3.1 AIR QUALITY

This section addresses the effects on air quality and climate change from greenhouse gas (GHG) emissions that would be caused by the proposed Tule Wind Project. The following section describes the affected environment/environmental setting, identifies any existing federal, state, and local air quality regulations, and provides an analysis of the potential impacts to air quality resulting from the proposed project and alternatives. The Draft Tule Wind Air Quality and Greenhouse Gas Assessment (March 2010, revised September 14, 2010) was prepared by Investigative Science and Engineering (ISE) and was used in the preparation of this section, and is located in Appendix E.

3.1.1 Affected Environment/Environmental Setting

The proposed project is located within the San Diego Air Basin (SDAB) and the jurisdiction of the San Diego County Air Pollution Control District (SDAPCD). The SDAB encompasses the entire County of San Diego. Air quality in the project area is not only affected by various emission sources (mobile, industry, etc.), but also by atmospheric conditions such as wind speed, wind direction, temperature, rainfall, etc. The combination of topography, low mixing height, abundant sunshine, and emissions contribute to the air quality in the Basin.

The climate within the region surrounding the proposed project is characterized by warm, dry summers and mild, wet winters, and is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This high-pressure cell maintains clear skies over the air basin for much of the year. It also drives the dominant onshore circulation to create two types of temperature inversions, subsidence and radiation, that contribute to local air quality degradation.

Subsidence inversions occur during the warmer months, as descending air associated with the Pacific high-pressure cell meets cool marine air. The boundary between the two layers of air represents a temperature inversion that traps pollutants below it. Radiation inversion typically develops on winter nights, when air near the ground cools by radiation, and the air aloft remains warm. A shallow inversion layer that can trap pollutants is formed between the two layers. Frequently, the strongest winds in the basin occur during the night and morning hours due to the absence of onshore sea breezes. The overall result is a noticeable degradation in local air quality.

The proposed project area has a maximum average temperature of 94 degrees Fahrenheit (ºF and a minimum of 32 ºF. Precipitation in the area averages 15.6 inches annually, 90 percent of which falls between November and April. The prevailing wind direction is from the west-northwest, with an annual mean speed of 6 to 10 miles per hour. Sunshine is usually plentiful in the proposed project area but night and morning cloudiness is common during the spring and summer. Fog can occasionally develop during the winter.

Smog is another factor taken into consideration when analyzing the air quality of a specific area. In San Diego County smog typically occurs when the sun is strongest, which is in the afternoons during the months of May through October. A photochemical smog is the chemical reaction of sunlight, nitrogen oxides (NO_x) and volatile organic compounds (VOCs) in the atmosphere, which leaves airborne particles (called particulate matter) and ground-level ozone. Precursor emissions, which are typically from vehicles and industry, react with the regions vast amounts of sunshine and creates photochemical smog. Ground-level ozone is the primary constituent of smog.

The SDAPCD is responsible for implementing, what is known as, Regional Air Quality Strategy (RAQS). The RAQS for the San Diego region includes a variety of measures to reduce traffic congestion and

improve air quality. These include a variety of source pollution reduction programs, transportation control measures, and encouragement of cleaner fuels.

The major trends in air quality with the County since the 1960s are as follows:

- Lower oxidant levels (due to improved auto emission controls);
- Slight decrease in NO_x;
- Little or no change in nitrogen dioxide (NO_2), sulfur dioxide(SO_2), and hydrocarbons; and
- Decrease in carbon monoxide (CO) levels (probably due to favorable weather conditions).

Regional Air Quality and Pollutant Constituents

Ambient Air Quality Standards (AAQS)

To gauge the significance of the air quality impacts of the proposed project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards (AAQS). These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. These individuals are called "sensitive receptors." Research has shown, however, that chronic exposure to ozone at levels which just marginally meet clean air standards may nevertheless have adverse health affects. State and federal agencies, therefore, have promulgated more stringent 8-hour ozone standard that better reflect human health response to more chronic exposure.

National AAQS were established in 1971 for six pollutants; SO_2, CO, NO_2, ozone (O_3), particulate matter equal to or less than 10 microns in size (PM_{10}), and lead (Pb). States have the option to add other pollutants, require more stringent compliance, or include different exposure periods. Because California had established state AAQS before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there are considerable differences between state and national clean air standards. These standards currently in effect in California are shown in **Table 3.1-1**, Ambient Air Quality Standards. Current attainment designations for the SDAPCD are presented in **Table 3.1-2**.

Criteria Pollutants

The relevant criteria pollutants are described below:

Ozone. Ozone (O_3) is formed by photochemical reactions between NO_x and reactive organic gases (ROG) rather than being directly emitted. O_3 is a pungent colorless gas typical of southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. The entire Basin is designated as a nonattainment area the state one-hour O_3 standards and both the state and federal 8-hour standard.

