment Designation

Pursuant to the federal Clean Air Act (discussed in Section 2.2.2.1, Federal), EPA classifies air basins (or portions thereof) as in "attainment" or "nonattainment" for each criteria air pollutant based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, calls for the designation of areas as "attainment" or "nonattainment," but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS.

Table 2.2-1, San Diego Air Basin Attainment Classification, summarizes the SDAB's federal and state attainment designations for each of the criteria pollutants. In summary, the SDAB is designated as a nonattainment area for the 2008 8-hour O_3 NAAQS, and O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The portion of the SDAB where the Project Site is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

2.2.1.5 Local Ambient Air Quality

The SDAPCD operates a network of 11 ambient air monitoring stations throughout the County that measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and NAAQS. Due to its proximity to the Project Site, similar geographic and climactic characteristics, and available measured ambient concentrations of pollutants, the Alpine-Victoria Drive monitoring station is considered most representative of the Project Site. The Alpine-Victoria Drive monitoring station is located approximately 24 miles northwest of the Project Site. Pollutant concentrations of CO, SO_2, PM_{10}, and $PM_{2.5}$ are not measured at the Alpine-Victoria Drive monitoring station; therefore, measurements from

the nearest monitoring station that includes those pollutants, the El Cajon Lexington Elementary monitoring station, are presented herein. The El Cajon Lexington Elementary monitoring station is located approximately 33 miles west of the Project Site. Ambient concentrations of pollutants from 2015 through 2017, the most recent data available at the time of preparing this document, are presented in Table 2.2-2, Local Ambient Air Quality Data. The number of days exceeding the NAAQS and CAAQS are also shown in Table 2.2-2. SDAPCD significance thresholds are shown in Table 2.2-3, San Diego Air Pollution Control District Air Quality Significance Thresholds.

2.2.2 Regulatory Setting

Federal regulations are applicable to the Boulder Brush Facilities and to the Campo Wind Facilities.

Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting the NAAQS for major air pollutants, setting hazardous air pollutant standards, approving state attainment plans, setting motor vehicle emissions standards, setting stationary source emissions standards and approving permits, providing acid rain control measures, implementing stratospheric O_3 protection, and providing enforcement provisions.

NAAQS are established by the EPA for "criteria pollutants"—O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead—under the Clean Air Act. The NAAQS describe acceptable air quality conditions designed to protect the public health and welfare. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. The EPA sets the NAAQS based on a lengthy process that involves science policy workshops, a risk/exposure assessment that draws on the information and conclusions of the science policy workshops to development quantitative characterizations of exposures and associated risks to human health or the environment, and a policy assessment by EPA staff that bridges the gap between agency scientific assessments and the judgments required of the EPA administrator, who then takes the proposed standards through the federal rulemaking process (EPA 2017b). States with areas that exceed the NAAQS must prepare a State Implementation Plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The federal Clean Air Act requires the EPA to identify national emissions standards for hazardous air pollutants to protect public health and welfare. Hazardous air pollutants include

certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard based on scientific studies of exposure to humans and other mammals. The EPA has identified approximately 187 substances and chemical families as hazardous air pollutants.

State

State regulations are applicable to the Boulder Brush Facilities located on private lands within the County. State regulations are not applicable to the Reservation or the Campo Wind Facilities.

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB established the CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that cannot be exceeded. All others are not to be equaled or exceeded.

Similar to the federal process, the standards for the CAAQS are adopted after review by CARB staff of the scientific literature produced by agencies such as the Office of Environmental Health Hazard Assessment (OEHHA); the Air Quality Advisory Committee, which is comprised of experts in health sciences, exposure assessment, monitoring methods, and atmospheric sciences appointed by the Office of the President of the University of California; and public review and comment.[3]

The NAAQS and CAAQS are presented in Table 2.2-4, Ambient Air Quality Standards.

[3] See https://www.arb.ca.gov/research/aaqs/ozone-rs/ozone-rs.htm; https://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm; and https://www.arb.ca.gov/research/aaqs/no2-rs/no2-rs.htm.

Toxic Air Contaminants

A TAC is defined by California law as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health. Federal laws use the term "hazardous air pollutants" to refer to the same types of compounds that are referred to as TACs under state law. California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588).

Assembly Bill 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. Pursuant to AB 2588, existing facilities that emit air pollutants above specified level are required to prepare a TAC Emissions Inventory Plan and Report; prepare a risk assessment if TAC emissions are significant; notify the public of significant risk levels; and, if health impacts are above specified levels, prepare and implement risk reduction measures. A full list of regulatory measures pertaining to the reduction of DPM and criteria pollutant emissions from off-road equipment and diesel-fueled vehicles are included in Appendix C of this EIR.

California Health and Safety Code Section 41700

Section 41700 of the California Health and Safety Code states that a person cannot discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause injury or damage to business or property. This section also applies to sources of objectionable odors.

Local

Local regulations are applicable to the Boulder Brush Facilities located on private lands within the County. Local regulations are not applicable to the Reservation or Campo Wind Facilities.

San Diego Air Pollution Control District

The SDAB is designated as a nonattainment area for the 2008 8-hour O_3 NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The portion of the SDAB where the Project Site is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

CARB is responsible for the regulation of mobile emissions sources within the state, and local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. As discussed in Section 2.2.1, Existing Conditions, the Boulder Brush Boundary is located within the SDAB and is subject to the guidelines and regulations of the SDAPCD.

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the Clean Air Plans for attainment and maintenance of the ambient air quality standards in the SDAB, namely the State Implementation Plan (SIP) and the Regional Air Quality Strategy (RAQS). The federal O_3 maintenance plan, which is part of the SIP, was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS for the SDAB was initially adopted in 1991, and is updated on a triennial basis (most recently in 2016) (SDAPCD 2016a). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The SIP and RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities within the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB's mobile source emissions projections and SANDAG's growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of development of their general plans.

The Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O_3 standard by 2018 (SDAPCD 2016b). In this plan, the SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

SDAPCD's Measures to Reduce Particulate Matter in San Diego County report addresses implementation of Senate Bill 656 in San Diego County (Senate Bill 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In this report, the SDAPCD evaluated implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities, including earthmoving, demolition, and grading; bulk material storage and handling; carryout

and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust.

As stated above, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations would apply to construction and operation of the Boulder Brush Facilities[4]:

SDAPCD Regulation II: Permits; Rule 20.2: New Source Review Non-Major Stationary Sources. This regulation requires new or modified stationary source units (that are not major stationary sources) with the potential to emit 10 pounds per day or more of VOC, NO_x, SO_x, or PM_{10} to be equipped with best available control technology. For those units with a potential to emit above air quality impact assessment trigger levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 2016c).

The Project would include four 150-kilowatt diesel emergency generators, required at the operations and maintenance (O&M) Facility, the collector substation, the high-voltage substation, and the switchyard. Operation of the emergency generators associated with the Boulder Brush Facilities located at the collector substation, the high-voltage substation, and the switchyard would be subject to Rule 20.2 and would require appropriate operating permits from the SDAPCD. The thresholds identified in Rule 20.2 are used in this analysis as screening-level thresholds to evaluate Project-level impacts, as discussed in Section 2.2.3, Analysis of Project Effects and Determination as to Significance.

SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions. This regulation prohibits discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).

Construction of the Boulder Brush Facilities may result in visible emissions, primarily during earth-disturbing activities, which would be subject to SDAPCD Rule 50. Although visible emissions are less likely to occur during operation of the Project, compliance with SDAPCD Rule 50 would be required during both construction and operation.

[4] There are no equivalent requirements for the Campo Wind Facilities.

SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance. This regulation prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1969).

Any criteria air pollutant emissions, TAC emissions, or odors that would be generated during construction or operation of the Boulder Brush Facilities would be subject to SDAPCD Rule 51. Violations can be reported to SDAPCD in the form of an air quality complaint by telephone, email, or online form. Complaints are investigated by SDAPCD as soon as possible.

SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust. This regulation regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009).

Construction of the Project, primarily during earth-disturbing activities, may result in fugitive dust emissions that would be subject to SDAPCD Rule 55. Implementation of Project Design Feature **(PDF) AQ-2** would be applied to ensure fugitive dust reducing practices are employed during construction of the Campo Wind Facilities. Implementation of Mitigation Measure **(M) AQ-2** would be applied to ensure fugitive dust reducing practices are employed during construction of the Boulder Brush Facilities. Fugitive dust emissions are not anticipated during routine operation of the Project.

SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. This regulation requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015a). Implementation of **M-AQ-5** would limit the VOC content for interior and exterior coatings during construction of the Boulder Brush Facilities, and is more restrictive than the VOC content limits identified in SDAPCD Rule 67.0.1. Architectural coatings used in the reapplication of coatings during operation of the Boulder Brush Facilities would be subject to the VOC content limits identified in SDAPCD Rule 67.0.1, which applies to coatings manufactured, sold, or distributed within San Diego County, but reductions were not quantified. Implementation of **PDF-AQ-5** would limit the VOC content for interior and exterior coatings during construction of the Campo Wind Facilities, and is more restrictive than the VOC content limits identified in SDAPCD Rule 67.0.1.

SDAPCD Regulation XII: Toxic Air Contaminants; Rule 1200: Toxic Air Contaminants – New Source Review. This regulation requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above one in one million at every receptor

location, or demonstrate that toxics best available control technology (T-BACT) will be employed, as implementation of **M-AQ-1**, if maximum incremental cancer risk is equal to or less than 10 in one million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in one million but less than 100 in one million (SDAPCD 2017b).

The Project's emergency generators would be the only stationary source on site during Project construction. These generators would be subject to SDAPCD Rule 1200, and would be subject to New Source Review requirements.

SDAPCD Regulation XII: Toxic Air Contaminants; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction. This regulation requires each stationary source that is required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in one million, or cancer burden equal to or greater than 1.0, or total acute noncancer health hazard index equal to or greater than 1.0, or total chronic noncancer health hazard index equal to or greater than 1.0 (SDAPCD 2017c).

The Project's emergency generators would be the only stationary source on-site during Project construction. These generators would be subject to SDAPCD Rule 1210, and would be subject to public notification and risk reduction requirements. The thresholds identified in Rule 1210 were used in this analysis as thresholds for the Health Risk Assessment, which is consistent with the SDAPCD Health Risk Assessment guidelines (SDAPCD 2015b).

San Diego Association of Governments

SANDAG is the regional planning agency for the County, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for San Diego County. With respect to air quality planning and other regional issues, SANDAG prepared its San Diego Forward: The Regional Plan for the San Diego region (Regional Plan; SANDAG 2015). The Regional Plan combines the big-picture vision for how the region will grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy, is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050.

The Regional Plan sets the policy context for how SANDAG participates in and responds to the SDAPCD's air quality plans, and builds off SDAPCD's air quality plan processes that are designed to meet health-based criteria pollutant standards (SANDAG 2015). The Regional Plan complements air quality plans by providing guidance and incentives for public agencies to

consider best practices that support the technology-based control measures in air quality plans. Also, the Regional Plan emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, and other sources of air pollution (SANDAG 2015).

San Diego County

County Code Section 87.428, Dust Control Measures. As part of the San Diego County Grading, Clearing, and Watercourses Ordinance, County Code Section 87.428 requires all clearing and grading to be carried out with dust control measures that are adequate to prevent the creation of a nuisance to people and public or private property. Clearing, grading, and improvement plans require that measures be undertaken to achieve this result, including watering, applying surfactants,[5] shrouding, controlling vehicle speeds, paving access areas, and/or implementing other operational or technological measures to reduce dispersion of dust. These measures are to be incorporated into all earth-disturbing activities to minimize the amount of particulate matter emissions from construction (County of San Diego 2004).

