2.2 Air Quality

This section discusses potential impacts to air quality resulting from the implementation of the proposed JVR Energy Park Project (Proposed Project). Information and analysis in this section have been compiled based on an understanding of the existing ambient air quality of the San Diego Air Basin (SDAB) and review of existing technical data, applicable laws, regulations, and guidelines, as well as the following technical reports prepared for the Proposed Project, consistent with the County of San Diego Air Quality Report Format and Content Requirements (County of San Diego 2007):

- Air Quality Technical Report, JVR Energy Park Project (Appendix C)

Comments received in response to the Notice of Preparation (NOP) included concerns regarding greenhouse gas emissions form construction-related diesel equipment use, increased particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}) and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$) as a result of soil disturbance during construction-related activities, and adverse effects to the community's health as a result of increased particulate matter and emissions. These concerns are addressed in this section of the Environmental Impact Report (EIR). A copy of the NOP and comment letters received in response to the NOP is included in Appendix A of this EIR.

2.2.1 Existing Conditions

This section describes the existing setting in the Project area and identifies the resources that could be affected by the Proposed Project. The Project site is located within the SDAB and is subject to the San Diego Air Pollution Control District's (SDAPCD) guidelines and regulations. 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. 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 2.2.1.4, Local Air Quality, and Section 2.2.1.5, Air Quality Monitoring Data, 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 inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

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 southeastern 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, with highs approaching 80°F in August on average, and record highs approaching 104°F in August. 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. Structures associated with prior dairy and ranching operations are located within a portion of the site. A portion of Project site was also previously used for farming. Most of the development footprint is relatively level, with steeper slopes to the west which would not be disturbed. The on-site elevation ranges from approximately 2,745 feet above mean sea level in the lower, northern portion of the site to 3,365 feet above mean sea level at the top of Round Mountain in the northwestern portion of the Project site.

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, 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 San Diego 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), PM_{10}, $PM_{2.5}$, and lead. These pollutants are discussed below.[1] 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 ozone). 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.

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

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

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.

When inhaled, CO replaces oxygen that is normally carried in red blood cells, 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 exacerbate lung tissue damage 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. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. 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 absorbed 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 non-cancer 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 (approximately 1/70th 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 quite 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.

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, any 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 San Diego County is 4.5 cases per 100,000 people per year. The Project site is wholly contained within the 91934 zip code. For the 91934 zip code, there were no cases of Coccidioidomycosis between 2008 and 2017 (Nelson 2018). Statewide incidences in 2016 were 13.7 per 100,000 people (CDPH 2016).

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 Local Air Quality

Pursuant to the federal Clean Air Act (discussed in Section 2.2.2, Regulatory Setting), 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, called 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 Proposed Project is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

2.2.1.5 Air Quality Monitoring Data

The San Diego Air Pollution Control District (SDAPCD) operates a network of 11 ambient air monitoring stations throughout San Diego County that measures ambient concentrations of pollutants and determines 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 Otay Mesa–Donovan monitoring station is considered most representative of the Project site. Pollutant concentrations of CO, SO_2, and $PM_{2.5}$ are not measured at the Otay Mesa–Donovan station, so those measurements were taken from the nearest monitoring station that includes those pollutants—the El Cajon Floyd Smith Drive monitoring station. Ambient concentrations of pollutants from 2015 through 2017 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.

2.2.2 Regulatory Setting

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 U.S. 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 health and welfare of the citizens of the nation. 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 (SIP) 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.

Safer Affordable Fuel-Efficient Vehicle Rule

In August 2019, the U.S. EPA and National Highway Traffic Safety Administration (NHTSA) jointly published a notice of proposed rulemaking for Part One of the Safer Affordable Fuel-Efficient Vehicle Rule (SAFE Rule). The SAFE Rule proposed new and amended CO_2, Corporate Average Fuel Economy, and greenhouse gas emissions standards for passenger cars and light trucks. Further, Part One of this rule proposed to withdraw the State of California's waiver, afforded under the Clean Air Act to set greenhouse gas and zero-emission vehicle standards separate from the federal government. Part One of the SAFE Rule became effective in November 2019. CARB has provided adjustment factors for pollutants, including NO_2, PM_{10}, and $PM_{2.5}$, and CO, from light-duty vehicle exhaust to account for Part One of the SAFE Rule.

In March 2020, EPA and the National Highway Traffic Safety Administration announced Part Two of the SAFE Rule, which would set amended fuel economy and CO_2 standards for passenger cars and light trucks for model years 2021–2026. Part Two would become effective 60 days after publication in the Federal Register. The Proposed Project's operational emissions associated with passenger cars and light duty trucks would be relatively minimal and the anticipated changes associated with the implementation of this rule would not result in significant changes to the estimated operational emissions for the Proposed Project.

Furthermore, although off-model adjustments are available from CARB, the vehicle miles traveled (VMT) split between vehicle fuels is not publicly available and thus adjustments to the CalEEMod EMFAC data are not possible at this time (Sardar, pers. comm. 2019). Based on the CARB adjustment factors, implementation of the SAFE Rule would slightly increase the anticipated emissions factors for passenger vehicles and light-duty trucks starting in 2021. The project's assumed operational year is 2022, at which time adjustments to account for SAFE Rule would be minimal (i.e., less than one percent increase).

State

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; 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 (CARB 2009).

The NAAQS and CAAQS are presented in Table 2.2-3, Ambient Air Quality Standards.

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 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Assembly Bill 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 Assembly Bill 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.

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

San Diego Air Pollution Control District

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 Project site 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 Plan for attainment and maintenance of the ambient air quality standards in the SDAB. The Regional Air Quality Strategy (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 RAQS relies on information from CARB and SANDAG to project 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 of San Diego (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 Proposed Project:

- ***SDAPCD Regulation II: Permits; Rule 20.2: New Source Review Non-Major Stationary Sources***. This rule 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 Proposed Project would not include specific stationary sources. If stationary sources were to be included as part of the Proposed Project, or at a later date, those sources would be subject to Rule 20.2 and would require appropriate operating permits from the SDAPCD. Because the SDAPCD has not adopted specific criteria air pollutant thresholds for analyses under CEQA, 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 rule 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 U.S. 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 Proposed Project 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 Proposed Project, compliance with SDAPCD Rule 50 would be required during both construction and operation.

- ***SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance*.** This rule 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 Proposed Project 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* rule 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 Proposed Project, primarily during earth-disturbing activities, may result in fugitive dust emissions that would be subject to SDAPCD Rule 55.

- ***SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.*** This rule 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).

  Construction and operation of the Proposed Project would include application of architectural coatings (e.g., paint and other finishes) that are subject to SDAPCD Rule 67.0.1. Architectural coatings used in the reapplication of coatings during operation of the Proposed Project 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.[2]

- ***SDAPCD Regulation XII: Toxic Air Contaminants; Rule 1200: Toxic Air Contaminants – New Source Review***. This rule 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 1 in 1 million at every receptor location, or demonstrate that toxics best available control technology (T-BACT) will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 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 1 million but less than 100 in 1 million (SDAPCD 2017a).

  The Proposed Project's emergency 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 rule 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 1 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 (SDAPCD 2017b).

  The Proposed Project's emergency 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 (Regional Plan) for the San Diego region (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,

[2] Specific assumptions included in the California Emissions Estimator Model (CalEEMod) in compliance with Rule 67.0.1 are included in Table 2.2-7, below.

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 the 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,[3] 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).

2.2.3 Analysis of Proposed Project Effects and Determination as to Significance

The Proposed Project is a solar energy generation and storage facility, which includes a switchyard that would be transferred to San Diego Gas & Electric (SDG&E) after construction. For the purposes of this analysis, the switchyard (as described in Chapter 1 of this EIR) is a component of the Proposed Project and has been analyzed as part of the whole of the action. However, the EIR highlights the specific analysis of the switchyard under each threshold of significance in the event that responsible agencies have CEQA obligations related to the switchyard. Direct, indirect, and

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

cumulative impacts pertaining to air quality are evaluated based on specified thresholds identified in the CEQA Guidelines, Appendix G, the County of San Diego's Guidelines for Determining Significance, and SDAPCD thresholds.