Carbon Monoxide. Carbon monoxide (CO) is a colorless, odorless, tasteless and toxic gas resulting from the incomplete combustion of fossil fuels. CO interferes with the blood's ability to carry oxygen to the body's tissues and results in numerous adverse health effects. The Basin is in attainment for both the state and federal CO standards.

Table 3.1-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O_3)	1 Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 $\mu g/m^3$)		0.075 ppm (147 $\mu g/m^3$)		
Respirable Particulate Matter (PM10)	24 Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	15.0 $\mu g/m^3$		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 μg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 $\mu g/m^3$)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 $\mu g/m^3$)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)	—	
	3 Hour	—		—	0.5 ppm (1300 $\mu g/m^3$)	
	1 Hour	0.25 ppm (655 $\mu g/m^3$)		—	—	—
Lead	30 Day Average	1.5 $\mu g/m^3$	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 $\mu g/m^3$	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	—		0.15 $\mu g/m^3$		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride	24 Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

Source: Ambient Air Quality Standards Matrix (after CARB/EPA, updated 11/17/08)

Table 3.1-2. SDAPCD Current Attainment Designations

Criteria Pollutant	Federal Designation	State Designation
Ozone (one hour)	Attainment*	Non-attainment
Ozone (eight hour)	Non-attainment	Non-attainment
Carbon Monoxide	Attainment	Attainment
Fine Particulate Matter (PM_{10})	Unclassifiable**	Non-attainment
Ultra Fine Particulate Matter ($PM_{2.5}$)	Attainment	Non-attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(no federal standard)	Attainment
Hydrogen Sulfide	(no federal standard)	Unclassified
Visibility	(no federal standard)	Unclassified

Source: San Diego Air Pollution Control District. July 2008. http://www.sdapcd.org/info/facts/attain.pdf

* The federal 1-hour standard of 12 pphm 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.

** At the time of designation, if the available data do not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

Nitrogen Oxides. Nitrogen oxides (NO_x) consists of nitric oxide (NO), nitrogen dioxide (NO_2), and nitrous oxide (N_2O), and are formed when nitrogen (N_2) combines with oxygen (O_2). NOx are typically created during combustion processes, and are a major contributor to smog formation and acid deposition. NO_2 is a criteria air pollutant, and may result in numerous adverse health effects. NO_2 absorbs blue light; resulting in a brownish-red cast to the atmosphere and reduced visibility. The Basin is in attainment for both the state and federal CO standards.

Oxides of Sulfur. Oxides of Sulfur (SO_x) are typically strong smelling, colorless gases that are formed by the combustion of fossil fuels. SO_2 and other sulfur oxides contribute to the problem of acid deposition. SO_2 is a criteria pollutant. The Basin is in attainment for both the state and federal CO standards.

Particulate Matter Less than 10 microns. Particulate Matter Less than 10 microns (PM_{10}) is a major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM_{10} also causes visibility reduction and is a criteria air pollutant. The Basin is a nonattainment area for the federal and state PM_{10} standards.

Particulate Matter Less than 2.5 microns. Particulate Matter Less than 2.5 microns ($PM_{2.5}$) is a similar air pollutant consisting of tiny solid or liquid particles that are 2.5 microns or smaller (often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed when SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_x release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. The Basin is a nonattainment area for the federal and state $PM_{2.5}$ standards.

Volatile Organic Compounds. Volatile Organic Compounds (VOCs) are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are not considered criteria pollutants but are regulated by the South Coast Air Quality Management District (SCAQMD).

Reactive Organic Gasses. Similar to VOCs, Reactive organic gasses (ROGs) are also precursors in forming ozone, and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight.

Hydrogen Sulfide (H_2S): A colorless, flammable, poisonous compound having a characteristic rotten-egg odor. It often results when bacteria break down organic matter in the absence or oxygen. High concentrations of 500-800 ppm can be fatal and lower levels cause eye irritation and other respiratory effects.

Sulfates: An inorganic ion that is generally naturally occurring and is one of several classifications of minerals containing positive sulfur ions bonded to negative oxygen ions.

Lead (Pb): A malleable, metallic element of bluish-white appearance that readily oxidizes to a grayish color. Lead is a toxic substance that can cause damage to the nervous system or blood cells. The use of lead in gasoline, paints, and plumbing compounds has been strictly regulated or eliminated, such that today is poses a very small risk.

San Diego Air Basin (SDAB) Attainment Status

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state standards and federal standards presented above in **Table 3.1-1**. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O_3 standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. As shown in **Table 3.1-2** the Basin is in non-attainment for O_3, PM_{10}, and $PM_{2.5}$.