County Zoning Ordinance Section 6318. Section 6318 of the San Diego County Zoning Ordinance requires that all commercial and industrial uses be operated so they do not emit matter causing unpleasant odors that are perceptible by the average person at or beyond any lot line of the lot containing said uses. Section 6318 goes on to provide specific dilution standards that must be met "at or beyond any lot line of the lot containing the uses" (County of San Diego 1979).

Tribal

Tribal regulations are applicable to the Campo Wind Facilities only.

Tribal Implementation Plan

In the 1990 revision of the CAA, Congress recognized that Native American tribes have the authority to implement air pollution control programs. The EPA's Tribal Authority Rule gives tribes the ability to develop air quality management programs, write rules to reduce air pollution and implement and enforce their rules within tribal lands. While state and local agencies are responsible for all CAA requirements, tribes may develop and implement only those parts of the CAA that are appropriate for their lands. The EPA provides technical assistance and resources to help tribes build their program capacity. The EPA also implements the CAA requirements on tribal lands through programs such as the Federal Rules for Reservations, Title V permits, and air toxics rules.

[5] Surfactants are compounds that lower surface tension between liquids or between a solid and a liquid, such as a detergent.

Initially, the General Conformity Rule of 1993 did not specifically identify the roles of Native American tribes in the General Conformity process or the connection between the regulations and Tribal Implementation Plans (TIPs). In the revised 2011 regulations, the EPA specifically identified tribal agencies as stakeholders in the conformity process to ensure that in a nonattainment or maintenance area, federal actions conform to the air quality plans established in the applicable SIP or TIP such as requiring specific notification for any federally recognized tribes in the nonattainment or maintenance area where the action is occurring. In addition, the revised regulations also clarify that federal actions must conform to any applicable TIP. The Reservation is in attainment for all criteria pollutants. The Campo Band of Diegueno Mission Indians (Tribe) and the Reservation are not subject to the SIP.

The General Conformity Rule plays an important role in helping tribes improve air quality in those areas that do not meet NAAQS. Under the General Conformity Rule, federal agencies must work with state, tribal, and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plan established in the applicable SIP or TIP.

Campo Band of Diegueño Mission Indians Land Use Plan (Land Use Plan)

Under the Campo Lease, the Campo Land use Plan is not applicable to the Campo Wind Facilities, although it is included in this analysis for informational purposes.

The Campo Land Use Plan states that it is the intention of the Tribe to pursue diversity in land use. Tribal lands have been designated for a variety of purposes, including wilderness/recreational, residential/grazing/agricultural, commercial and light industrial, and civic uses. Additionally, the Campo Land Use Plan allows for the creation of a Campo Renewable Energy Zone (CREZ), which allows for the development of wind and solar energy developments within any district and any land use designation within the Reservation, as approved by the General Council. Muht Hei Inc. may designate a CREZ over one or more areas of land within the Reservation where development potential for renewable energy development, resources or related businesses is commercially feasible, provided that such designation is an overlay that does not change the underlying land use designation approved by the General Council and provided further that the designation of the CREZ satisfies criteria outlined in the Land Use Plan (Campo Band of Diegueño Mission Indians 2010).

2.2.3 Analysis of Project Effects and Determination as to Significance

Methodology

Although the County as lead agency is analyzing the Project as whole, the County's land use jurisdiction is limited to the Boulder Brush Facilities. The BIA has jurisdiction over the Campo Wind Facilities and has prepared an EIS to evaluate Project effects under NEPA. This analysis relies on the

analysis in the EIS and summarizes it where appropriate. The analysis herein addresses the Project as a whole because air emissions travel and the air basin is geographically based.

Summary of the Air Quality Effects from the Campo Wind Facilities disclosed in the EIS for the Project

In an area without a State Implementation Plan (SIP), a federal action can be shown to "conform" with the Clean Air Act by demonstrating that there will be no increase in emission in the nonattainment or maintenance area from the federal action that could cause new violations of the standards and/or no increase in the frequency or severity of previous violations. This is demonstrated when project emissions do not exceed EPA's de minimis emission screening levels. In creating the de minimis emission levels, EPA sought to limit the need to conduct conformity determinations for actions with minimal emission increases. When the total direct and indirect emissions from the project/actions are below the de minimis levels, the project/action is not subject to a conformity determination.

The Project's potential VOC, NO_x, and CO emissions from both construction and operation would be less than the federal de minimis emissions thresholds for these pollutants, even conservatively including emissions related to activities outside the BIA's control and even without the identified PDFs for air quality; therefore, the Project would not have a significant direct adverse effect. Thus, the Project would not result in adverse effects under NEPA, and no mitigation is recommended.

California Environmental Quality Act Guidelines

Guidelines to address the significance of air quality impacts are contained in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Based on those guidelines, a project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard;
3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

County CEQA Significance Criteria

The following significance thresholds for air quality are based on criteria provided in the County's Guidelines for Determining Significance and Report Format and Content Requirements

– Air Quality (County of San Diego 2007). The County's guidelines were adapted from Appendix G of the CEQA Guidelines.

A significant impact would result if any of the following would occur:

- The project would conflict with or obstruct the implementation of the SDAPCD's RAQS and/or applicable portions of the SIP.
- The project would result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is in nonattainment under an applicable federal or state Ambient Air Quality Standard.
    - The following guidelines for determining significance must be used for determining whether the net increase during the construction phase is cumulatively considerable:
        - A project that has a significant direct impact on air quality with regard to construction-related emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase.
        - In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the construction-related emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines, including the SDAPCD's screening-level thresholds.
    - The following guidelines for determining significance must be used for determining whether the net increase during the operational phase is cumulatively considerable:
        - A project that does not conform to the SDPACD's RAQS and/or has a significant direct impact on air quality with regard to operational-related emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase.[6]
        - Projects that cause road intersections to operate at or below level of service (LOS) E (analysis required only when the addition of peak-hour trips from the proposed project and the surrounding projects exceeds 2,000) and create a CO hotspot create a cumulatively considerable net increase of CO.
        - In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the

[6] For nonattainment pollutants, if emissions exceed the thresholds shown in Table 2.2-4, the Project could have the potential to result in a cumulatively considerable net increase in these pollutants, and, thus, could have a significant impact on the ambient air quality.

operational-related emissions of concern from a project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines, including the SDAPCD's screening-level thresholds.

- The project would expose sensitive receptors to substantial pollutant concentrations.
- The project places sensitive receptors near CO hotspots or creates CO hotspots near sensitive receptors.
- Project implementation would result in exposure to TACs resulting in a:
  - Maximum incremental cancer risk equal to or greater than 1 in one million without application of Toxics-Best Available Control Technology (T-BACT), or
  - Maximum incremental cancer risk equal to or greater than 10 in one million with application of T-BACT, or
  - Cancer burden equal to or greater than 1.0, or
  - Total acute non-cancer health hazard index equal to or greater than 1.0, or
  - Total chronic non-cancer health hazard index equal to or greater than 1.0.
- The project, which is not an agricultural, commercial, or an industrial activity subject to SDAPCD standards, as a result of implementation, would either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which would affect a considerable number of persons or the public. For industrial activity, including stationary sources, the activity would result in odors that violate SDAPCD Rule 51.

As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds under which a stationary source would not have a significant impact on ambient air quality. For CEQA purposes in the County, these screening criteria are used as quantitative significance criteria to determine whether a project's total emissions from stationary sources would or would not result in a significant impact to air quality.

2.2.3.1 Conformance to the Regional Air Quality Strategy

Guideline for the Determination of Significance

Conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP air quality plan.

Analysis

Project

As noted in Section 2.2.2, Regulatory Setting, the strategies in the SIP and RAQS to reduce emissions are based on SANDAG's growth projections (which are based on the General Plan land use designations for the cities and counties within its planning area) for the incorporated and unincorporated County. If a project involves development that would result in growth greater than that anticipated in SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may result in a significant impact on air quality. The Project Site is largely open rangeland/desert, with a small amount of rural residential homes and ranches scattered throughout the Project Vicinity. The Project would include neither a residential component that would increase local population growth, nor a commercial component that would substantially increase employment; rather, the Project would construct and operate a renewable energy generation facility.

In the County's General Plan, the land use designation for the Boulder Brush Boundary is Rural Lands 80 (RL-80) (County of San Diego 2011). The Boulder Brush Boundary is zoned General Rural (S92) by the County of San Diego Zoning Map (County of San Diego 2017). Minor and major impact utilities are allowed with approval of a Major Use Permit. Major impact services and utilities (e.g., wind energy facilities) and minor impact utilities (e.g., electrical distribution substations) are defined under Sections 1350 and 1355 of the County Zoning Ordinance. The Boulder Brush Facilities require approval of a Major Use Permit from the County, and would not require a change in General Plan land use designation or zoning. The County's General Plan and zoning do not cover land within the Reservation Boundary.

Construction of the Project would not result in residential, commercial, or growth-inducing development that would result in a substantial increase in growth-related emissions. The Project would generate minimal periodic operational vehicle trips. The Project would only generate 12 round trips per day (24 one-way trips) as a result of 10 to 12 operational employees traveling to and from the Project Site from downtown San Diego.

The growth projections, SIP, and RAQS do not apply on Tribal land and, therefore, development of the Campo Wind Facilities would not conflict with the SIP or RAQS. However, the TIP would apply to the development of the Campo Wind Facilities; therefore, implementation of the Campo Wind Facilities would be consistent with the TIP. As discussed in Section 2.2.3.2, Conformance to Federal and State Air Quality Standards, with the PDFs, as listed in Section 1.4, Project Design Features, of Appendix C, Air Quality and Greenhouse Gas Emissions Analysis Technical Report, of this EIR and Chapter 1, Project Description, of this EIR, incorporated into the Campo Wind Facilities, and mitigation measures applicable to the Boulder Brush Facilities, development and operation of the Project would not exceed the ambient air quality standards that the SIP and

RAQS are designed to attain. Therefore, development of the Campo Wind Facilities would not obstruct the implementation of the RAQS or SIP.

The Project does not propose residential, commercial, or growth-inducing development. During operation, staff would visit various Project components periodically for maintenance and other operational activities. Maintenance trucks would be used to perform routine maintenance, including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance. Since the Project would not contribute to local population growth or substantial employment growth and growth-related emissions, the Boulder Brush Facilities is considered accounted for in the SIP and RAQS, the Campo Wind Facilities would be consistent with the TIP; therefore, the Project would not conflict with or obstruct implementation of local air quality plans; therefore, impacts would be **less than significant**.

Boulder Brush Facilities

As discussed above, the Boulder Brush Facilities would not require a change in land use designation or zoning. Construction of the Boulder Brush Facilities would not result in residential, commercial, or growth-inducing development that would result in a substantial increase in growth-related emissions. Therefore, the Boulder Brush Facilities are accounted for in the SIP and RAQS and would not conflict with or obstruct implementation of local air quality plans. Thus, impacts would be **less than significant**.

Campo Wind Facilities

The Campo Wind Facilities are subject to federal and Tribal law, and the EIS finds the Campo Wind Facilities would be consistent with all applicable air quality regulations. Therefore, impacts associated with conflicts with an applicable land use plan or policy as a result of the Campo Wind Facilities would be **less than significant**.

2.2.3.2 Impacts to Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Air quality regulators typically define sensitive receptors as schools (preschool–12th grade), hospitals, resident care facilities, daycare centers, and other facilities that may house individuals who have health conditions that would be adversely impacted by changes in air quality. For the purposes of CEQA analysis in the County, the definition of a sensitive receptor also includes residents. This section addresses impacts associated with exposure of sensitive receptors to substantial pollutant concentrations.