The County's Guidelines for Determining Significance are generally intended to address the questions posed in Appendix G of the CEQA Guidelines. In 2018, the CEQA Guidelines were updated and several of the questions listed in Appendix G were revised, deleted or modified. The County's Guidelines for Determining Significance have yet to be updated to address these amendments. Accordingly, this EIR analyzes the impacts from the Proposed Project using the County's Guidelines for Determining Significance and the questions posed in Appendix G. Where the questions in Appendix G have not been revised, only the County's Guidelines for Determining Significance are identified and analyzed. Where the questions in Appendix G have been significantly altered or additional questions have been posed, the Proposed Project's impacts are analyzed as against the questions in Appendix G and, to the extent they remain consistent with Appendix G, the County's Guidelines for Determining Significance.

County Guidelines for Determining Significance

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. An affirmative response to or confirmation of any one of the following Guidelines will generally be considered a significant impact to air quality as a result of Proposed Project implementation, in the absence of scientific evidence to the contrary.

A significant impact, based on the County Guidelines, would result if any of the following would occur:

- **Conformance with the Regional Air Quality Strategy.**
  The project would conflict with or obstruct the implementation of the SDAPCD's RAQS and/or applicable portions of the SIP.
- **Conformance to Federal and State Ambient Air Quality Standards.**

  The project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation:

  - The project would result in emissions that exceed 250 pounds per day of NO_x or 75 pounds per day of VOCs;
  - The project would result in emissions of CO that, when totaled with the ambient concentration, would exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm;

- The project would result in emissions of $PM_{2.5}$ that exceed 55 pounds per day;
- The project would result in emissions of PM_{10} that exceed 100 pounds per day and increase the ambient PM_{10} concentrations by 5 micrograms per cubic meter ($\mu g/m^3$) or greater at the maximum exposed individual.

- **Cumulatively Considerable Net Increase of Criteria Pollutants.**
  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.
    - 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 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.

- **Impacts to Sensitive Receptors.**
  To answer the question whether the project would expose sensitive receptors to substantial pollutant concentrations, the County Guidelines have developed two separate questions, including:

  Will the project place sensitive receptors near CO hotspots or creates CO hotspots near sensitive receptors; and

  Will project implementation 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.
- **Other Emissions.**
  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.

As noted previously, the 2018 update to the CEQA Guidelines resulted in the consolidation of Appendix G questions related to air quality analyses. For the purposes of this analysis, and consistent with these updated CEQA Guidelines, the "Conformance to Federal and State Ambient Air Quality Standards" and "Cumulatively Considerable Net Increase of Criteria Pollutants" questions provided above are addressed as a single air quality subject issue.

San Diego Air Pollution Control District

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 emissions thresholds below which a stationary source would not have a significant impact on ambient air quality. Air quality impacts estimated in the environmental analysis for the Proposed Project would be considered significant if any of the applicable significance thresholds presented in Table 2.2-4, SDAPCD Air Quality Significance Thresholds, are exceeded.

For CEQA purposes, the thresholds listed in Table 2.2-4 represent screening-level thresholds that can be used to evaluate whether emissions related to the Proposed Project could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. The emissions-based thresholds for O_3 precursors are intended to serve as a surrogate for an "O_3 significance threshold" (i.e., the potential for adverse O_3 impacts to occur). This approach is used because O_3 is not emitted directly (see the discussion of O_3 and its sources in Section 2.2.1.3, Pollutants and Effects), and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 2.2-4, the Proposed 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.

With respect to odors, SDAPCD Rule 51, Public Nuisance, prohibits emissions of any material that causes nuisance to a considerable number of people or endangers the comfort, health, or safety of any person (SDAPCD 1969). 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.

2.2.3.1 Conformance to the Regional Air Quality Strategy

Guidelines for the Determination of Significance

For the purpose of this section, Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and the County's Guidelines for Determining Significance: Air Quality (County of San Diego 2007), Conformance with Regional Air Quality Strategy, apply to both the direct impact analysis and the cumulative impact analysis. A significant impact would result if:

- The project would conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP.

Analysis

As previously discussed, the SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the SDAB, specifically the SIP and RAQS.[4] The federal O_3 attainment 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 was initially adopted in 1991 and is typically updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality

[4] For the purpose of this discussion, the relevant federal air quality plan is the Ozone Attainment Plan (SDAPCD 2016c). The RAQS is the applicable plan for purposes of State air quality planning. Both plans reflect growth projections in the SDAB.

standards for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to project 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 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 the development of their general plans.

As mentioned above, the SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the County as part of development of their general plans. As such, projects that involve development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS. However, if a project involves development that is greater than that anticipated in the local plan and/or SANDAG's growth projections, that project might be in conflict with the SIP and RAQS, and may contribute to a potentially significant cumulative impact on air quality.

The Proposed Project is located on a site that is zoned Specific Planning Area (S88) that has not adopted a Specific Plan. A Major User Permit is required from the County to develop a solar facility on the Project site. The Proposed Project would be consistent with the underlying zoning for the site parcels, which would mean that the Proposed Project was currently included within the SIP and RAQS. Furthermore, in order to demonstrate that the Proposed Project is a less-intensive use and would result in fewer emissions than the zoning for the Project site parcels, the zoning was modeled using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 and compared to the emissions generated by the most intensive allowable on-site use (CAPCOA 2017). As identified within the County's zoning regulations and General Plan, the most intensive use allowed on the Project site with respect to emissions of criteria pollutants would be residential. The allowed unit density for each parcel was evaluated against its respective zoning. The majority of the parcels were modeled as single-family residences. Two of the parcels were modeled as multifamily apartments as they were zoned to allow up to 14.5 dwelling units per acre. The total buildout of allowable residential uses on the Project site is 224 single-family residences and 2,475 multi-family residential units. See Table 2.2-5, Zoning for Proposed Project Parcels, for a breakdown of the zoning for the Proposed Project's parcels. The largest contributor to emissions of criteria pollutants for both the allowable use and the Proposed Project is mobile sources (i.e., emissions from vehicles driven by residents or workers). For the purposes of comparison between the two uses, the daily trips and annual vehicle miles traveled (VMT) were used as a surrogate in the absence of comparable land use types. Detailed modeling files are included in Appendix C. The existing zoning would result in an average daily trip rate of 18,443 and result in 68,255,312 VMT annually. In comparison, the Proposed Project would result in a maximum daily trip rate of 12 and result in 315,360 VMT annually. As such, the Proposed Project would result in a less emissions-intensive development compared to the buildout of the Project site's zoning, which is

included within the RAQS and SIP (CARB 2017b). Therefore, the emissions from the Proposed Project would be considered consistent with the underlying land use assumptions included within the RAQS and SIP.

Moreover, the Proposed Project does not propose residential, commercial, or growth-inducing development. During operation, staff would visit various on-site Proposed Project components periodically for maintenance. Maintenance trucks would be used to perform routine maintenance, including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance. Operation of the Proposed Project would result in a negligible increase in local employment and associated trips.

Since the Proposed Project would not contribute to local population growth or substantial employment growth and the growth-related emissions during operations, the Proposed Project is considered accounted for in the SIP and RAQS, and the Proposed Project would not conflict with or obstruct the implementation with local air quality plans. Impacts would be **less than significant**.

Switchyard

Construction of the switchyard and associated connection in and out legs would not result in residential, commercial, or growth-inducing development that would result in a substation increase in growth-related emissions. During operation, it is assumed that an occasional maintenance truck would be used to perform routine maintenance, including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance of the facility on an as-needed basis. Operation of the switchyard would result in a negligible increase in associated operational trips. As shown in Table 2.2-5, the switchyard would comprise 5.14 acres of parcel 661-010-30. As such, based on the existing zoning of S88 and density of 0.25 units per acre, the maximum buildout would be 1.3 single-family residential units. Assuming 1 single-family unit was built would result in an average daily trip rate of 10 and 34,961 VMT annually. In comparison, routine maintenance was assumed to generate up to 4 worker vehicle trips and 4 vendor truck trips per month, or 6,912 VMT annually.