Local Air Quality

The project site is located in the central portion of the San Diego Air Basin. The Basin continues to have a transitional-attainment status of federal standards for O_3 and PM_{10}. The Basin is either in attainment or unclassified for federal standards of CO, SO_2, NO_2, and lead. Factors affecting ground level pollutant concentrations include the rate at which pollutants are emitted to the atmosphere, the height from which they are released, and topographic and meteorological features

The California Air Resources Board (CARB) coordinates and oversees both state and federal air pollution control programs in California. CARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the Environmental

Protection Agency (EPA) and local air districts. CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution.

CARB monitors ambient air quality at approximately 250 air-monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Ambient air pollutant concentrations are measured at 10 air-quality-monitoring stations operated by the SDAPCD. Neighboring Imperial County Air Pollution Control District (ICAPCD) maintains seven air-quality-monitoring stations operated by either ICAPCD or CARB.

Levels of air pollution vary with overall climate, localized weather conditions, and other factors, including pollution from outside sources. There are two monitoring stations located near the project site. The Alpine station is located at the 2300 Victoria Dr, Alpine CA 91901, approximately 30 miles northwest of the project site and the El Centro-9th Street station is located at 150 9th St, El Centro CA, approximately 55 miles east of the project area.

Two ambient air-quality-monitoring stations, which are in relatively close proximity to the project site, and would be representative of ambient air toxics under both onshore and offshore atmospheric wind conditions, are located within the San Diego air basin approximately 30 miles from the project site (Alpine Monitoring Station), and within the Salton Sea Air Basin approximately 40 miles to the east (El Centro Station). Given the location of the project site with respect to the eastern San Diego desert regions, the El Centro monitoring station has high significance, due to the dominant high pressure condition driving offshore flow past the project site and due to extreme temperatures within this region.

The Alpine monitoring station currently records NO_2, O_3 and $PM_{2.5}$, while the El Centro monitoring station records a larger selection of criteria pollutants consisting of CO, NO_2, O_3, PM_{10}, and $PM_{2.5}$. Both stations record various meteorological parameters, such as barometric pressure, wind speed, etc. Other stations within the project vicinity present either incomplete or redundant data, or were determined not to be representative of localized ambient air quality conditions present at the project site.

Due to the type of equipment employed at each station, not every station is capable of recording the entire set of criteria pollutants identified in **Table 3.1-3. Table 3.1-4** illustrates the number of days standards were exceeded. The El Centro station reported exceedance levels for O_3 and PM_{10}.

Sensitive Receptors

Some land uses are considered more sensitive to substantial pollutant concentrations than others due to the types of population groups or activities involved. Individuals who are more sensitive than others to air pollutants are considered sensitive receptors. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and duration of exposure to air pollutants. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollution. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. Recreational land uses can also be moderately sensitive to localized elevated concentrations of air pollution.

Table 3.1-3. Alpine Monitoring Station Air Quality Monitoring Summary[(1)(2)]

Pollutant/Standard	2006	2007	2008
Ozone			
1-Hour > 0.09 ppm (S)	21	18	13
1-Hour > 0.12 ppm (F)	0	1	2
8- Hour > 0.08 ppm (F)	37	23	31
Max 1-Hour Conc. (ppm)	0.121	0.134	0.139
Carbon Monoxide			
8- Hour > 9 ppm (S,F)	*	*	*
Max 8-Hour Conc. (ppm)	*	*	*
Nitrogen Dioxide			
1-Hour > 0.25 ppm (S)	0	0	0
Max 1-Hour Conc. (ppm)	0.057	0.057	0.047
Respirable Particulates (PM_{10})			
24-Hour > 50 $\mu g/m^3$ (S)	*	*	*
24-Hour > 150 $\mu g/m^3$ (F)	*	*	*
Max. 24-Hour Conc. ($\mu g/m^3$)	*	*	*
Ultra-Fine Particulates ($PM_{2.5}$)			
24-Hour > 65 $\mu g/m^3$ (F)	*	*	*
Max. 24-Hour Conc. ($\mu g/m^3$)	*	40.5	37.3

Source: San Diego Air Pollution Control District, Alpine-Victoria Drive Monitoring Station.
Key: (S) = state standard, (F) = federal standard.
ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter.
Notes: (1) Number of days standards were exceeded and maxima for periods indicated.
(2) Entries shown as ratios = samples exceeding standard/samples taken.
(3) Hourly federal standard has been replaced by 8-hour standard.
* Insufficient/No data

Table 3.1-4. El Centro Monitoring Station Air Quality Monitoring Summary[(1)(2)]