The nearest sensitive-receptor land use (existing residence) to disturbance areas would be located approximately 200 feet from construction activities related to the Campo Wind Facilities and 38

feet from construction activities related to the Boulder Brush Facilities. The two primary emissions of concern regarding health effects for land development projects are DPM during construction and CO hotspots related to traffic congestion; however, emissions of other criteria air pollutants also result in health effects that can be significant when above the ambient air quality thresholds. As discussed in Section 2.2.3.2, Conformance to Federal and State Air Quality Standards, with mitigation (for the Boulder Brush Facilities) and PDFs (for the Campo Wind Facilities) during construction, the Project's criteria air pollutants during construction and operations would be below the ambient air quality thresholds.

Guidelines for the Determination of Significance

Expose sensitive receptors to substantial pollutant concentrations

Based on Appendix G of the CEQA Guidelines, a project would have a significant impact if it would:

- Expose sensitive receptors to substantial pollutant concentrations.

Substantial concentration may be further measured using the following:

- The project would result in CO emissions that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm.
- Projects that cause road intersections to operate at or below LOS E and the addition of peak-hour trips from a project and surrounding projects exceeds 3,000 have the potential to create CO concentrations exceeding the CAAQS.
- Project implementation would result in exposure to TACs resulting in a maximum incremental cancer risks equal to or greater than 10 in one million, or cancer burden equal to or greater than 1.0, or total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0 would be deemed as having a potentially significant impact.
- Lead exposure equal to or greater than 0.12 micrograms per cubic meter ($\mu g/m^3$).

Analysis

Construction and Decommissioning

Carbon Monoxide Hotspot

Project

Mobile-source impacts occur basically on two scales of motion. Regionally, Project-related travel would add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, Project traffic would be added to the County roadway system in the vicinity of the Project Site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-Project traffic, a potential for the formation of microscale CO "hotspots" may occur in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing (CARB 2004).

CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and older adults. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable LOS. Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. As indicated in the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Air Quality (County of San Diego 2007), a site-specific CO hotspot analysis for Project operations should be performed if a proposed development would cause road intersections to operate at or below a level of service (LOS) E with intersection peak-hour trips exceeding 3,000. Although a CO hotspot analysis is not required for construction activities, the following analysis is provided for disclosure purposes.

No intersections in the Project Vicinity would cause road intersections to operate at or below LOS E. Trip generation and distribution for workers and delivery trucks would ultimately vary depending on the phase of construction; however, based on daily construction worker, vendor trip, and haul truck estimates, maximum daily trips resulting from construction activities would be approximately 1,102 one-way vehicle trips (see Appendix H).

A Transportation Impact Analysis (Appendix H) was prepared for the Project and evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the Project. The Project's traffic analysis evaluated eight intersections based on existing traffic

volumes and current street geometry. With the addition of Project traffic, the study intersections are calculated to operate acceptably at LOS D or better during AM and PM peak hours under near-term and cumulative conditions. Similarly, decommissioning of the Project would have less vehicle traffic than construction and would not exceed the County's screening level of 3,000 total peak-hour trips per intersection. Accordingly, the Proposed Project would not place sensitive receptors near CO hotspots or create CO hotspots near sensitive receptors because no CO hotspots would occur in the vicinity of the Project. Therefore, no intersections in the vicinity of the Project Site would exceed a peak-hour volume of 3,000 vehicles. As such, the Project would not result in a CO hotspot and would not have the potential to result in CO emissions that when totaled with the ambient concentrations would exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm. The impact would be **less than significant**.

Boulder Brush Facilities

Traffic associated with construction of the Boulder Brush Facilities would be similar but less than for the Project discussed above. Therefore, no intersections in the vicinity of the Boulder Brush Facilities would exceed a peak-hour volume of 3,000 vehicles. Thus, impacts would be **less than significant**.

Campo Wind Facilities

Traffic associated with construction and decommissioning of the Campo Wind Facilities would be similar but less than for the Project discussed above. Therefore, no intersections in the vicinity of the Campo Wind Facilities would exceed a peak-hour volume of 3,000 vehicles. Thus, impacts would be **less than significant**.

Toxic Air Contaminants – Diesel Particulate Matter and Fugitive Dust

Project

"Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard OEHHA risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with a project (OEHHA 2015). Therefore, for this Project, the exposure period was 14 months, consistent with the duration of construction activities.

During Project construction, DPM emissions would be emitted from heavy-duty construction equipment and heavy-duty trucks. In addition, there would be TAC emissions within the fugitive dust generated by various sources (rock crushing, concrete batch plant, vehicle traffic, and blasting). Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. The Project would involve construction activities in several areas across the site, and would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs.

A Health Risk Assessment was performed to estimate the maximum individual cancer and the non-cancer risk for residential receptors as a result of Project construction (refer to Appendix C). Results of the construction Health Risk Assessment are shown in Table 2.2-5, Construction Activity Health Risk Assessment Results – Unmitigated, which presents cancer risk, acute non-cancer and chronic non-cancer health hazard indexes, and lead exposure assessment results.

The cancer risk is different at every sensitive receptor location; however, the risk reported is the conservatively the maximum cancer risk impact. The risk estimates generated by the HRA is an estimate of potential for risk. Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance over the exposure period. The HRA uses conservative (health-protective) exposure assumptions to avoid underestimating risk. For example, the risk estimate for airborne exposure to TAC emissions uses the conservative, health-protective assumption that the individual has a high breathing rate and exposure began as a fetus in the third trimester of pregnancy, when exposure risk is highest.

As shown in Table 2.2-5, construction emissions without T-BACT would result in maximum individual cancer risk of 5.59 in one million and 5.25 in one million for On-Reservation and Off-Reservation residents, respectively, which is above the significance threshold of 1 in one million. The individual cancer risk with T-BACT is discussed in Section 2.2.7, Conclusion. As shown in Table 2.2-5, construction emissions would result in chronic hazard indexes 0.0072 and 0.0069 for On-Reservation and Off-Reservation residences, respectively, which are below the significance threshold of 1.0. Construction emission would result in acute hazard indexes of 0.0002 for On-Reservation and Off-Reservation residences, which are below the significance threshold of 1.0. The project construction emissions would result in lead exposure of 0.00009 $\mu g/m^3$, which is less than 0.12 $\mu g/m^3$. Therefore, impacts related to calculated cancer risk and non-cancer chronic hazard risk would be a **potentially significant** impact (**Impact AQ-1**).

For decommissioning, the DPM emissions would compose only 1.36% (i.e., 0.54 pounds per day exhaust PM_{10} emissions from decommissioning of the Project and 39.45 pounds per day exhaust PM_{10} emissions during the construction period of the Project) of those emitted during the

construction period. As such, the risk to sensitive receptors from decommissioning of the Project would be less than the County's significance threshold. Impacts associated with the decommissioning of the Project would be **less than significant**.

Boulder Brush Facilities

As described above, the Boulder Brush Facilities would involve construction activities in several areas across the site, and would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs. However, construction of the Boulder Brush Facilities would be similar but less than for the Project; therefore, impacts would be similar to the Project and result in a **potentially significant** impact (**Impact AQ-1**).

Campo Wind Facilities

As described above, the Campo Wind Facilities would involve construction activities in several areas across the site, and would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs. Additionally, with implementation of **PDF-AQ-1**, outlined in Chapter 1, Project Description of this EIR, use of Tier 4 Final construction equipment would reduce TAC emissions and impacts would be less than significant.

For decommissioning, the DPM emissions would compose only 1.36% (i.e., 0.54 pounds per day exhaust PM_{10} emissions from decommissioning of the Project and 39.45 pounds per day exhaust PM_{10} emissions during the construction period of the Project) of those emitted during the construction period. As such, the risk to sensitive receptors from decommissioning of the turbines would be less than the County's significance threshold. Impacts associated with the decommissioning of the Campo Wind Facilities would be **less than significant**.

Operation

Carbon Monoxide Hotspot

Project

To verify that the Project would not cause or contribute to a violation of CO standards, a screening evaluation of the potential for CO hotspots was conducted using the California Department of Transportation and U.C. Davis Institute of Transportation Studies Transportation Project-Level Carbon Monoxide Protocol (Caltrans 2010). The County recommends that a local CO hotspot analysis be conducted if the intersection is at LOS E or worse and where a project operates at peak-

hour trips exceeding 2,000 trips, or the intersection operates at LOS E or worse and under cumulative conditions exceeds 2,000 peak trips per hour. If the screening criteria are exceeded, additional site-specific analyses are performed to determine whether a project would result in a significant impact.

Based on the Transportation Impact Analysis (Appendix H), the existing conditions at study area intersections operate acceptably at LOS B or better during AM and PM peak hours. Activities associated with operations and maintenance of the Project would include approximately 10 to 12 full-time staff, or 24 total daily trips to and from the Project Site, which would not likely generate significant daily or peak-hour traffic. Since Project operations are not expected to generate significant daily or peak-hour traffic, the Transportation Impact Analysis focused only on traffic impacts related to the Project's peak construction period. Therefore, the Project would not exceed the County's screening level of 3,000 total peak-hour trips per intersection and would not result in a CO hotspot and would not have the potential to result in CO emissions that when totaled with the ambient concentrations would exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm. The impact would be **less than significant**.

Boulder Brush Facilities

Activities associated with operations and maintenance of the Boulder Brush Facilities would generate nominal amount of vehicle trips. Since the Boulder Brush Facilities operations are not expected to generate significant daily or peak-hour traffic, the Boulder Brush Facilities would not exceed the County's screening level with intersection peak-hour trips exceeding 3,000 and impacts would be **less than significant**.

Campo Wind Facilities

Activities associated with operations and maintenance of the Campo Wind Facilities would generate approximately 10 to 12 full-time staff, or less than 24 total daily trips to and from the Campo Wind Facilities. Since the Campo Wind Facilities operations are not expected to generate significant daily or peak-hour traffic, the Campo Wind Facilities would not exceed the County's screening level with intersection peak-hour trips exceeding 3,000 and impacts would be **less than significant**.

Toxic Air Contaminants

Project

As previously stated, the Project would include four 150-kilowatt standby diesel emergency generators: one at the O&M facility, one at the collector substation, one at the high-voltage substation, and one at the 500-kilovolt switchyard. The generators would be operated infrequently for maintenance and testing, and would only operate for 30 minutes each month, for a total of up to

50 hours per year. Further, the generator at the O&M facility would be approximately 1,500 feet from the closest sensitive receptor, the generator at the collector substation would be approximately 2,000 feet from the closest sensitive receptor, and the generators at the high-voltage substation and switchyard would be approximately 8,950 feet from the closest sensitive receptor. The distances exceed those specified in AB 3205, which are designed to protect schoolchildren from hazardous air contaminants. The law requires notification of parents of schoolchildren, neighboring businesses, and residents within 1,000 feet of a school site. CARB recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center or within 1,000 feet of a major service and maintenance railyard. Activities associated with these land uses may include uses of emergency generators on the site; therefore, even though Project operation would not have the level of truck emissions associated with these types of warehouse/distribution uses, because the Project would have emergency generators the screening distance of 1,000 feet is used in this analysis. The Project generators would be located more than 1,000 feet from the closest sensitive receptors. As such, the Project would not result in substantial TAC or lead emissions that may affect nearby receptors. Impacts would be less than the County's significance thresholds and **less than significant**.

Boulder Brush Facilities

Two 150-kilowatt standby diesel emergency generators would be located on the Boulder Brush Facilities: one at the high-voltage substation and one at the 500-kilovolt switchyard. The generators at the high-voltage substation and switchyard would be approximately 8,950 feet from the closest sensitive receptor; therefore, the generators would be located more than the siting screening distance of 1,000 feet. As such, the Project would not result in substantial TAC or lead emissions that may affect nearby receptors. Impacts would be less than the County's significance thresholds and **less than significant**.