Since the switchyard would not contribute to local population growth or employment growth, the switchyard is considered accounted for in the SIP and RAQS, and would not conflict with or obstruct implementation of local air quality plans; therefore, impacts would be **less than significant**.

2.2.3.2 Impacts to Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Reduced visibility, eye irritation, and adverse health impacts upon sensitive receptors are the most serious hazards of existing air quality conditions in the area. 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 with health conditions that would be adversely impacted by changes in air quality. However, for the purposes of CEQA analysis in the County, the definition of a sensitive receptor also includes residents.

The two primary emissions of concern regarding health effects for land development projects are DPM during construction and CO hotspots related to traffic congestion, as discussed below.

Construction and Decommissioning Impacts

Guidelines for the Determination of Significance

For the purpose of this section, the County's Guidelines for Determining Significance: Air Quality (County of San Diego 2007) apply to both the direct impact analysis and the cumulative impact analysis. A significant impact would result if:

- 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 risks equal to or greater than 10 in 1 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.

Carbon Monoxide Hotspots

A CO hot spot is a localized concentration of CO that is above the state or national 1-hour or 8-hour CO ambient air standards. Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. Projects that cause road intersections to operate at or below LOS E and the addition of peak-hour trips from the project and the surrounding projects that exceeds 3,000 have the potential to create CO concentrations exceeding the CAAQS. The Proposed Project's Local Mobility Analysis (Appendix Q) evaluated the effects from construction traffic on the local area. The Local Mobility Analysis showed that all studied intersections would operate at an acceptable level of service (LOS D or better) during construction. Further, Proposed Project construction would not significantly contribute to peak hour trips.

Trip generation and distribution for workers and delivery trucks would vary; however, based on daily construction worker, vendor trip, and haul truck estimates, maximum daily trips resulting from construction activities would be approximately 500 vehicles, which would be well below the

screening threshold of a peak-hour volume of 3,000 vehicles (see County Guidelines, at p. 18). Construction trips would occur throughout the day and would not all occur during the peak hour. Due to the phased and short-term nature of construction activities for the Proposed Project, the fact that construction trips would not all occur during the peak hour, and considering cumulative projects listed in Table 1-4 of Chapter 1, it is reasonable to assume that no intersections in the vicinity of the Project site would exceed a peak-hour volume of 3,000 vehicles as a result of the Proposed Project's construction trips. Similarly, decommissioning of the Proposed Project would have less vehicle traffic than construction and would not exceed the County's screening threshold. 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 Proposed Project. Impacts would be **less than significant**.

Switchyard

Due to the limited construction activity, equipment required for construction of the switchyard, and associated construction trips associated with the facility's construction, minimal emissions would be generated during construction of the facility. The switchyard is estimated to require up to 46 vehicles during peak construction (Appendix Q). As such, construction of the switchyard would not substantially contribute to a CO hotspot impact. Impacts associated with the construction of the switchyard would be **less than significant**.

Toxic Air Contaminants

"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 Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). In addition, some TACs have noncarcinogenic 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 Office of Environmental Health Hazard Assessment, 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 the Proposed Project (OEHHA 2015). Therefore, for the Proposed Project, the exposure period was 13 months, consistent with the duration of construction activities.

During Proposed Project construction, DPM emissions would be emitted from heavy-duty construction equipment and heavy-duty trucks as well as TAC emissions within the fugitive dust generated by vehicle traffic. Heavy-duty construction equipment and diesel trucks are subject to CARB

Airborne Toxic Control Measures (described in Section 2.2.2, Regulatory Setting) to reduce DPM emissions. According to the Office of Environmental Health Hazard Assessment, health risk assessments (HRAs), 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 the Proposed Project. Because the Proposed Project would involve construction activities in several areas across the site, the Proposed Project 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.

An HRA was performed to evaluate the cancer and non-cancer risk from TAC emissions on existing sensitive receptors from construction activities. The HRA methodology is further described in Section 3.5, Health Risk Assessment, of Appendix C. The results of the HRA for Proposed Project construction are summarized in Table 2.2-6, Construction Activity Health Risk Assessment Results – Unmitigated.

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in (1) cancer risk on site above the 1 in 1 million threshold without application of T-BACT; (2) chronic and acute non-cancer health hazard indexes of less than 1; and (3) lead exposure less than 0.12 micrograms per cubic meter ($\mu g/m^3$). Therefore, TAC emissions from construction of the Proposed Project may expose sensitive receptors to substantial pollutant concentrations due to cancer risk on site above the 1 in 1 million threshold without application of T-BACT. Impacts would be **potentially significant (Impact AQ-1)**.

For decommissioning, the DPM emissions would comprise only 4% of those emitted during the construction period. As such, the risk to sensitive receptors from decommissioning of the Proposed Project would be less than the County's significance threshold. Impacts associated with the decommissioning of the Proposed Project would be **less than significant**.

Switchyard

Construction of the switchyard would result in a minimal, 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 asphalt pavement application, and internal haul trucks) and off-site sources (e.g., vendor trucks and worker vehicle trips). Due to the limited construction activity, equipment required for construction of the switchyard, and associated construction trips associated with the facility's construction, minimal emissions would be generated during construction of the facility. Criteria air pollutant emissions would be well below established thresholds. The construction of the switchyard would represent approximately 24% of the total DPM emissions during construction. As such, the risk to sensitive receptors from construction of the switchyard would be

less than the County's significance threshold. Impacts associated with the construction of the switchyard would be **less than significant**.

Valley Fever Exposure

As discussed in Section 2.2.1.3, Pollutants and Effects, Valley Fever is not highly endemic to San Diego County, and within San Diego County, the incidence rate in the Project area is below the County average and the statewide average. Construction and decommissioning of the Proposed Project would comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Strategies the Proposed Project would implement to comply with SDAPCD Rule 55 and control dust include watering three times per day, using magnesium chloride for dust suppression on unpaved roads, and limiting speed on unpaved roads to 15 miles per hour. The nearest sensitive-receptor land use (existing residence) is located off Old Highway 80 that bifurcates the Project site.

Workers on site during construction and operation would be protected by several regulations pertaining to Valley Fever which are included in Title 8 of the California Code of Regulations. For example, Section 342 requires employers to immediately report to the nearest District Office of the Division of Occupational Safety and Health any serious injury or illness, or death, of an employee occurring in a place of employment or in connection with any employment (8 CCR 342). Furthermore, Section 3203 requires that every employer establish, implement and maintain an effective Injury and Illness Prevention Program (8 CCR 3203[a]). The Injury and Illness Prevention Program must include procedures for identifying and evaluating workplace hazards including scheduled periodic inspections to identify unsafe conditions and work practices (8 CCR 3203[a][4]). Section 5141 requires that harmful exposures be prevented by engineering and/or administrative controls whenever feasible (8 CCR 5144[a][1]). When effective controls are not feasible, Section 5144 requires that respirators shall be used and provided by the employer when such equipment is necessary to protect the health of the employee (8 CCR 5144[a][2]). The primary purpose of Section 5144 is to prevent atmospheric contamination and control occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. When such measures are necessary to protect the health of an employee, the employer shall be responsible for the establishment and maintenance of a respiratory protection program (8 CCR 5144[a][2]). The requirements of the respiratory protection program are outlined on California Code of Regulation Title 8, Section 5144(c).

Based on the low incidence rate of Coccidioidomycosis in the Proposed Project region and in greater San Diego County, and the Proposed Project's implementation of dust control strategies, it is not anticipated that earth-moving activities during Proposed Project construction and decommissioning would result in exposure of nearby sensitive receptors to Valley Fever.

Therefore, the Proposed Project would have a **less than significant** impact with respect to Valley Fever exposure for sensitive receptors.

Switchyard

Similar to the Proposed Project, construction of the switchyard would comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Strategies the Proposed Project would implement to comply with SDAPCD Rule 55 and control dust include watering three times per day, using magnesium chloride for dust suppression on unpaved roads, and limiting speed on unpaved roads to 15 miles per hour.