Campo Wind Facilities

Two 150-kilowatt standby diesel emergency generators would be located on the Campo Wind Facilities: one at the O&M facility and one at the collector substation. The generator at the O&M facility would be approximately 1,500 feet from the closest sensitive receptor, and the generator at the collector substation would be approximately 2,000 feet from the closest sensitive receptor; therefore, the generators would be located more than the siting screening distance of 1,000 feet. As such, the Project would not result in substantial TAC or lead emissions that may affect nearby receptors. Impacts would be less than the County's significance thresholds and **less than significant**.

Other Health Concerns – Valley Fever

Project

Valley Fever is not highly endemic to San Diego County, and within San Diego County, the incidence rate in the Project Vicinity is below the County average and the statewide average. Confirmed cases of Valley Fever have not been recorded near the Project Site or during construction of other similar projects and earthmoving activities in the area. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and the Project's implementation of dust control strategies consistent with SDAPCD Rule 55 and **PDF-AQ-2** and **PDF-AQ-3**, it is not anticipated that earth-moving activities during Project construction and decommissioning would result in exposure of nearby people to Coccidioidomycosis and potential to develop Valley Fever. Activities associated with the O&M facility would include driving along unpaved roads; however, this would generate little to no earth-disturbing activity. Therefore, the Project would have a **less than significant** impact during construction, decommissioning, and operation with respect to Valley Fever.

Boulder Brush Facilities

As discussed above, Valley Fever is not highly endemic to San Diego County, and within San Diego County. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and the Project's implementation of dust control strategies consistent with SDAPCD Rule 55**,** it is not anticipated that earth-moving activities during Boulder Brush Facilities construction would result in exposure of individuals to Coccidioides. Therefore, impacts would be **less than significant**.

Campo Wind Facilities

As discussed above, Valley Fever is not highly endemic to San Diego County, and within San Diego County. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and the Project's implementation of dust control strategies consistent with **PDF-AQ-2** and **PDF-AQ-3,** it is not anticipated that earth-moving activities during Campo Wind Facilities construction would result in exposure of individuals to Coccidioides. Therefore, impacts would be **less than significant**.

2.2.3.3 Other Emission Impacts

Odors are a form of air pollution that can present significant problems for both the source and surrounding community. Although offensive odors seldom cause physical harm, they can be annoying and cause concern.

Guidelines for the Determination of Significance

The Project would have a significant impact if:

- The project, which is not an agricultural, commercial, or an industrial activity subject to SDAPCD standards, as a result of implementation, would either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which would affect a considerable number of persons. For industrial activity, including stationary sources, the activity would result in odors that violate SDAPCD Rule 51.

Analysis

Construction and Decommissioning

Project

Section 6318 of the San Diego County Zoning Ordinance requires that all commercial and industrial uses be operated so as not to emit matter causing unpleasant odors that are perceptible by the average person at or beyond any lot line of the lot containing said uses. Section 6318 goes on to further provide specific dilution standards that must be met "at or beyond any lot line of the lot containing the uses" (County of San Diego 1979). Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance), and SDAPCD Rule 51 (Public Nuisance) also prohibit emission of any material that causes nuisance to a considerable number of people or endangers the comfort, health, or safety of any person. A project that involves a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

The Project's sensitive air quality receptors for odors are residences scattered surrounding the Project Site.

Construction and decommissioning of Project components would result in the emission of diesel fumes and other odors typically associated with construction and decommissioning activities (e.g., architectural coating and asphalt paving). These compounds would be emitted in varying amounts on the Project Site depending on where construction and decommissioning activities are occurring. Sensitive receptors located within and in the vicinity of the construction site may be affected; however, odors are highest near the source and would quickly dissipate. Any odors associated with construction and decommissioning activities would be temporary and would cease after Project construction; therefore, odor impacts would be **less than significant**.

Boulder Brush Facilities

As discussed above, construction of the Boulder Brush Facilities would result in the emission of diesel fumes and other odors typically associated with construction activities. Boulder Brush Facilities construction activities would be in compliance with Section 6318 of the San Diego County Zoning Ordinance, Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance), and SDAPCD Rule 51 (Public Nuisance). Any odors associated with construction activities would be temporary and would cease after Boulder Brush Facilities construction; therefore, odor impacts would be **less than significant**.

Campo Wind Facilities

As discussed above, construction and decommissioning of the Campo Wind Facilities would result in the emission of diesel fumes and other odors typically associated with construction and decommissioning activities. Any odors associated with construction and decommissioning activities would be temporary and would cease after Campo Wind Facilities construction; therefore, odor impacts would be **less than significant**.

Operational

Project

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not include land uses that would generate objectionable odors, and the Project land use would not attract people to an area where there would be a potential for exposure to objectionable odors.

Although odor impacts are unlikely, the Boulder Brush Facilities would be required to comply with the County odor policies enforced by SDAPCD, including Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance), SDAPCD Rule 51 and County Zoning Code Section 6318, in the event that a nuisance complaint occurs, which prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. The Campo Wind Facilities would not generate objectionable odors. Therefore, potential Project impacts associated with odors would be **less than significant**.

Boulder Brush Facilities

The Boulder Brush Facilities would not be a land use type that would generate objectionable odors. Therefore, potential Boulder Brush Facilities impacts associated with odors would be **less than significant**.

Campo Wind Facilities

The Campo Wind Facilities would not be a land use type that would generate objectionable odors. Therefore, potential Campo Wind Facilities impacts associated with odors would be **less than significant**.

2.2.4 Cumulative Impacts Analysis

In analyzing cumulative impacts from a project, the analysis must evaluate a project's contribution to the cumulative increase in pollutants for which the SDAB is listed as nonattainment for the state and federal ambient air quality standards (O_3, $PM_{2.5}$, and PM_{10}), as well as cumulative impacts for all other significance criteria. With respect to criteria air pollutants, the Project would have a cumulatively considerable impact if emissions from the Project would exceed thresholds for VOCs, NO_x, PM_{10}, and/or $PM_{2.5}$. If the Project would not exceed thresholds and is determined to have less-than-significant impacts, it may still have a significant impact on air quality if the emissions from the Project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the Project would be considered to have a cumulative impact only if the Project's contribution to cumulative emissions is cumulatively considerable.

Existing Cumulative Conditions

Air quality management in the geographic area for the cumulative impact assessment for criteria air pollutants is the responsibility of the SDAPCD. Existing development in the County have led to a nonattainment status for O_3 with respect to the CAAQS and NAAQS, and for PM_{10} and $PM_{2.5}$ with respect to the CAAQS. The air quality plans prepared by the SDAPCD reflect future growth under local development plans and are intended to reduce emissions Countywide to levels that would comply with the NAAQS and CAAQS through implementation of new regulations at the local, state, and federal levels.

Geographic Extent

The geographic extent for the analysis of cumulative impacts related to criteria air pollutants is the south-central portion of the SDAB (San Diego County). Due to the O_3, PM_{10}, and $PM_{2.5}$ nonattainment status of the SDAB, the primary air pollutants of concern are VOC and NO_x, which are O_3 precursors, and PM_{10} and $PM_{2.5}$. Because of the nature of O_3 as a regional air pollutant, emissions from the entire geographic area for this cumulative impact analysis would tend to be important, although maximum O_3 impacts generally occur downwind of the area where the O_3 precursors are released. PM_{10} and $PM_{2.5}$ impacts, on the other hand, tend to occur locally; thus, projects occurring in the same general area and in the same time period could create cumulative air quality impacts.

2.2.4.1 Cumulatively Considerable Net Increase in Criteria Air Pollutants (Construction)

Guidelines for the Determination of Significance

Cumulatively considerable net increases during the construction phase would typically occur if two or more projects near each other are simultaneously under construction. The following guidelines for determining significance must be used for determining the cumulatively considerable net increases during the construction and decommissioning phases:

- A project that has a significant direct impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase.
    - In the event direct impacts from a project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from that project, in combination with the emissions of concern from other projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of guidelines.

Analysis

Project

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (e.g., off-road construction equipment, soil disturbance, VOC off-gassing from architectural coatings and asphalt pavement application, and internal haul trucks) and off-site sources (e.g., vendor trucks and worker vehicle trips). Specifically, entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Internal combustion engines used by construction equipment, internal haul trucks, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions. Emission reductions from implementation of the PDFs and compliance with SDAPCD Rule 55 and 67.0.1 were not quantified.

For purposes of estimating Project emissions, and based on information provided by the both the Developer and Boulder Brush Developer, it was assumed that construction of the Project would occur 5 days per week and would commence in late 2019 and end in late 2020.[7]

No cut material would be exported from the Project Site. Approximately 930 acres would be disturbed, which includes approximately 800 acres in the Campo Corridor and approximately 130 acres in the Boulder Brush Corridor.

An estimated maximum water demand of approximately 173 acre-feet (AF) of water would be required over the 14 months of construction (approximately 123 AF for Campo Wind Facilities and approximately 50 AF for Boulder Brush Facilities). Approximately 250,000 gallons per day would be required during peak construction demand, which would occur over the first 3 months of construction. For the remainder of Project construction, water demand would be reduced to approximately 120,000–150,000 gallons per day. This water would be used for concrete mixing, dust suppression, and other tasks. Construction water would be imported from commercial sellers such as JCSD, located approximately 11 miles southeast of the Project Site, or PDMWD, located approximately 47 miles northwest of the Project Site. Water would be transported to the site using 4,000-gallon water trucks, which are categorized as heavy-duty haul trucks in CalEEMod.

A temporary concrete batch plant would be established within the Campo Corridor to mix the necessary concrete for foundations of the turbines, meteorological towers, substations, transmission poles, and the O&M facility. The concrete batch plant would occupy an area of approximately 400 feet by 400 feet, or 3.7 acres, within the Campo Corridor. The temporary batch plant would consist of a mixing plant, areas for aggregate and sand stockpiles, driveways, truck load-out area, turnaround(s), cement storage silos, water and mixture tanks, aggregate hoppers, conveyors, and augers to deliver different materials to the mixing plant. Emission factors were obtained from EPA's Compilation of Air Pollutant Emission Factors (AP-42), Table 10.12-6, Plant Wide Emission factors per Yard of Central Mix Concrete (EPA 2006). The temporary batch plant would operate throughout the 14 month Project construction phase with a throughput of approximately 37,700 cubic yards (37,000 cubic yards of concrete for the construction of the Campo Wind Facilities, and 700 cubic yards of concrete for the construction of the Boulder Brush Facilities).

[7] The analysis assumes a construction start in late 2019. Assuming an earlier start date for construction represents the worst-case scenario for GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Two central temporary staging areas within the Campo Corridor of approximately 20 acres total would be established for construction-management facilities, materials and equipment storage, and worker parking. Upon completion of construction, the O&M facility would be located within one of the central staging area footprints. In addition to the temporary central staging areas, each turbine would require a temporary staging area at the turbine location for the assembly of the turbine components and to erect each turbine. Each temporary staging area for a turbine would be approximately 100 feet by 200 feet, plus clearing for blades.

Blasting and rock-crushing activities would occur on the Project Site during clearing, grading, and the construction of access roads. No more than two blasts per day would occur during construction activities, and rock crushing would occur on an as-needed basis and would not occur every day during construction.

Emissions from the construction phase of the Project were estimated using CalEEMod Version 2016.3.2 (CAPCOA 2017) and AP-42 (EPA 2006). Detailed information regarding the methodology used to estimate the Project's construction-related emissions is provided in Section 3.2, Construction Emissions Methodology, of Appendix C; a brief summary of the methodology follows.

General construction equipment modeling assumptions are provided in Table 5 of Appendix C, Construction Workers, Vendor Trips, and Equipment Use per Day. Default values for equipment mix, horsepower, and load factor provided in CalEEMod were used for all construction equipment. Detailed construction equipment modeling assumptions are provided in Appendix C.

Both the Developer and Boulder Brush Developer provided estimated number of workers, vendor trucks, and haul trucks. Based on data provided by the Developer and from similar projects in the general vicinity of the Project Site, the worker mix was assumed to include 55% coming from the west (San Diego County area) and 45% coming from temporary house site located at the Sacred Rock RV Park. The haul truck mix was assumed to include 45% from the east (Imperial County area) and 55% from the west (San Diego County area) (Terra-Gen Development Company LLC 2019). The vendor trucks were assumed to come from the Padre Dam. Changes to any standard default values or assumptions are reported in the CalEEMod output (see Appendix C).

Table 2.2-6, Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated, shows the estimated maximum daily construction emissions associated with the construction phase of the Project with PDF-AQ-1 through PDF-AQ-5 and compliance with SDAPCD rules.

As shown in Table 2.2-6, daily construction emissions for VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$ would not exceed the SDAPCD's significance thresholds. Emissions of NO_x, would exceed the daily emissions threshold of significance.

Construction of cumulative projects simultaneously with the Project would result in a temporary addition of pollutants to the local airshed caused by off-road construction equipment, soil disturbance, architectural coating and asphalt pavement VOC off-gassing, on-road haul trucks, vendor trucks, and worker vehicle trips. Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from site preparation and grading activities. NO_x emissions would primarily result from the use of construction equipment and motor vehicles, the latter of which would generally be dispersed over a large area where the vehicles are traveling. VOC emissions would primarily result from architectural coatings of buildings, which by nature would be dispersed over the Project Site.

As shown in Table 2.2-6, maximum daily construction emissions for VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$ generated by the Project would not exceed significance thresholds, and there is no cumulative impact in the air basin related to VOCs, CO, SO_x, or PM_{10}, and $PM_{2.5}$ because the SDAB is in attainment with its air quality standards for these pollutants. Project-generated construction would exceed the NO_x threshold of significance during construction with PDF-AQ-1 through PDF-AQ-5 and compliance with SDAPCD rules. Construction would be short term and temporary, lasting approximately 14 months. Once construction is completed, construction-related emissions would cease. However, with implementation of PDF-AQ-1 and PDF-AQ-5 and compliance with SDAPCD rules, the Project would exceed the significance threshold for NO_x and impacts would be **potentially cumulatively considerable**.

Boulder Brush Facilities

As discussed above, construction of the Boulder Brush Facilities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (e.g., off-road construction equipment, soil disturbance, VOC off-gassing from architectural coatings and asphalt pavement application, and internal haul trucks) and off-site sources (e.g., vendor trucks and worker vehicle trips). Emission reductions from compliance with SDAPCD Rule 55 and 67.0.1 were quantified. As shown in Table 2.2-7, Estimated Boulder Brush Facilities Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated, construction emissions generated by the Boulder Brush Facilities would not exceed significance thresholds. Therefore, construction of the Boulder Brush Facilities would not exceed significance thresholds and impacts would be **less than cumulatively considerable**.

Campo Wind Facilities

As discussed above, construction of the Campo Wind Facilities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (e.g., off-road construction equipment, soil disturbance, VOC off-gassing from architectural coatings and asphalt pavement application, and internal haul trucks) and off-site sources (e.g., vendor trucks and worker vehicle

trips). Emission reductions from implementation of PDF-AQ-1 through PDF-AQ-5 were quantified. As shown in Table 2.2-8, Estimated Campo Wind Facilities Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated, construction emissions generated by the Campo Wind Facilities would not exceed VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ significance thresholds. Therefore, the Campo Wind Facilities would not exceed significance thresholds and impacts would be **less than cumulatively considerable**.

Decommissioning

Project

For purposes of estimating Project decommissioning emissions, and based on information provided by the Developer, it is assumed that decommissioning of the Project would commence in January 2052 and would last approximately seven months.[8] However, because CalEEMod relies on the CARB EMFAC 2014 it is only able to estimate mobile source emissions through 2050. Therefore, the emissions for decommissioning were estimated in year 2050. This is conservative, because the emissions would likely be less in 2052 as vehicles and construction equipment become more efficient. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate). Detailed construction equipment modeling assumptions are provided in Appendix C, CalEEMod Outputs.

Emissions from the decommissioning phase of the Project were estimated using CalEEMod. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the Developer, CalEEMod defaults, and best engineering judgment.

Default values for equipment mix, horsepower, and load factor provided in CalEEMod were used for all construction equipment. For the analysis, it was generally assumed that heavy-duty equipment would be operating at the Project Site five days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the Project Site independently; however, it is likely that workers would drive trucks to and from the Project Site for deliveries rather than driving in a separate vehicle.

Table 2.2-9, Estimated Maximum Daily Decommissioning Criteria Air Pollutant Emissions – Unmitigated, shows the estimated maximum daily decommissioning emissions associated with the Project.

[8] The analysis assumes a decommissioning start date of January 2052, which represents the earliest date decommissioning may be initiated. Assuming an early start date for decommissioning represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

As shown in Table 2.2-9, maximum daily decommissioning emissions would not exceed the thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. Therefore, the Project's contribution related to significant impacts from exceeding the ambient air quality thresholds would be **less than cumulatively considerable**.

Boulder Brush Facilities

Decommissioning of the Boulder Brush Facilities are described above. The Boulder Brush Facilities estimated maximum daily decommissioning emissions are summarized in Table 2.2-9 and would not exceed the County thresholds. Therefore, the Boulder Brush Facilities' contribution related to significant impacts from exceeding the ambient air quality thresholds would be **less than cumulatively considerable**.

Campo Wind Facilities

Decommissioning of the Campo Wind Facilities are described above. The Campo Wind Facilities estimated maximum daily decommissioning emissions are summarized in Table 2.2-9 and would not exceed the County thresholds. Therefore, the Campo Wind Facilities' contribution related to significant impacts from exceeding the ambient air quality thresholds would be **less than cumulatively considerable**.

2.2.4.2 Cumulatively Considerable Net Increase in Criteria Air Pollutants (Operational)

Guidelines for the Determination of Significance

The guidelines for operational cumulatively considerable net increases are treated differently due to the mobile nature of the emissions. The SDAB's RAQS, based on growth projections derived from the allowed general plan densities, is typically updated every 3 years by SDAPCD and lays out the programs for attaining the CAAQS for O_3 precursors. It is assumed that if a project conforms to the County General Plan and does not have emissions exceeding the screening-level thresholds, it will not create a cumulatively considerable net increase for O_3 since the emissions of O_3 precursors were accounted for in the RAQS.

The following guidelines for determining significance are used for determining the cumulatively considerable net increases during the operational phase:

- A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase.

Projects that cause road intersections to operate at or below LOS E (analysis only required when the addition of peak-hour trips from a project and surrounding projects exceeds 2,000) and create a CO hotspot create a cumulatively considerable net increase of CO.

Analysis

Project

Operation of the Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from area sources, energy sources, and mobile sources, which are discussed below. During operation, staff would visit various Project components periodically for maintenance and other operational activities.

Operational Traffic (Project)

Project operations would generate minimal annual emissions from maintenance and security vehicles. The Project would employ 10 to 12 full-time employees, generating 24 daily two-way trips, 7 days per week. Operations staff would conduct periodic inspections and would travel throughout the Project Site in light-duty pickup trucks on paved roads.

Wind Turbine Generator

Scheduled maintenance of Project wind turbines would include mechanical and electrical checks and maintenance. Initial maintenance would be performed after 1 to 3 months of operation, and thereafter, approximately every 6 months or earlier as required. Maintenance on individual turbines would be done on a rotating basis by on-site technicians operating in two- or three-person crews. Unscheduled turbine maintenance would include troubleshooting and replacing or repairing major or minor components on an as-needed basis by on-site technicians. Some of the unscheduled maintenance would potentially require the use of cranes to remove and replace major components.

Operations and Maintenance Facility

The O&M facility is part of the Campo Wind Facilities within the Reservation Boundary and would require standard maintenance, including interior cleaning and housekeeping, removal of trash, repairs to the driveway surface, and cleaning/clearing of gutters. It is anticipated that the O&M facility's water demand would be served by an existing on-site groundwater well on the Reservation; otherwise, water would be trucked in from JCSD or PDMWD. The CalEEMod default value for electricity consumption and water use for the office land use to represent the O&M facility was applied for the Project (CAPCOA 2017). CalEEMod default values for a commercial office building was used to estimate the solid waste generation and associated GHG emissions from the O&M facility. The Boulder Brush Facilities do not include an O&M facility.

Stationary Sources

The Project would include four 150-kilowatt diesel emergency generators, required at the O&M facility and the collector substation which are part of the Campo Wind Facilities within the Campo Corridor, as well as the high-voltage substation and the switchyard within the Boulder Brush Corridor. Each generator was assumed to operate for testing and maintenance approximately 30 minutes each month, for a total of up to 50 hours per year. The default emission factors for emergency generators were used to estimate emissions from this source.

Table 2.2-10, Estimated Maximum Daily Operational Emissions – Unmitigated, presents the maximum daily emissions associated with operation of the Project in 2021, at build-out. The values shown are the maximum summer and winter daily emissions results from CalEEMod. Complete details of the emissions calculations are provided in Appendix C (see Section 3.3, Operational Emissions Methodology, and Section 4.2.2, Operational Impacts, of Appendix C).

As shown in Table 2.2-10, maximum daily operational emissions of VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ generated by the Project would not exceed the SDAPCD's significance thresholds.

With regard to cumulative impacts associated with nonconformance with the RAQs and emissions of PM_{10}, $PM_{2.5}$, and NO_x, and/or VOCs (O_3 precursors), as discussed in Section 2.2.1.4, the Project is in conformance with the RAQs to the extent that it applies to the Project and would not obstruct the RAQS. In addition, the Project would not have a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NO_x, and VOCs. The NAAQS and CAAQS are set such that if a project's emissions do not exceed them, then the project would not make a cumulatively considerable contribution to air quality impacts. Therefore, the Project's contribution related to significant impacts from exceeding the ambient air quality thresholds would be **less than cumulatively considerable**.

In addition, Project peak-hour trips of 24 one-way trips would be far fewer than the 2,000 trip threshold for potentially requiring a cumulative CO hotspots analysis. The traffic analysis shows that under the Cumulative + Project scenario, no intersection would operate at or below LOS E and that the addition of Project peak-hour trips to cumulative trips would not cause total trips to exceed 2,000. The Project would not exceed the County's screening threshold and would not result in a CO hotspot. Therefore, the Project's contribution to CO hotspots would be **less than cumulatively considerable**.

Boulder Brush Facilities

As discussed above, operational activities associated with the Boulder Brush Facilities would be similar or less than the operational activities associated with the Project. Therefore, the maximum daily operational emissions generated by the Boulder Brush Facilities would be **less than cumulatively considerable**.

Campo Wind Facilities

As discussed above, operational activities associated with the Campo Wind Facilities would be similar or less than the operational activities associated with the Project. Therefore, the maximum daily operational emissions generated by the Campo Wind Facilities would be **less than cumulatively considerable**.

Cumulative Impacts to Sensitive Receptors

Project

As previously noted, Project operations would not expose sensitive receptors to substantial pollutant concentrations, and there are no foreseeable projects in the Project Vicinity that would expose sensitive receptors to substantial pollutant concentrations. The area surrounding the Project Site is designated and zoned for low-density residential development and civic uses or is Reservation land with mainly rural residential development. Such uses do not emit substantial pollutants. Accordingly, there are no significant cumulative impacts related to the exposure of sensitive receptors to substantial pollutant concentrations, and the Project's contribution would not result in a significant cumulative impact, making the Project's contribution **less than cumulatively considerable**.