Based on the low incidence rate of Coccidioidomycosis in the region and in greater San Diego County, and implementation of dust control strategies, it is not anticipated that earth-moving activities during switchyard construction would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, the switchyard would have a **less-than-significant** impact with respect to Valley Fever exposure for sensitive receptors.

Health Impacts of Criteria Air Pollutants

Operation of the Proposed 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 holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with Proposed Project construction and operation could minimally contribute to regional O_3 concentrations and the associated health impacts. Due to the minimal contribution during construction and operation (the Proposed Project would not exceed County thresholds with

mitigation during construction and without mitigation during operation), the Proposed Project would not result in significant health impacts.

Similar to O_3, construction (after mitigation) and operation of the Proposed 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 Proposed Project would also not result in substantial DPM emissions during 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 discussion, in Section 2.2.3.2, Impacts to Sensitive Receptors). Due to the minimal contribution of particulate matter during operation, the Proposed 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, according to the operation emissions analysis, the Proposed 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 operation would be minimal and infrequent. Therefore, the Proposed 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 2.2-3, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Proposed Project's mitigated construction or unmitigated operational NO_x emissions would 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 Proposed Project would not create any CO hotspots, and CO impacts would be less than significant. Thus, the Proposed Project's CO emissions would not contribute to significant health effects associated with this pollutant. In sum, the Proposed Project's unmitigated operational emissions of criteria air pollutants 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.

Operational Impacts

Guidelines for the Determination of Significance

For the purpose of this section, the County's Guidelines for Determining Significance: Air Quality (County of San Diego 2007) apply to both the direct impact analysis and the cumulative impact analysis. A significant impact would result if:

- 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 risks equal to or greater than 10 in 1 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.

Carbon Monoxide Hotspots

To verify that the Proposed Project would not cause or contribute to a violation of the CO standards, a screening evaluation of the potential for CO hotspots was conducted using the California Department of Transportation and the 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 3,000 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.

A Local Mobility Analysis (Appendix Q) was prepared for the Proposed Project and evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the Proposed Project. The Proposed Project's analysis evaluated two intersections and four street segments based on existing traffic volumes and current street geometry. With the addition of Proposed Project traffic, the study intersections are calculated to continue to operate acceptably at LOS C or better during AM and PM peak hours. Therefore, the Proposed Project would not exceed the County's screening threshold and would not result in a CO hotspot. 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 Proposed Project. Impacts would be **less than significant**.

Switchyard

During operation, it is assumed that an occasional maintenance truck would be used to perform routine maintenance, including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance of the facility on an as-needed basis. As such, operation of the switchyard would result in a negligible increase in operational trips and associated emissions. Therefore, operation of the switchyard would not substantially contribute to a CO hotspot impact. Impacts would be **less than significant**.

Toxic Air Contaminants

The Proposed Project would include one standby emergency diesel generator at the substation. The generator would be operated very infrequently for maintenance and testing and would only operate for 30 minutes at a time and 52 hours per year. Further, the generator at the substation is approximately 3,484 feet from the closest sensitive receptor. The Proposed Project would include monthly maintenance visits of diesel vendor trucks. No other sources of TAC emissions would be present during operation of the Proposed Project. As such, the Proposed Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Proposed Project be exposed to nearby sources of TAC emissions.

The VOC and NO_x emissions, as described in Section 2.2.1.3, would minimally contribute to regional O_3 concentrations and the associated health effects. In addition to O_3, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in Table 2.2-3, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, the Proposed Project's operational NO_x emissions are not expected to 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. The associated CO "hotspots" were discussed previously as a less than significant impact. Thus, the Proposed Project's CO emissions would not contribute to significant health effects associated with this pollutant. 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. Therefore, the Proposed Project would have a less than significant impact with respect to criteria air pollutant exposure for sensitive receptors. Impacts would be less than significant.

Switchyard

During operation, it is assumed that an occasional maintenance truck would be used to perform routine maintenance, including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance of the facility on an as-needed basis. As such,

operation of the switchyard would result in a negligible increase in operational trips and associated emissions. Therefore, operation of the switchyard would not result in substantial DPM or TAC emissions that may significantly affect nearby receptors. Impacts would be **less than significant**.

Criteria pollutant emission impacts associated with the switchyard would be **less than significant**.

2.2.3.3 Other Emissions

Odors are a form of air pollution that is most obvious to the general public. Odors 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

For the purpose of this section, the County's Guidelines for Determining Significance – Air Quality (County of San Diego 2007) apply to both the direct impact analysis and the cumulative impact analysis. A significant impact would result 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.

The State of California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700 and SDAPCD Rule 51, commonly referred to as public nuisance law, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. It is generally accepted that the "considerable number of persons" requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. The potential for an operation to result in odor complaints from a "considerable" number of persons in the area would be considered to be a significant, adverse odor impact.

Projects required to obtain permits from SDAPCD are evaluated by SDAPCD staff for potential odor nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

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). SDAPCD Rule 51 (Public Nuisance) also

prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person (SDAPCD 1969). 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. Odor issues are very subjective by the nature of odors themselves and due to the fact that their measurements are difficult to quantify. As a result, this guideline is qualitative, and will focus on the existing and potential surrounding uses and location of sensitive receptors.

Analysis

Construction and Decommissioning Impacts

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). SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material that causes nuisance to a considerable number of people or endangers the comfort, health, or safety of any person (SDAPCD 1969). 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 nearest sensitive-receptor land use (existing residence) is located off Old Highway 80 that bifurcates the Project site.

Construction of Proposed Project components would result in the emission of diesel fumes and other odors typically associated with construction activities. These compounds would be emitted in varying amounts on the Project site depending on where construction 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 activities would be temporary and would cease upon Proposed Project completion. Similar to construction, emissions odors would be generated during decommissioning of the Proposed Project. Odors are expected to be less than construction as overall activity is less and the construction fleet would have less odor-generating potential 35 years later. Impacts would be **less than significant**.

Switchyard

Any odors associated with construction of the switchyard would be minimal, temporary, would dissipate before reaching off-site sensitive receptors, and would cease upon completion of construction activities. Impacts related to odors would be **less than significant**.

Operational Impacts

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 Proposed Project would not include land uses that would generate objectionable odors, and Proposed Project land uses would not attract people to an area where there would be a potential for exposure to objectionable odors.

Although odor impacts are unlikely, the Proposed Project would be required to comply with the County odor policies enforced by SDAPCD, including SDAPCD Rule 51 and County Zoning Code Section 6318, in the event a nuisance complaint occurs, which prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. As such, the Proposed Project would not generate objectionable odors. Impacts would be **less than significant**.

Switchyard

During operation, it is assumed that an occasional maintenance truck would be used to perform routine maintenance activities on the switchyard, which would not be considered a substantial source of odor. Impacts related to odors would be **less than significant**.

2.2.4 Cumulative Impact Analysis

In analyzing cumulative impacts from a project, the analysis must specifically 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. The project would have a cumulatively considerable impact if project-generated emissions would exceed thresholds for PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs. If a project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still have a cumulatively considerable impact on air quality if the emissions from that project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. Air quality analysis is inherently cumulative as it considers the air quality in the context of the entire SDAB and SDAPCD air quality plans.

Background ambient air quality, as measured at the monitoring stations maintained and operated by SDAPCD, measures the concentrations of pollutants from existing sources; therefore, past and present project impacts are included in the background ambient air quality data.

Geographic Extent

The geographic extent for the analysis of cumulative impacts related to air quality includes the southeastern corner of the SDAB (San Diego County), bounded by the United States/Mexico

border on the south and Interstate 8 to the north, with Jacumba Hot Springs to the West. The primary air quality impacts of the Proposed Project would occur during construction and decommissioning, since the operational impacts would result from limited vehicle trips for operations, maintenance, washing, and inspection, and would be substantially less than construction impacts. Due to the nonattainment status of the SDAB, the primary air pollutants of concern would be NO_x and VOCs, which are ozone precursors, and PM_{10} and $PM_{2.5}$. NO_x and VOCs are primarily emitted from motor vehicles and construction equipment, while PM_{10} and $PM_{2.5}$ are emitted primarily as fugitive dust during construction and decommissioning. Because of the nature of ozone as a regional air pollutant, emissions from the entire geographic area for this cumulative impact analysis would tend to be important, although maximum ozone impacts generally occur downwind of the area in which the ozone precursors are released. PM_{10} and $PM_{2.5}$ impacts, on the other hand, would tend to occur locally; thus, projects occurring in the same general area and in the same time period would tend to create cumulative air quality impacts.