Boulder Brush Facilities

As described above, the Boulder Brush Facilities operations would not expose sensitive receptors to substantial pollutant concentrations, and there are no foreseeable projects that would emit substantive pollutant concentrations in the vicinity of the Boulder Brush Facilities. The area surrounding the Boulder Brush Facilities is designated and zoned for low-density residential development and civic uses. Accordingly, there are no significant cumulative impacts related to the exposure of sensitive receptors to substantial pollutant concentrations, and the Boulder Brush Facilities' contribution would not result in a significant cumulative impact, thus the Boulder Brush Facilities' contribution would be **less than cumulatively considerable**.

Campo Wind Facilities

As described above, the Campo Wind Facilities operations would not expose sensitive receptors to substantial pollutant concentrations, and there are no foreseeable projects that would emit substantive pollutant concentrations in the vicinity of the Campo Wind Facilities. The area surrounding the Campo Wind Facilities consists of Reservation land with mainly rural residential development, and such uses do not emit substantial pollutants. Accordingly, there are no significant cumulative impacts related to the exposure of sensitive receptors to substantial pollutant concentrations, and the Campo Wind Facilities' contribution would not result in a significant cumulative impact, thus the Campo Wind Facilities' contribution would be **less than cumulatively considerable**.

Health Impacts

Project

Construction (after mitigation), operation, and decommissioning of the Project would not result in emissions that exceed the County's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the County's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity.

In addition, VOCs and NO_x are precursors to O_3, which the SDAB is designated as nonattainment for with respect to the NAAQS (2008 8-hour) and CAAQS (the SDAB is designated by EPA as an attainment area for the 1-hour O_3 NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O_3 are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 ambient air quality standards tend to occur between April and October when solar radiation is highest.

The VOC and NO_x emissions associated with Project construction, decommissioning, and operation could minimally contribute to regional O_3 concentrations and the associated health impacts. Due to the minimal contribution during construction, decommissioning, and operation (the Project would not exceed County thresholds with mitigation during construction and without mitigation during decommissioning and operations), the Project would not result in significant health impacts.

Similar to O_3, construction (after mitigation), operation, and decommissioning of the Project would not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter (SDAB is a state nonattainment area for PM_{10} and $PM_{2.5}$). The Project would also not result in substantial DPM emissions during decommissioning and operation and, therefore, would not result in significant health effects related to DPM exposure (health risks from DPM during construction are analyzed in the "Toxic Air Contaminants – Diesel Particulate Matter and Fugitive Dust" section in Section 2.2.3.2). Due to the minimal contribution of particulate matter during decommissioning and operation, the Project would not result in significant health impacts. PM_{10} and $PM_{2.5}$ would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter, obstruct the SDAB from coming into attainment for these pollutants, or contribute to significant health effects associated with particulates.

Regarding NO_2, construction (after mitigation), operation, and decommissioning of the Project would not contribute to exceedances of the NAAQS and CAAQS for NO_2 (for analysis purposes, NO_x emissions were assumed to be NO_2 emissions). NO_2 and NO_x health impacts are associated with respiratory irritation. However, these NO_x emissions during construction (after mitigation) and decommissioning and operation would be minimal and infrequent. Therefore, the Project would not result in significant health impacts.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O_3 concentrations and the associated health effects. In addition to O_3, with mitigation, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in Table 2.2-2, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, the Project's mitigated construction or unmitigated decommissioning and operational NO_x emissions would not result in exceedances of the NO_2 standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. As discussed previously, the Project would not create any CO hotspots, and CO impacts would be less than significant. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant. In sum, construction (after mitigation), operation, and decommissioning of the Project would not contribute to potential exceedances of the NAAQS and CAAQS, obstruct the SDAB from coming into attainment for the pollutants for which it is out of attainment (O_3 and particulate matter), or contribute to significant health effects associated with particulates. Thus, impacts would be **less than significant.**

Boulder Brush Facilities

Construction (after mitigation), operation, and decommissioning of the Boulder Brush Facilities would not result in emissions that exceed the County's emission thresholds for any criteria air pollutants. As described above, the Boulder Brush Facilities would not contribute to significant health effects. Thus, impacts would be **less than significant.**

Campo Wind Facilities

Construction (after mitigation), operation, and decommissioning of the Campo Wind Facilities would not result in emissions that exceed the County's emission thresholds for any criteria air pollutants. As described above, the Campo Wind Facilities would not contribute to significant health effects. Thus, impacts would be **less than significant.**

2.2.5 Significance of Impacts Prior to Mitigation

Based on the analyses above, the Project would result in the following potentially significant impacts prior to mitigation:

Impact AQ-1 Cancer risk would exceed the County's 1 in one million threshold due to TAC emissions of DPM.

Impact AQ-CU-1 A significant direct impact on air quality with regard to construction-related emissions of NO_x and a potentially significant cumulatively considerable net increase in NO_x emissions.

2.2.6 Mitigation Measures

M-AQ-1 through **M-AQ-5** are provided to reduce VOC, NO_x, PM_{10}, $PM_{2.5}$, and DPM emissions. These measures would be required of the Boulder Brush Facilities as part of the County's Major Use Permit approval.

M-AQ-1 **Off-Road Construction Equipment.** Prior to the County approval of any construction-related permits, the Boulder Brush Developer or its designee shall place the following requirements on all plans, which shall be implemented during each construction phase to minimize volatile organic compound (VOC), carbon monoxide (CO), oxides of nitrogen (NO_x), and diesel particulate matter emissions:

a. Prior to the commencement of any construction activities, the Boulder Brush Developer or its designee shall provide evidence to the County that for off-road equipment with engines rated at 75 horsepower or greater, no construction equipment shall be used that is less than Tier 4 Final. An exemption from these requirements may be granted by the County in the event that the Boulder Brush Developer documents to the satisfaction of the County that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions would be achieved from other construction equipment. Before an exemption may be considered by the County, the Boulder Brush Developer shall be required to demonstrate that three construction fleet owners/operators in the San Diego region were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within the San Diego region.

b. Vehicles in loading and unloading queues shall not idle for more than 5 minutes and shall turn their engines off when not in use to reduce vehicle emissions.

c. All construction equipment shall be properly tuned and maintained in accordance with manufacturer specifications.

d. The use of electrical or natural-gas-powered construction equipment shall be employed where feasible, including forklifts and other comparable equipment types.

M-AQ-2 **Fugitive Dust Control**. The following control measures shall be implemented to minimize fugitive dust (coarse particulate matter [PM_{10}] and fine particulate matter [$PM_{2.5}$]) and diesel particulate matter, to comply with County Code Section 87.428 (Grading Ordinance), and with San Diego Air Pollution Control District (SDAPCD) Rule 55 (Fugitive Dust Control). Prior to the County's issuance of any Grading Permits, the Boulder Brush Developer or its designee shall demonstrate compliance with the requirements of this mitigation measure on site and grading plans prepared as part of the Grading Permit application:

a. A SDAPCD-approved non-toxic dust control agent shall be used on the grading areas or watering shall be applied at least three times daily.

b. All main roadways shall be constructed and paved as early as possible in the construction process.

c. Grading areas shall be stabilized as quickly as possible.

d. Chemical stabilizer shall be applied, a gravel pad shall be installed, or the last 100 feet of internal travel path within the construction site shall be paved prior to public road entry and for all haul roads.

e. Wheel washers shall be installed adjacent to the apron for tire inspection and washing prior to vehicle entry on public roads.

f. Visible track-out into traveled public streets shall be removed with the use of sweepers, water trucks, or similar method within 30 minutes of occurrence.

g. Sufficient perimeter erosion control shall be provided to prevent washout of silty material onto public roads.

h. Haul trucks shall be covered or at least 2 feet of freeboard shall be maintained to reduce blow-off during hauling.

e. Transported material in haul trucks shall be watered or treated.

i. All soil disturbance and travel on unpaved surfaces shall be suspended if winds exceed 25 miles per hour.

j. On-site stockpiles of excavated material shall be covered.

k. A 15 mile per hour speed limit on unpaved surfaces shall be enforced.

l. Construction traffic control plans shall route delivery and haul trucks required during construction away from sensitive receptor locations and congested intersections to the extent feasible. Construction Traffic Control Plans shall be finalized and approved prior to issuance of grading permits.

M-AQ-3 The following measures shall be implemented for the Boulder Brush Facilities to reduce fugitive dust emissions (PM_{10} and $PM_{2.5}$) associated with blasting and rock-crushing activities. Prior to the County's issuance of any Grading Permits, the Boulder Brush Developer or its designee shall demonstrate compliance with the requirements of this mitigation measure on site and grading plans prepared as part of the Grading Permit application:

a. During blasting activities, the construction contractor shall implement measures to control fugitive dust, including exhaust ventilation, blasting cabinets and enclosures, vacuum blasters, drapes, water curtains, or wet blasting. Watering methods, such as water sprays and water applications, shall be implemented during blasting, rock crushing, cutting, chipping, sawing, or any activity that would release dust particles to reduce fugitive dust emissions.

b. During rock-crushing transfer and conveyance activities, material shall be watered prior to entering the crusher. Crushing activities shall not exceed an opacity limit of 20% (or Number 1 on the Ringelmann Chart) as averaged over a 3-minute period in any period of 60 consecutive minutes, in accordance with San Diego Air Pollution Control District (SDAPCD) Rule 50, Visible Emissions. A qualified opacity observer shall monitor opacity from crushing activities once every 30 days while crushers are employed on site to ensure compliance with SDAPCD Rule 50. Water sprayers, conveyor belt enclosures, or other mechanisms shall be employed to reduce fugitive dust generated during transfer and conveyance of crush material.

M-AQ-4 To reduce emissions of NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$, all Boulder Brush Facilities phases involving blasting shall conform to the following requirements:

- Each blasting event shall employ approximately 1.2 tons of ammonium nitrate/fuel oil (ANFO).
- Blasting activities shall be restricted to not more than two blasts per day.
- All blasting shall be performed by a blast contractor and blasting personnel licensed to operate in San Diego County.

M-AQ-5 The Boulder Brush Facilities shall comply with the following volatile organic compound (VOC) content limits for architectural coatings during construction for residential and non-residential and uses: 50 grams per liter VOC for interior surfaces and 100 grams per liter VOC for exterior coatings.

The Project's EIS states that the activities on the Reservation would include implementation of **PDF-AQ-1** through **PDF-AQ-5** for the Campo Wind Facilities, which are equivalent to the requirements of **M-AQ-1** through **M-AQ-5** for the Boulder Brush Facilities. **PDF-AQ-1** through **PDF-AQ-5** are outlined in Section 1.2.2.2 of Chapter 1 Project Description of this EIR.

2.2.7 Conclusion

The following discussion provides a synopsis of the conclusions reached in each of the above impact analyses, and the level of impact that would occur after mitigation measures are implemented, where applicable.

The County cannot guarantee that the BIA will require implementation of recommended mitigation measures on Tribal land as part of its lease approval decision under the regulations governing the leasing of Tribal land (per 25 CFR, Part 162). The BIA has prepared an EIS for the Project that discloses that the Project occurring on the Reservation would include PDFs that are equivalent to the mitigation measures provided in this EIR. The County presumes that the Campo Wind Facilities would be constructed as described and analyzed in the EIS. The Project's potential VOC, NO_x, and CO emissions from construction and operation would be less than the federal de minimis emissions thresholds for these pollutants, even conservatively including emissions related to activities outside the BIA's control; therefore, the Project would not have a significant direct adverse effect. Thus, the Project would not result in adverse effects under NEPA.

Conformance with the Regional Air Quality Strategy

Project

The Boulder Brush Facilities are considered accounted for in the RAQS, and the RAQS does not apply to the Campo Wind Facilities. As such, the Project would not conflict with or obstruct implementation of local air quality plans. Impacts would be **less than cumulatively significant**.

Boulder Brush Facilities

The Boulder Brush Facilities would not conflict with or obstruct implementation of local air quality plans. Impacts would be **less than cumulatively significant**.

Campo Wind Facilities

The RAQS does not apply to the Campo Wind Facilities.