Existing Cumulative Conditions

Air quality management in the geographic area for the cumulative impact assessment is the responsibility of the SDAPCD. Existing levels of development in San Diego County have led to the nonattainment status for ozone with respect to the CAAQS and NAAQS, and for PM_{10} and $PM_{2.5}$ with respect to the CAAQS. The nonattainment status is based on ambient air quality monitoring generally conducted in the urban portions of the County. No monitoring stations exist in the geographic area for the cumulative impact assessment, but air quality would generally be better than that in the urban areas in the western portion of the County due to the lack of major air pollutant sources. The air quality plans prepared by the SDAPCD reflect future growth under local development plans but 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.

The separate guidelines of significance discussed below have been developed to respond to the following question from the CEQA Guidelines, Appendix G:

- Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or state ambient air quality standard?

2.2.4.1 Cumulatively Considerable Net Increase of Criteria Pollutants (Construction and Decommissioning)

Guidelines for the Determination of Significance

For the purpose of this section, the County's Guidelines for Determining Significance – Air Quality (County of San Diego 2007) applies to the cumulative impact analysis. Cumulatively considerable net increases during the construction and decommissioning phases would typically occur if two or more projects near each other are simultaneously under construction. A significant impact would result if:

- 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 proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the 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 identified in Table 2.2-4, SDAPCD Air Quality Significance Thresholds.

Analysis

In analyzing cumulative impacts from a project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If a project's emissions do not exceed thresholds and are determined to have less than significant project-specific impacts, that project may still contribute to a significant cumulative 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.

Construction of the Proposed 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, 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 $PM_{2.5}$. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions.

The Proposed Project would require the import of water for dust control. Approximately, 112 acre-feet of water would be used during construction. Water would be transported to the site using 4,000 gallon water trucks, which are categorized as heavy-duty vendor trucks in CalEEMod. Water imported during construction activities would come from the Jacumba Community Services District, located approximately 0.8 miles from the Project site. Back-up water supply would be provided by on-site water wells. This is conservative as most of the water is anticipated to be supplied by the wells. The soil would be balanced on site; however, 242,500 cubic yards of cut would be redistributed around the site. A trip length of 0.25 miles was conservatively assumed for these haul trips, which represents half the driving distance across the Project site from south to north.

Section 3.2 of Appendix C, Construction Emissions Methodology, presents the methodology and assumptions used to estimate emissions from Proposed Project construction. Appendix C presents construction scenario details, including phasing and phase duration, off-road-equipment use (equipment type, quantity, horsepower, load factor, and hours of operation), and vehicle trips (internal haul trucks, vendor truck, and workers vehicle trips).

For purposes of estimating the Proposed Project emissions, and based on information provided by the applicant, it is assumed that construction of the Proposed Project would commence in December 2020[5] and would last approximately 13 months. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate). The majority of the phases listed below would occur concurrently and would not occur sequentially in isolation. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs, of Appendix C.

- Site Mobilization: 2 weeks
- Demolition of dairy and ranch structures: 1 month
- Site Prep, Grading, and Stormwater Protections: 3 months
- Fence Installation: 3 months
- Landscaping Installation: 4 months
- Pile Driving: 2 months
- Tracker and Module Installation: 6 months
- DC Electrical: 6 months

[5] The analysis assumes a construction start date of December 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction 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.

- Underground Medium AC Voltage Electrical: 5 months
- Inverter Installation: 2 months
- Battery Energy Storage System Installation: 2 months
- Commissioning: 1 month

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

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 construction equipment would be operating at the site 5 days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the site independently; however, it is likely that workers would drive trucks to and from the site for deliveries rather than driving in a separate vehicle.

Table 2.2-7, Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated, shows the estimated maximum daily construction emissions associated with the construction phase of the Proposed Project.

As shown in Table 2.2-7, maximum daily construction emissions would not exceed the thresholds for VOC, CO, and SO_x. Emissions of NO_x, PM_{10}, and $PM_{2.5}$would exceed the daily emissions threshold of significance.

Construction of cumulative projects simultaneously with the Proposed 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. Maximum unmitigated daily construction emissions of PM_{10} and $PM_{2.5}$ generated by the Proposed Project would exceed significance thresholds. The Proposed Project would be required to comply with SDAPCD Rule 55, which regulates construction activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as trackout and carryout onto paved roads beyond the Project site. Additionally, construction would be short term and temporary, lasting approximately 13 months. Once construction is completed, construction-related emissions would cease. However, it is possible that other land development and infrastructure projects could be constructed in the general vicinity and during the same time frame as the Proposed Project.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Table 1-4 in Chapter 1 provides a list of 18 reasonably

foreseeable, approved, and pending projects within 18 miles of the Project site. Of those projects, seven have been completed, three are approved but not constructed, and six are under review. The three approved projects would have relatively minimal air quality impacts as they would include an expansion of an existing alcohol and drug treatment facility, the creation of a new well, and 12 antennas. As it is unknown whether the projects under review will be approved or not, and if approved when actual construction would begin, it would be purely speculative to estimate any potential overlap of the Proposed Project. Construction schedules for potential future projects near the Project site are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be speculative.[6] However, future projects would be subject to CEQA and would require an air quality analysis and, where necessary, mitigation if the project would exceed SDAPCD's significance thresholds. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by SDAPCD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SDAPCD Rule 55 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SDAPCD.

Decommissioning

Section 3.2 of Appendix C, presents the methodology and assumptions used to estimate emissions from decommissioning of the Proposed Project. Appendix C presents construction scenario details, including phasing and phase duration, off-road-equipment use (equipment type, quantity, horsepower, load factor, and hours of operation), and vehicle trips (internal haul trucks, vendor truck, and workers vehicle trips).

For purposes of estimating the Proposed Project decommissioning emissions, and based on information provided by the applicant, it is assumed that decommissioning of the Proposed Project would commence in January 2057[7] and would last approximately 10 months. 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 as the emissions are likely less in 2057 as vehicles and construction equipment become more efficient. The analysis contained herein is based on the following subset area

[6] The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This discussion is nonetheless provided in an effort to show good-faith analysis and to comply with CEQA's information disclosure requirements.

[7] The analysis assumes a construction start date of January 2057, which represents the earliest date construction would initiate. Assuming the earliest start date for construction 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.

schedule assumptions (duration of phases is approximate). Detailed construction equipment modeling assumptions are provided in Appendix B, CalEEMod Outputs, of Appendix C.

- Perimeter Fence Removal: 1.5 months
- System Disassembly and Removal: 5 months
- Energy Storage System: 2 months
- Site Cleanup and Restoration: 1 month

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

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 site 5 days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the site independently; however, it is likely that workers would drive trucks to and from the site for deliveries rather than driving in a separate vehicle.

Table 2.2-8, Estimated Maximum Daily Decommissioning Criteria Air Pollutant Emissions – Unmitigated, shows the estimated maximum daily decommissioning emissions associated with the construction phase of the Proposed Project.

As shown in Table 2.2-8, maximum daily decommissioning emissions would not exceed the thresholds for VOC, NO_x, CO, SO_x, and $PM_{2.5}$. Emissions of PM_{10} would exceed the daily emissions threshold of significance.

The Proposed Project would result in the generation of emission during construction that would exceed the County's SLTs for NO_X, PM_{10}, and $PM_{2.5}$. The exceedance of these SLTs would result in a **potentially significant** impact (**Impact AQ-2**), and a **potentially cumulatively considerable** impact for particulate matter, for which the County is in nonattainment (**Impact AQ-CUM-1**). Mitigation would be required for these impacts.

Switchyard

Construction of the switchyard and associated in and out connection in and out legs would result in minimal construction-related emissions. General construction equipment modeling assumptions for construction of the switchyard are provided in Table 7 in Appendix C. Construction of the switchyard would result in a minimal, 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 asphalt pavement application, and internal haul trucks) and off-site sources (e.g., vendor trucks and worker vehicle trips).

For purposes of estimating switchyard emissions, and based on information provided by the applicant, it is assumed that construction of the switchyard would commence in March 2021[8] and would last approximately 9 months. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate). The majority of the phases listed below would occur concurrently and would not occur sequentially in isolation. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs, of Appendix C.

- Site Preparation 1 – Switchyard: 1 month
- Conductor Installation 1: 1 month
- Site Preparation 2 – Switchyard: 1 month
- Trenching – Switchyard: 1 month
- Paving – Switchyard: 2 weeks
- Site Preparation – Transmission Line: 2 weeks
- Operate Air Tools: 4 months
- Structure Installation: 1.5 months
- Conductor Installation 2: 1 month
- Erect Structures: 1 month

Emissions from the construction phase of the switchyard were estimated using CalEEMod. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the applicant, CalEEMod defaults, and best engineering judgement.

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 construction equipment would be operating at the site 5 days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the site independently; however, it is likely that workers would drive trucks to and from the site for deliveries rather than driving in a separate vehicle.

[8] The analysis assumes a construction start date of March 2021, which represents the earliest date construction would initiate. Assuming the earliest start date for construction 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.

Estimated emissions associated with construction of the switchyard are provided in Table 2.2-9, Estimated Maximum Daily Construction Criteria Air Pollutant Emissions Switchyard – Unmitigated. As shown in Table 2.2-9, construction criteria pollutant emission impacts associated with the switchyard would not exceed the County's significance thresholds. Impacts would be **less than significant**.

2.2.4.2 Cumulatively Considerable Net Increase of Criteria Pollutants (Operation)

Guidelines for the Determination of Significance

The guidelines for the consideration of 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, are updated every 3 years by SDAPCD and lay out the programs for attaining the CAAQS and NAAQS for O_3 precursors. It is assumed that a project that conforms to the County General Plan, and does not have emissions exceeding the screening-level thresholds, will not create a cumulatively considerable net increase to O_3 since the emissions were accounted for in the RAQS.

The following guidelines for determining significance must be 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 a level of service E (analysis only required when the addition of peak-hour trips from the project and the surrounding projects exceeds 2,000) and create a CO hotspot create a cumulatively considerable net increase of CO.

Analysis

With regard to cumulative impacts associated with O_3 precursors, in general, if a project is consistent with community and general plans, it has been accounted for in the O_3 attainment demonstration contained within the RAQS. As such, it would not cause a cumulatively significant impact on the ambient air quality for O_3.

The Proposed Project would be consistent with the underlying zoning for the site parcels, which would mean that the Proposed Project was currently included within the SIP and RAQS; therefore, operational cumulative emissions would be accounted for in the RAQS, and the impact would be less than cumulative considerable.

Operation of the Proposed Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips from workers and stationary sources, including one emergency generator. As discussed in Section 3.3 of Appendix C, Operational Emissions Methodology, criteria air pollutant emissions associated with long-term operations were quantified using CalEEMod.

CalEEMod Version 2016.3.2 uses vehicle emission factors from EMFAC2014, which take into account various statewide and federal mobile source strategies and regulations. No mobile source regulatory measures were quantitatively assumed in addition to regulations included in EMFAC2014 as incorporated into CalEEMod.

Emissions from the operational phase of the Proposed Project were estimated using CalEEMod Version 2016.3.2. Operational year 2022 was assumed as the first full year upon construction completion.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. There would be no natural gas service to the site. Therefore, no energy-related criteria air pollutant emissions were quantified for the Proposed Project.

Mobile Sources

Mobile sources for the Proposed Project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the Project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Based on applicant provided data and the Local Mobility Analysis for the Proposed Project (Appendix Q), the Proposed Project is anticipated to generate 8 one-way trips per day by worker vehicles and 4 one-way trips per day by vendor trucks traveling to and from San Diego. This is unlikely as the worker and vendor trips would occur only when maintenance is needed and not on a regular basis. The emissions included within this source category are conservative. CalEEMod default data, including trip characteristics, variable start information, and emissions factors were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources.

Proposed-Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. CalEEMod default emissions factors and vehicle fleet mix were conservatively used for the model inputs to estimate daily emissions from proposed vehicular

sources.[9] Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with full build-out of the Proposed Project.

Stationary Sources

The Proposed Project would include a 1.5 MW diesel emergency generator at the substation. The generator was assumed to operate for testing and maintenance approximately 30 minutes each month for a total of up to 52 hours per year, in accordance with SDAPCD Rule 69.4.1. The CalEEMod default emission factors for emergency generators were used to estimate emissions from this source. See Appendix A of Appendix C for additional information.

Table 2.2-10, Estimated Maximum Daily Operational Emissions – Proposed Project, presents the maximum daily emissions associated with operation of the Proposed Project after all phases of construction have been completed in 2022.

As shown, daily operational emissions generated by the Proposed Project would not exceed the County's threshold for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. As discussed in Section 2.2.3.1, Analysis of Proposed Project Effects and Determination as to Significance, the Proposed Project would conform to the RAQS as the Proposed Project would generate fewer emissions than the current residential zoning. Furthermore, in the Proposed Project would not generate traffic that would exceed the screening criteria of LOS E or 2,000 trips per day (Appendix Q). Impacts would be **less than significant**.

Switchyard

Operation of the switchyard would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips from workers. As discussed in Section 3.3, Operational Emissions Methodology, of Appendix C, criteria air pollutant emissions associated with long-term operations were quantified using CalEEMod.

CalEEMod was used to estimate potential switchyard -generated operational greenhouse gas emissions from mobile sources and off-road equipment. Emissions from each category are discussed in the following text. Operational year 2022 was assumed as the first full year of operation upon construction completion.

[9] Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The default vehicle mix (vehicle class distribution including automobiles, trucks, buses, motorcycles) provided in CalEEMod 2016.3.2, which is based on CARB's Mobile Source Emissions Inventory model, EMFAC Version 2014, was applied.

Energy Sources

There would be no natural gas service to the site. Therefore, no energy-related criteria air pollutant emissions were quantified for the switchyard.

Mobile Sources

Based on applicant provided data, the switchyard would not have regular vehicle trips but would require vehicle trips during scheduled and un-scheduled maintenance. CalEEMod default emissions factors and vehicle fleet mix were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources. Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with full build-out of the switchyard.

Off-Road Equipment

The use of various pieces of off-road equipment is necessary for the different maintenance activities occurring for the switchyard, transmission line tie-in, right-of-way repair, pole brushing, and repair or replacement of equipment. The different types of equipment and daily use estimates were provided by the applicant. The CalEEMod defaults were assumed for the off-road equipment horsepower, emission factors, and load factors.

Table 2.2-11, Estimated Maximum Daily Operational Emissions – Switchyard, presents the maximum daily emissions associated with operation of the Proposed Project after all phases of construction have been completed in 2022. As shown, daily operational emissions generated by the switchyard would not exceed the County's threshold for VOCs, NOx, CO, SOx, PM_{10}, or $PM_{2.5}$. The switchyard would conform to the RAQS as the Proposed Project would generate fewer emissions than the current residential zoning. Furthermore, in the switchyard would not generate traffic that would exceed the screening criteria of LOS E or 2,000 trips per day (Appendix Q). Impacts would be **less than significant**.

2.2.5 Significance of Impacts Prior to Mitigation

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

Impact AQ-1 The cancer risk during construction would exceed the County's significance threshold without T-BACT.

Impact AQ-2 A significant direct impact on air quality with regard to construction-related emissions of NO_x, PM_{10}, and $PM_{2.5}$, and, therefore, also a significant cumulatively considerable net increase in those emissions.