Cumulatively Considerable Net Increase of Criteria Air Pollutants

As described above, the SDAB is designated as a nonattainment area for the 2008 8-hour O_3 NAAQS, and O_3, PM_{10}, and $PM_{2.5}$ CAAQS.

Construction

Project

Maximum daily construction emissions would not exceed the construction thresholds for VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$ with implementation of PDF-AQ-1 through PDF-AQ-5. With implementation of **PDF-AQ-1** through **PDF-AQ-5** (for the Campo Wind Facilities) and **M-AQ-1** through **M-AQ-5** (for the Boulder Brush Facilities), the Project's contribution to significant cumulative air quality emissions would be reduced to **less than cumulatively considerable** with mitigation incorporated.

Boulder Brush Facilities

Implementation of **M-AQ-1** through **M-AQ-5** would further reduce construction emissions generated by the Boulder Brush Facilities. With implementation of **M-AQ-1** through **M-AQ-5**, impacts associated with the Boulder Brush Facilities would be **less than cumulatively considerable**.

Campo Wind Facilities

Implementation of **PDF-AQ-1** through **PDF-AQ-5** would reduce construction emissions generated by the Campo Wind Facilities. With implementation of **PDF-AQ-1** through **PDF-AQ-5**, the Campo Wind Facilities' contribution to cumulative air quality emissions would be **less than cumulatively considerable**.

Operation

Project

Maximum daily operational emissions of VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ generated by the Project would not exceed significance thresholds. Therefore, when Project emissions are considered with existing ambient air quality emissions and emissions from reasonably foreseeable future projects, operation of the Project would make a **less than cumulatively considerable contribution** to significant cumulative impacts**.**

Boulder Brush Facilities

Boulder Brush Facilities operational activities would be similar or less than the Project operational activities. Therefore, when Boulder Brush Facilities emissions are considered with existing ambient air quality emissions and emissions from reasonably foreseeable future projects, operation of the Boulder Brush Facilities would make a **less than cumulatively considerable contribution** to significant cumulative impacts**.**

Campo Wind Facilities

Campo Wind Facilities operational activities would be similar or less than the Project operational activities. Therefore, when Campo Wind Facilities emissions are considered with existing ambient air quality emissions and emissions from reasonably foreseeable future projects, operation of the Campo Wind Facilities would make a **less than cumulatively considerable contribution** to significant cumulative impacts**.**

Impacts to Sensitive Receptors

Construction

Carbon Monoxide Hotspot

Project

Construction traffic would be temporary and short-term during the peak phase of construction. Furthermore, with the addition of Project traffic, the study area intersections were calculated to operate acceptably at LOS D or better during AM and PM peak hours and would not exceed the County's screening threshold. Therefore, impacts related to CO would be **less than cumulatively considerable**.

Boulder Brush Facilities

As stated above, construction traffic would be temporary and short-term during the peak phase of construction. Construction traffic associated with the Boulder Brush Facilities would be similar or less than for the Project; therefore, impacts related to CO would be **less than cumulatively considerable**.

Campo Wind Facilities

As stated above, construction traffic would be temporary and short-term during the peak phase of construction. Construction traffic associated with the Campo Wind Facilities would be similar or less than for the Project; therefore, impacts related to CO would be **less than cumulatively considerable**.

Toxic Air Contaminants

Project

Impacts related to exposure to TACs would be above the County's thresholds for cancer risk during construction activities; therefore, impacts would be potentially significant (**Impact AQ-1**). The acute and chronic non-cancer health hazard indices and lead exposure were below the County's thresholds. Because T-BACT would be incorporated with implementation of **M-AQ-1** and **PDF-AQ-1**, the construction health risk assessment for the Project applies the maximum incremental cancer risk equal to or greater than the 10 in one million threshold to evaluate the significance of health risk impacts. Thus, with implementation of **M-AQ-1** and **PDF-AQ-1**, impacts related to cancer risk would be below the County's thresholds during construction activities, as shown in Table 2.2-12, Construction Activity Health Risk Assessment Results – Mitigated. Therefore, impacts would be **less than cumulatively considerable** with application of T-BACT.

Boulder Brush Facilities

As discussed above, impacts related to exposure to TACs would be above the County's thresholds for cancer risk during construction activities; therefore, impacts would be potentially significant (**Impact AQ-1**). However, as T-BACT would be incorporated with implementation of **M-AQ-1** resulting in the construction health risk assessment for Project, which includes the Boulder Brush Facilities, being below the County's thresholds during construction activities, as shown in Table 2.2-12. Thus, impacts would be **less than cumulatively considerable** with application of T-BACT**.**

Campo Wind Facilities

As discussed above, Impacts related to exposure to TACs would be above the County's thresholds for cancer risk during construction activities; therefore, impacts would be potentially significant (**Impact AQ-1**). However, with T-BACT that would be incorporated with implementation of **PDF-AQ-1**, the construction health risks for Project, which includes the Campo Wind Facilities, would be below the County's thresholds during construction activities, as shown in Table 2.2-12. Thus, impacts would be **less than cumulatively considerable** with application of T-BACT**.**

Valley Fever

Project

Valley Fever is not highly endemic to County. Confirmed cases of valley fever have not been recorded near the Project Site or during construction of other similar projects and earthmoving

activities in the area. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and the Project's implementation of dust control strategies, it is not anticipated that earth-moving activities during Project construction when considered in relation to other reasonably foreseeable construction would result in exposure of individuals to Coccidioides. Impacts related to Valley Fever would be **less than cumulatively considerable**.

Boulder Brush Facilities

As discussed above, Valley Fever is not highly endemic to San Diego County, and within San Diego County. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and the Project's implementation of dust control strategies consistent with SDAPCD Rule 55, it is not anticipated that earth-moving activities during Boulder Brush Facilities construction would result in exposure of individuals to Coccidioides. Therefore, impacts would be less than significant and would not, with other actions in the area, create a cumulatively significant impact. Impacts related to Valley Fever would be **less than cumulatively considerable**.

Campo Wind Facilities

As discussed above, Valley Fever is not highly endemic to San Diego County, and within San Diego County. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and the Project's implementation of dust control strategies consistent with PDF-AQ-2 and PDF-AQ-3, it is not anticipated that earth-moving activities during Campo Wind Facilities construction would result in exposure of individuals to Coccidioides and would not, with other actions in the area, create a cumulatively significant impact. Impacts related to Valley Fever would be **less than cumulatively considerable**.

Operation

Carbon Monoxide Hotspot

Project

Operation of the Project would not expose sensitive receptors to localized high concentrations of CO or contribute traffic volumes to intersections that would cause a CO hotspot. The traffic volumes and LOS during operation would not exceed the County's screening threshold and would not have the potential to result in CO emissions that when totaled with the ambient concentrations would exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm; therefore, potential operational CO hotspot impacts would be **less than cumulatively considerable**.

Boulder Brush Facilities

As discussed above, operation of the Boulder Brush Facilities would be similar or less than that for the Project; therefore, the Boulder Brush Facilities would not expose sensitive receptors to localized high concentration of CO or contribute traffic volumes to intersections that would cause a CO hotspot. Thus, potential operational CO hotspot impacts would be **less than cumulatively considerable.**

Campo Wind Facilities

As discussed above, operation of the Campo Wind Facilities would be similar or less than that for the Project; therefore, the Campo Wind Facilities would not expose sensitive receptors to localized high concentration of CO or contribute traffic volumes to intersections that would cause a CO hotspot. Thus, potential operational CO hotspot impacts would be **less than cumulatively considerable.**

Toxic Air Contaminants

Project

The Project does not propose any major operational sources of TAC or lead emissions. As such, the Project would not result in substantial TAC or lead emissions that may affect nearby receptors or contribute to significant cumulative TAC or lead emission impacts. Impacts would be **less than cumulatively considerable**.

Boulder Brush Facilities

The Boulder Brush Facilities does not propose any major operational sources of TAC or lead emissions. As such, impacts would be **less than cumulatively considerable.**

Campo Wind Facilities

The Campo Wind Facilities does not propose any major operational sources of TAC or lead emissions. As such, impacts would be **less than cumulatively considerable.**

Valley Fever

Project

Activities associated with operations and maintenance would generate little to no earth-disturbing activities, and Valley Fever is not highly endemic to the County. Confirmed cases of Valley Fever have not been recorded near the Project Site or during construction of other similar projects and earthmoving activities in the area. Based on the lack of recorded cases near the

Project Site and in greater San Diego County, and little to no generation of earth-disturbing activities associated with operations and maintenance, it is not anticipated that earth-moving activities during Project operations and maintenance when considered in relation to other reasonably foreseeable projects would result in exposure of individuals to Coccidioides. Impacts related to Valley Fever would be **less than cumulatively considerable.**

Boulder Brush Facilities

As discussed above, Valley Fever is not highly endemic to San Diego County, and within San Diego County. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and little to no generation of earth-disturbing activities associated with operations and maintenance, it is not anticipated that operations and maintenance during Boulder Brush Facilities operations would result in exposure of individuals to Coccidioides. Therefore, impacts would be less than significant and would not, with other actions in the area, create a cumulatively significant impact. Impacts related to Valley Fever would be **less than cumulatively considerable.**

Campo Wind Facilities

As discussed above, Valley Fever is not highly endemic to San Diego County, and within San Diego County. Based on the lack of recorded cases near the Project Site and in greater San Diego County, and little to no generation of earth-disturbing activities associated with operations and maintenance, it is not anticipated that operations and maintenance during Campo Wind Facilities operations would result in exposure of individuals to Coccidioides. Therefore, impacts would be less than significant and would not, with other actions in the area, create a cumulatively significant impact. Impacts related to Valley Fever would be **less than cumulatively considerable.**

Other Emission Impacts

Construction

Project

Any odors associated with cumulative construction activities would be temporary, short term and would cease upon construction completion. Construction odor impacts would be **less than cumulatively considerable**.

Boulder Brush Facilities

As discussed above, any odors associated with cumulative construction activities would be temporary and would cease upon construction completion. Construction odor impacts would be **less than cumulatively considerable**.

Campo Wind Facilities

As discussed above, any odors associated with cumulative construction activities would be temporary and would cease upon construction completion. Construction odor impacts would be **less than cumulatively considerable**.

Operation

Project

Any cumulative projects, as with the Project, would be required to comply with the County odor policies enforced by the SDAPCD, including Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance), and SDAPCD Rule 51 and County Zoning Code Section 6318 in the event a nuisance complaint occurs; these prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. The Project would not create significant odors and there is not a significant cumulative odor impact in the area. Operational odor impacts would be **less than cumulatively considerable**.

Boulder Brush Facilities

As discussed above, any cumulative projects, as with the Boulder Brush Facilities, would be required to comply with the County odor policies enforced by the SDAPCD, including Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance), and SDAPCD Rule 51 and County Zoning Code Section 6318 in the event a nuisance complaint occurs; these prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. The Boulder Brush Facilities would not create significant odors and there is not a significant cumulative odor impact in the area. Operational odor impacts would be **less than cumulatively considerable**.

Campo Wind Facilities

As discussed above, any cumulative projects, as with the Campo Wind Facilities, would be required to comply with the Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance) in the event a nuisance complaint occurs; these prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. The Campo Wind Facilities would not create significant odors and there is not a significant cumulative odor impact in the area. Operational odor impacts would be **less than cumulatively considerable**.