Impact AQ-CUM-1 A significant cumulative impact on air quality with regard to construction-related emissions of PM_{10} and $PM_{2.5}$, for which the County is in nonattainment.

2.2.6 Mitigation Measures

M-AQ-1 Prior to the County of San Diego's (County's) approval of any construction or decommissioning-related permits, the Proposed Project applicant or its designee shall place the following requirements on all plans, which shall be implemented during each construction phase to minimize diesel particulate matter emissions:

a. Heavy-duty diesel-powered construction equipment shall be equipped with Tier 4 Final or better diesel engines for engines 75 horsepower or greater. The County shall verify and approve all pieces within the construction fleet that would not meet Tier 4 Final standards.

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's specifications.

d. When construction equipment units that are less than 50 horsepower is employed, that equipment shall be electrical or natural gas-powered, where available.

With implementation of M-AQ-1, the Proposed Project would require the use of Tier 4 Final construction equipment. Use of Tier 4 Final construction equipment would be considered T-BACT and the County's significance threshold would be 10 in 1 million, instead of the 1.0 in 1 million without implementation of T-BACT, as discussed in Section 2.2.3.

M-AQ-2 Prior to the County of San Diego's (County's) approval of any grading permits and during Proposed Project construction, a Fugitive Dust Control Plan shall be prepared demonstrating compliance with San Diego Air Pollution Control District (SDAPCD) Rule 55 and County Code Section 87.428 (Grading Ordinance), to the satisfaction of the County. The Project applicant or its designee shall require implementation of the following fugitive dust measures to minimize PM_{10} emissions as part of the Fugitive Dust Control Plan. All measures shall be designated on Grading and Improvement Plans.

a. Prior to construction activities, the Project applicant shall employ a construction relations officer who shall address community concerns regarding on-site construction activity. The Project applicant shall provide public notification in the form of a visible sign containing the contact information of the construction relations officer who shall document complaints and concerns regarding on-site

construction activity. The sign shall be placed in easily accessible locations and noted on Grading and Improvement Plans.

b. Grading areas shall be watered, or another SDAPCD-approved dust control non-toxic agent shall be used, at least three times daily, to minimize fugitive dust only where chemical stabilizers are not used.

c. All permanent roads and the paved access roadway improvements shall be constructed and paved as early as possible in the construction process to reduce construction vehicle travel on unpaved roads. Foundations shall be finalized as soon as possible following site preparation and grading activities to reduce fugitive dust from earth-moving operations.

d. Grading areas shall be stabilized as quickly as possible to minimize fugitive dust.

e. Wheel washers, grates, rock, or road washers shall be installed adjacent to the site access points 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. Haul trucks shall be covered or at least 2 feet of freeboard shall be maintained to reduce blow-off during hauling.

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

i. Haul truck staging areas shall be provided for loading and unloading of soil and materials and shall be located away from sensitive receptors at the farthest feasible distance.

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.

Conformance with the Regional Air Quality Strategy

The emissions from the buildout of the currently zoned uses on the Project site were shown to be greater than that of the Proposed Project based on the daily trips and annual VMT. Therefore, the potential criteria emissions from the site would not be in exceedance of those assumed in the SIP and RAQS. Therefore, the Proposed Project would not result in a cumulatively considerable

contribution to regional O_3 concentrations or other criteria pollutant emissions. Impacts would be **less than significant**.

Impacts to Sensitive Receptors

Carbon Monoxide Hotspots

Construction traffic in 2021, which represents the highest level of construction-related traffic, would not result in traffic volumes that would cause a CO hotspot; therefore, impacts related to CO near sensitive receptors during construction would be **less than significant**. Decommissioning would result in less traffic than construction and would not exceed the County's screening thresholds. Similarly, operation of the Proposed 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 levels of service during operation would not exceed County thresholds; therefore, potential operational CO hotspot impacts would be **less than significant**.

Toxic Air Contaminants

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. With implementation of **M-AQ-1** (as shown in Table 2.2-12), impacts related to cancer risk would be below the County's thresholds during construction activities; therefore, impacts would be **less than significant**.

The Proposed Project does not propose any major operational sources of TAC emissions. As such, the Proposed Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Proposed Project be exposed to nearby sources of TACs. Impacts would be **less than significant**.

Other Emissions

The Proposed Project's construction and operational activities are not anticipated to expose a substantial number of people to objectionable odors. Potential odor impacts would be **less than significant.**

Cumulatively Considerable Impacts

Construction and decommissioning of the Proposed Project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. The analysis concludes that the daily construction emissions would exceed the County's daily significance thresholds for NO_x, PM_{10}, and $PM_{2.5}$. Daily construction emissions

would not exceed the County's daily thresholds for VOCs, CO, or SO_X. Air quality impacts resulting from construction, therefore, would be **potentially significant** (**Impact AQ- -2**) and **potentially cumulatively significant** (**Impact AQ-CUM-1**). Decommissioning of the Proposed Project would exceed the County's daily significance thresholds for PM_{10} emissions. Cumulative construction and operational emissions were found to be less than significant when considering the Proposed Project in combination with other existing and foreseeable future projects in the Proposed Project vicinity. Following implementation of **M-AQ-1** and **M-AQ-2**, cumulative construction and decommissioning emissions would be **less than significant** and **less than cumulatively considerable** (as shown in Tables 2.2-13 and 2.2-14).

Maximum daily operational emissions of VOC, NO_x, CO, SO_X, PM_{10}, and $PM_{2.5}$ generated by the Proposed Project would not exceed significance thresholds. Thus, impacts would be **less than significant**.

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 – 1997) (8-hour – 2008)	Attainment (Maintenance) **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; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Attainment = meets the standards; Attainment (Maintenance) = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.
[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		
					2016	*2017*	*2018*	*2016*	*2017*	*2018*
Ozone (O_3)										
Otay Mesa-Donovan	ppm	Maximum 1-hour concentration	State	0.09	0.092	0.097	0.092	0	1	0
	ppm	Maximum 8-hour concentration	State	0.070	0.075	0.082	0.079	4	6	1
			Federal	0.070	0.075	0.082	0.078	4	6	1
Nitrogen Dioxide (NO_2)										
Otay Mesa-Donovan	ppm	Maximum 1-hour concentration	State	0.18	0.067	0.074	0.054	0	0	0
			Federal	0.100	0.067	0.074	0.054	0	0	0
	ppm	Annual concentration	State	0.030	0.008	0.008	0.006	0	0	0
			Federal	0.053	0.008	0.008	0.006	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		
					2016	*2017*	*2018*	*2016*	*2017*	*2018*
Carbon Monoxide (CO)										
El Cajon-Floyd Smith Drive	ppm	Maximum 1-hour concentration	State	20	1.6	1.5	1.4	0	0	0
			Federal	35	1.6	1.5	1.4	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.3	1.4	1.1	0	0	0
			Federal	9	1.3	1.4	1.1	0	0	0
Sulfur Dioxide (SO_2)										
El Cajon-Floyd Smith Drive	ppm	Maximum 1-hour concentration	Federal	0.075	0.0006	0.001	0.004	0	0	0
	ppm	Maximum 24-hour concentration	Federal	0.140	0.0002	0.0004	0.0004	0	0	0
	ppm	Annual concentration	Federal	0.030	0.0001	0.0011	0.0001	0	0	0
Coarse Particulate Matter (PM_{10})[a]										
Otay Mesa-Donovan	µg/m³	Maximum 24-hour concentration	State	50	79	69	55	54.1 (9)	24.4 (4)	18.3 (3)
			Federal	150	79	68	55	0	0	0
	µg/m³	Annual concentration	State	20	31.3	26.9	26.3	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a]										
El Cajon-Floyd Smith Drive	µg/m³	Maximum 24-hour concentration	Federal	35	23.9	42.7	41.9	0.0 (0)	— (1)	2.7 (1)
	µg/m³	Annual concentration	State	12	8.7	—	10.0	—	—	—
			Federal	12.0	8.7	—	10.0	—	—	—

Sources: CARB 2016c; EPA 2016c.

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

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. 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 $PM_{2.5}$.

El Cajon-Floyd Smith Drive monitoring station is located at 10537 Floyd Smith Drive, 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
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	—	
$PM_{2.5}$[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: μg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; 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.

[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 2.2-4
SDAPCD 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 Particulate Matter (PM_{10})	—	100	15
Fine Particulate Matter ($PM_{2.5}$)	—	55	10
Oxides of Nitrogen (NO_x)	25	250	40
Sulfur Oxides (SO_x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	—	3.2	0.6
Volatile Organic Compounds (VOC)	—	75[a]	13.7

Sources: SDAPCD Rules 1501 (SDAPCD 1995) and 20.2(d)(2) (SDAPCD 2016c).

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 2.2-5
Zoning for Proposed Project Parcels

Assessor's Parcel Number	Acres	Existing Zoning	Zoning Description	Density (units/ acre)	Units Built	CalEEMod Land Use
614-100-20	90.22	S88	MULTIPLE RURAL USE 1 DU/4,8,20 ACRES	0.25	23	Single Family Residential
614-100-21	27.27	S88	MULTIPLE RURAL USE 1 DU/4,8,20 ACRES	0.25	7	Single Family Residential
614-110-04	2.74	S88	SPECIFIC PLAN AREA	0.05	0	Single Family Residential
660-020-05	267.56	S88	SPECIFIC PLAN AREA	0.05	13	Single Family Residential
660-020-06	39.93	S88	SPECIFIC PLAN AREA	0.05	2	Single Family Residential
660-150-04	34.96	S80	RESIDENTIAL 1 DU/1,2,4 ACRES	1	35	Single Family Residential
660-150-07	19.19	S80	SPECIFIC PLAN AREA	0.05	1	Single Family Residential
660-150-08	23.2	S80	SPECIFIC PLAN AREA	0.05	1	Single Family Residential
660-150-10	25.71	S80	SPECIFIC PLAN AREA	0.05	1	Single Family Residential
660-150-14	0.92	S88	RESIDENTIAL 14.5 DU/ACRE	14.5	13	Residential Mid-Rise Apartments
660-150-17	15.18	S88	RESIDENTIAL 1 DU/1,2,4 ACRES	1	15	Single Family Residential
660-150-18	169.74	S88	RESIDENTIAL 14.5 DU/ACRE	14.5	2,461	Residential Mid-Rise Apartments
660-170-09	0.06	RR	RESIDENTIAL 1 DU/1,2,4 ACRES	1	0	Single Family Residential
661-010-02	9.11	S92	MULTIPLE RURAL USE 1 DU/4,8,20 ACRES	0.25	2	Single Family Residential
661-010-15	61.13	S88	SPECIFIC PLAN AREA	0.05	3	Single Family Residential
661-010-26	80.58	S88	SPECIFIC PLAN AREA	0.05	4	Single Family Residential
661-010-27	180.7	S88	SPECIFIC PLAN AREA	0.05	9	Single Family Residential
661-010-30	166.38	S88	MULTIPLE RURAL USE 1 DU/4,8,20 ACRES	0.25	42	Single Family Residential
661-060-12	36.27	S88	MULTIPLE RURAL USE 1 DU/4,8,20 ACRES	0.25	9	Single Family Residential
661-060-22	37.88	S80	SPECIFIC PLAN AREA	0.05	2	Single Family Residential
660-140-06	1.79	S88	SPECIFIC PLAN AREA	0.05	0	Single Family Residential
660-140-08	16.91	S88	RESIDENTIAL 1 DU/1,2,4 ACRES	1	17	Single Family Residential
660-150-21	37.5	S88	RESIDENTIAL 1 DU/1,2,4 ACRES	1	38	Single Family Residential
660-150-16	0.92	S88	SPECIFIC PLAN AREA	0.05	0	Single Family Residential
Single Family Residential					224	
Residential Mid-Rise Apartments					2475	

Table 2.2-6
Construction Activity Health Risk Assessment Results – Unmitigated

Impact Parameter	Units	Proposed Project Impact	CEQA Threshold	Level of Significance
Cancer risk	Per Million	2.93	1.0	**Potentially Significant**
Chronic non-cancer health hazard index	Not Applicable	0.14	1.0	Less than Significant
Acute non-cancer health hazard index	Not Applicable	0.03	1.0	Less than Significant
Lead exposure	µg/m^3	0.0005	0.12	Less than Significant

Source: Appendix C
CEQA = California Environmental Quality Act; µg/m^3 = microgram per cubic meter.

Table 2.2-7
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2020	11.26	179.60	80.93	0.40	1,001.28	104.61
2021	28.42	252.29	199.61	0.88	368.68	49.81
Maximum	*28.42*	*252.29*	*199.61*	*0.88*	*1,001.28*	*104.61*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**Yes**	**Yes**

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 represent maximum daily construction activities from sequential construction phases at any one point for a given year.
Estimated emissions include compliance with all regulations and SDAPCD Rule 55.

Table 2.2-8
Estimated Maximum Daily Decommissioning Criteria Air Pollutant Emissions – Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2057	7.63	32.29	87.54	0.41	200.74	26.24
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**Yes**	**No**

Source: See Appendix C.
Notes:
VOC = volatile organic compound; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM10 = coarse particulate matter; PM2.5 = fine particulate matter.
Emissions represent maximum daily construction activities from sequential construction phases at any one point for a given year.
Estimated emissions include compliance with all regulations and SDAPCD Rule 55.

Table 2.2-9
Estimated Maximum Daily Construction
Criteria Air Pollutant Emissions Switchyard – Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2020	8.42	89.06	45.93	0.13	42.63	10.84
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix C for complete results.
Notes:
VOC = volatile organic compound; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM10 = coarse particulate matter; PM2.5 = fine particulate matter.
Emissions represent maximum daily activities.

Table 2.2-10
Estimated Maximum Daily Operational Emissions – Proposed Project

Emission Source	VOC	NO_x	CO	SO_X	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Mobile	12.30	26.66	18.80	2.82	6.69	1.56
Stationary	1.65	7.38	4.21	0.01	0.24	0.24
Offroad	0.56	4.57	4.45	0.01	0.16	0.14
Total Maximum Daily Emissions	**14.51**	**38.61**	**27.46**	**2.84**	**7.09**	**1.94**
Pollutant Threshold	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

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 2022.
See Appendix C for complete results.

Table 2.2-11
Estimated Maximum Daily Operational Emissions – Switchyard

Emission Source	VOC	NO_x	CO	SO_X	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Mobile	12.10	24.83	17.10	2.81	4.42	1.20
Offroad	0.56	4.57	4.45	0.01	0.16	0.14
Total	**12.66**	**29.40**	**21.55**	**2.82**	**4.58**	**1.34**
Pollutant Threshold	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

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 2022.
See Appendix C for complete results.

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

Impact Parameter	Units	Proposed Project Impact	CEQA Threshold	Level of Significance
Cancer Risk	Per Million	0.2	10.0	Less than Significant
Chronic non-cancer health hazard index	Not Applicable	0.009	1.0	Less than Significant
Acute non-cancer health hazard index	Not Applicable	0.002	1.0	Less than Significant
Lead Exposure	µg/m^3	0.0002	0.12	Less than Significant

Sources: Appendix C
Notes: CEQA = California Environmental Quality Act; µg/m^3 = microgram per cubic meter.

Table 2.2-13
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Mitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2020	6.33	113.51	82.60	0.40	64.60	8.93
2021	19.85	118.23	206.29	0.88	72.46	19.51
Maximum	*19.85*	*118.23*	*206.29*	*0.88*	*72.46*	*19.51*
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; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Emissions represent maximum daily construction activities from sequential construction phases at any one point for a given year.
Estimated emissions include compliance with all regulations, M-AQ-1, and M-AQ-2.

Table 2.2-14
Estimated Maximum Daily Decommissioning Criteria Air Pollutant Emissions – Mitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2057	5.71	22.63	92.44	0.41	62.07	12.35
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; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Emissions represent maximum daily construction activities from sequential construction phases at any one point for a given year.
Estimated emissions include compliance with all regulations and SDAPCD Rule 55.