Table 2.2-1
San Diego Air Basin Attainment Classification

Pollutant	Federal Designation	State Designation
O_3 (1-hour)	Attainment[a]	**Nonattainment**
O_3 (8-hour – 2008)	**Nonattainment (Moderate)**	**Nonattainment**
NO_2	Unclassifiable/Attainment	Attainment
CO	Attainment (Maintenance)	Attainment
SO_2	Unclassifiable/Attainment	Attainment
PM_{10}	Unclassifiable/Attainment	**Nonattainment**
$PM_{2.5}$	Unclassifiable/Attainment	**Nonattainment**
Lead	Unclassifiable/Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility-Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	No Designation

Sources: EPA 2016b (federal); CARB 2016b (state).
Notes: O_3 = ozone; Attainment = meets the standards; Nonattainment = does not meet the standards; NO_2 = nitrogen dioxide; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data; CO = carbon monoxide; Attainment (Maintenance) = achieve the standards after a nonattainment designation; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; Unclassified or Unclassifiable = insufficient data to classify.
[a] The federal 1-hour standard of 0.12 parts per million was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

Table 2.2-2
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2015	*2016*	*2017*	*2015*	*2016*	*2017*
Ozone (O_3)										
Alpine-Victoria Drive	ppm	Maximum 1-hour concentration	State	0.09	0.097	0.104	0.109	2	6	11
	ppm	Maximum 8-hour concentration	State	0.070	0.084	0.091	0.095	30	29	48
			Federal	0.070	0.084	0.091	0.095	30	29	48
Nitrogen Dioxide (NO_2)										
Alpine-Victoria Drive	ppm	Maximum 1-hour concentration	State	0.18	0.048	0.033	0.028	0	0	0
			Federal	0.100	0.048	0.033	0.028	0	0	0
	ppm	Annual concentration	State	0.030	0.005	0.004	0.004	0	0	0
			Federal	0.053	0.005	0.004	0.004	0	0	0

Table 2.2-2
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2015	*2016*	*2017*	*2015*	*2016*	*2017*
Carbon Monoxide (CO)										
El Cajon-Lexington Elementary	ppm	Maximum 1-hour concentration	State	20	—	1.5	1.5	0	0	0
			Federal	35	—	1.5	1.5	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	—	1.3	1.4	0	0	0
			Federal	9	—	1.3	1.4	0	0	0
Sulfur Dioxide (SO_2)										
El Cajon-Lexington Elementary	ppm	Maximum 1-hour concentration	Federal	0.075	0.001	0.006	0.001	0	0	0
	ppm	Maximum 24-hour concentration	Federal	0.140	0.0004	0.0002	0.0004	0	0	0
	ppm	Annual concentration	Federal	0.030	0.0001	0.00008	0.0001	0	0	0
Coarse Particulate Matter (PM_{10})[a]										
El Cajon-Lexington Elementary	µg/m³	Maximum 24-hour concentration	State	50	—	43	50	—	0	0
			Federal	150	—	43	50	—	0	0
	µg/m³	Annual concentration	State	20	—	—	—	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a]										
El Cajon-Lexington Elementary	µg/m³	Maximum 24-hour concentration	Federal	35	—	23.9	31.8	—	0	0
	µg/m³	Annual concentration	State	12	—	9.9	9.6	—	*0*	*0*
			Federal	12.0	—	9.9	9.6	—	*0*	*0*

Sources: CARB 2018; EPA 2018.

Notes: ppm = parts per million; — = not available or applicable; µg/m³ = micrograms per cubic meter.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

Alpine-Victoria Drive monitoring station is located at 2300 Victoria Drive, Alpine, California.

El Cajon – Lexington Elementary School monitoring station is located at 533 First Street, El Cajon, California.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

Table 2.2-3
San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions			
Pollutant	*Total Emissions (Pounds per Day)*		
Respirable particulate matter (PM_{10})	100		
Fine particulate matter ($PM_{2.5}$)	55		
Oxides of nitrogen (NO_x)	250		
Oxides of sulfur (SO_x)	250		
Carbon monoxide (CO)	550		
Volatile organic compounds (VOC)	75[a]		
Operational Emissions			
Pollutant	*Total Emissions*		
	Pounds per Hour	*Pounds per Day*	*Tons per Year*
Respirable PM_{10}	—	100	15
Fine $PM_{2.5}$	—	55	10
NO_x	25	250	40
SO_x	25	250	40
CO	100	550	100
Lead and lead compounds	—	3.2	0.6
VOC	—	75[a]	13.7

Sources: San Diego Air Pollution Control District (SDAPCD) Rules 1501 (SDAPCD 1995) and 20.2(d)(2) (SDAPCD 2016c).
Note: — = not available or applicable.
[a] VOC threshold based on the threshold of significance for VOC from the South Coast Air Quality Management District for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance (County of San Diego 2007).

Table 2.2-4
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
O_3	1 hour	0.09 ppm (180 μg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m³)	0.075 ppm (196 μg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m³	150 μg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m³	—	

Table 2.2-4
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
$PM_{2.5}$[i]	24 hours	—	35 μg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Lead[j,k]	30-day Average	1.5 μg/m³	—	—
	Calendar Quarter	—	1.5 μg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 μg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m³)	—	—
Sulfates	24- hours	25 μg/m³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: O_3 = ozone; ppm = parts per million by volume; μg/m³ = micrograms per cubic meter; NO_2 = nitrogen dioxide; CO = carbon monoxide; mg/m³= milligrams per cubic meter; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; PST = Pacific Standard Time.

a California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended 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. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For 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/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on 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.

d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

f On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

g To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

h 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 national 1-hour 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 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs 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.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Table 2.2-5
Construction Activity Health Risk Assessment Results – Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Cancer risk – On-Reservation	Per million	5.59	1.0	**Potentially significant**
Cancer risk – Off-Reservation	Per million	5.25	1.0	**Potentially significant**
Chronic non-cancer health hazard index – On-Reservation	Hazard Index	0.0072	1.0	Less than significant
Chronic non-cancer health hazard index – Off-Reservation	Hazard Index	0.0069	1.0	Less than significant
Acute non-cancer health hazard index – On-Reservation	Hazard Index	0.0002	1.0	Less than significant
Acute non-cancer health hazard index – Off-Reservation	Hazard Index	0.0002	1.0	Less than significant
Lead exposure	μg/m³	0.00009	0.12	Less than significant

Source: Appendix C.

Notes: CEQA = California Environmental Quality Act; On-Reservation = within the Campo Band of Diegueño Mission Indians Reservation boundary; Off-Reservation = outside the Campo Band of Diegueño Mission Indians Reservation boundary; μg/m³ = micrograms per cubic meter.

Table 2.2-6
Estimated Project Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated (with Project Design Features and San Diego Air Pollution Control District Rules)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019						
Campo Wind Facilities	8.42	120.60	315.50	5.31	51.14	17.97
Boulder Brush Facilities	20.49	195.86	139.17	0.32	27.43	15.99
2019 Total	**28.90**	**316.46**	**454.67**	**5.63**	**78.57**	**33.96**
2020						
Campo Wind Facilities	13.30	84.56	266.58	0.72	26.64	8.96
Boulder Brush Facilities	12.05	93.45	100.39	0.22	11.13	6.30
2020 Total	**23.35**	**178.01**	**366.96**	**0.94**	**37.77**	**15.26**
Maximum Daily Emissions	*28.90*	*316.46*	*454.67*	*5.63*	*78.57*	*33.96*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: See Appendix C.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.
Project emissions include quantified reductions from PDF-AQ-1 through PDF-AQ-5.

Table 2.2-7
Estimated Boulder Brush Facilities Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated (San Diego Air Pollution Control District Rules)

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019	20.49	195.86	139.17	0.32	27.43	15.99
2020	12.05	93.45	100.39	0.22	11.13	6.30
Maximum Daily Emissions	*20.49*	*195.86*	*139.17*	*0.32*	*27.43*	*15.99*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix C.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.
Project emissions do not include quantified reductions from PDF-AQ-2.

Table 2.2-8
Estimated Campo Wind Facilities Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated (with Project Design Features)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019	8.42	120.60	315.50	5.31	51.14	17.97
2020	13.30	84.56	266.58	0.72	26.64	8.96
Maximum Daily Emissions	*13.30*	*120.60*	*315.50*	*5.31*	*51.14*	*17.97*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix C.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.
Project emissions include quantified reductions from PDF-AQ-1 through PDF-AQ-5.

Table 2.2-9
Estimated Maximum Daily Decommissioning Criteria Air Pollutant Emissions – Unmitigated (with Project Design Features and San Diego Air Pollution Control District Rules)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2050						
Campo Wind Facilities	6.43	17.99	62.75	0.21	5.47	1.70
Boulder Brush Facilities	4.07	9.53	36.29	0.12	2.99	0.95
Maximum Daily Emissions	*10.50*	*27.52*	*99.04*	*0.33*	*8.46*	*2.64*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix C.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.
Project emissions include quantified reductions from PDF-AQ-2.

Table 2.2-10
Estimated Maximum Annual Operational Emissions – Unmitigated

Emission Source	VOC	NO_x	CO	SO_X	PM_{10}	$PM_{2.5}$
	Tons per Year					
Area	0.11	0.00	0.00	0.00	0.00	0.00
Mobile	0.07	0.21	2.01	<0.01	0.51	0.14
Stationary	0.66	1.83	1.67	<0.01	0.10	0.10
Total Maximum Annual Emissions	**0.83**	**2.04**	**3.68**	**0.01**	**0.61**	**0.23**

Table 2.2-10
Estimated Maximum Annual Operational Emissions – Unmitigated

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per Year					
Pollutant Threshold	*13.7*	*40*	*100*	*40*	*15*	*10*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix C.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Emissions reflect operational year 2021.
Numbers may not add exactly due to rounding.
See Appendix C for complete results.

Table 2.2-11
Estimated Project Maximum Daily Construction Criteria Air Pollutant Emissions – Mitigated (with Project Design Features and Mitigation Measures)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019						
Campo Wind Facilities	8.42	120.60	315.50	5.31	51.14	17.97
Boulder Brush Facilities	5.45	33.32	143.39	0.32	18.78	7.84
2019 Total	*13.87*	*153.92*	*458.89*	*5.63*	*69.92*	*25.81*
2020						
Campo Wind Facilities	13.30	84.56	266.58	0.72	26.64	8.96
Boulder Brush Facilities	4.23	19.26	107.26	0.22	6.64	1.99
2020 Total	*17.53*	*103.82*	*373.84*	*0.94*	*33.28*	*10.95*
Maximum Daily Emissions	*17.53*	*153.92*	*158.89*	*5.63*	*69.92*	*25.81*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix C.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.
Emissions include PDF-AQ-1 through PDF-AQ-5 and M-AQ-1 through M-AQ-5 implementation of Tier 4 Final equipment, reduction of vehicle speeds on unpaved roads to 15 miles per hour, and watering.

Table 2.2-12
Project Construction Activity Health Risk Assessment Results – Mitigated

Impact Parameter	Units	Project Impact	CEQA Threshold with T-BACT	Level of Significance
Cancer risk – On-Reservation	Per million	0.41	10.0	Less than significant
Cancer risk – Off-Reservation	Per million	0.40	10.0	Less than significant

Table 2.2-12
Project Construction Activity Health Risk Assessment Results – Mitigated

Impact Parameter	Units	Project Impact	CEQA Threshold with T-BACT	Level of Significance
Chronic non-cancer health hazard index – On-Reservation	Hazard Index	0.0024	1.0	Less than significant
Chronic non-cancer health hazard index – Off-Reservation	Hazard Index	0.0023	1.0	Less than significant
Acute non-cancer health hazard index – On-Reservation	Hazard Index	0.0002	1.0	Less than significant
Acute non-cancer health hazard index – Off-Reservation	Hazard Index	0.0002	1.0	Less than significant
Lead exposure	µg/m^3	0.00009	0.12	Less than significant

Source: Appendix C.
Notes: CEQA = California Environmental Quality Act; T-BACT = best available control technology for toxics; On-Reservation = within the Campo Band of Diegueño Mission Indians Reservation boundary; Off-Reservation = outside the Campo Band of Diegueño Mission Indians Reservation boundary; µg/m^3 = micrograms per cubic meter.

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