Pollutant/Standard	2006	2007	2008
Ozone			
1-Hour > 0.09 ppm (S)	19	8	4
1-Hour > 0.12 ppm (F)	1	0	1
8- Hour > 0.08 ppm (F)	26	8	2
Max 1-Hour Conc. (ppm)	0.129	0.118	0.135
Carbon Monoxide			
8- Hour > 9 ppm (S,F)	0	0	0
Max 8-Hour Conc. (ppm)	2.59	1.67	1.17
Nitrogen Dioxide			
1-Hour > 0.25 ppm (S)	0	0	0
Max 1-Hour Conc. (ppm)	0.066	0.071	0.081
Respirable Particulates (PM_{10})			
24-Hour > 50 μg/m³ (S)	20	22	4
24-Hour > 150 μg/m³ (F)	0	1	0
Max. 24-Hour Conc. (μg/m³)	146	200	88.2
Ultra-Fine Particulates ($PM_{2.5}$)			
24-Hour > 65 μg/m³ (F)	0	0	*
Max. 24-Hour Conc. (μg/m³)	33.8	30.5	26.7

Source: San Diego Air Pollution Control District, El Centro-9th Street Monitoring Station.
Key: (S) = state standard, (F) = federal standard.
ppm = parts per million, μg/m³ = micrograms per cubic meter.
Notes: (1) Number of days standards were exceeded and maxima for periods indicated.
(2) Entries shown as ratios = samples exceeding standard/samples taken.
(3) Hourly federal standard has been replaced by 8-hour standard.
* Insufficient/No data

The landscape surrounding the project area is predominantly open space including Bureau of Land Management (BLM) land, tribal land, state land, and private parcels. Land uses to the east of the project are primarily agricultural and Anza-Borrego Desert State Park. The community of Boulevard is located south of the I-8 freeway, and has the following land uses: General Commercial, Service Commercial, Multiple Rural Use 1 du/4,8,20, and Residential 1 du/1,2,4 acres, Residential 7.3 du/acre, Residential 10.9 du/acre. Also, there are approximately 45 residences and two campgrounds located a mile or less from the project boundary. The nearest non-participating receptor is located 2,200 feet, the nearest participating receptor is 623 feet from the nearest turbine, and 13 feet from a proposed roadway improvement (based on property line).

Climate Change

According to the *California Environmental Quality Act* (*CEQA) Guidelines* Section 15002(a)(1), one of the basic purposes of CEQA is to, "inform governmental decision makers and the public about the potential significant environmental effects of proposed actions." Pursuant to SB 97 discussion of global warming impacts is newly required by *CEQA Guidelines* and statutes.

The earth's atmospheric greenhouse gases (GHGs) and clouds influence the earth's temperature by absorbing infrared radiation (heat) rising from the earth's sun-warmed surface that would otherwise escape into space. The process is commonly known as the "greenhouse effect."

Man made emissions of GHGs in the atmosphere enhance the Greenhouse Effect causing temperature to increase. These man made GHGs responsible for increasing the Greenhouse Effect and their relative contribution to rising temperature include carbon dioxide (CO_2) (53%), methane (CH_4) (17%), near-surface ozone (O_3) (13%), nitrous oxide (N_2O) (12%), and chlorofluorocarbons (CFCs) (5%). These GHGs are primarily associated with the burning of fossil fuels (during transport, electricity generation, industry, manufacturing, etc.), deforestation, agricultural activity and gases from solid waste disposal. The most common GHG by volume is CO_2, which constitutes approximately 84 percent of all GHG emissions in California. Worldwide, the State of California ranks as the 16th largest emitter of CO_2 and is responsible for approximately 2 percent of the world's CO_2 emissions (CEC 2006a).

The State Legislature adopted the public policy position that global warming is, "a serious threat to the economic well being, public health, natural resources, and the environment of California" (Health and Safety Code Section 38501). Further, the State Legislature has determined that "potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and quantity of water to the state from the Sierra snow pack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health related problems", and that "global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry [and] …will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state" (Health and Safety Code Section 38501). These public policy statements became law with the enactment of the California Global Warming Solutions Act of 2006 (Assembly Bill 32, or AB 32).

3.1.2 Regulatory Setting

Federal

Federal Clean Air Act (CAA)

The Federal Clean Air Act (CAA) was enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA established federal air quality standards, known as National Ambient Air Quality Standards (NAAQS). The more relevant NAAQS related to potential project air quality impacts are included in **Table 3.1-1**. The CAA also mandates that the state submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control means that demonstrate how the standards will be met.

The 1990 Amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS, require a demonstration of reasonable further progress toward attainment, and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA that would most substantially affect the development of the proposed project are Title I (Non-attainment Provisions) and Title II (Mobile Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants: O_3, NO_2, SO_2, PM_{10}, CO, and Pb. The NAAQS were amended in 1997 to include an additional standard for O_3 and to adopt a standard for ultra-fine particulates $PM_{2.5}$. In June 2002, a stringent statewide $PM_{2.5}$ standard was adopted. **Table 3.1-1** provides the NAAQS within the basin.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require use of cleaner-burning gasoline and other cleaner-burning fuels, such as methanol and natural gas. Automobile manufacturers are also required to reduce tail pipe emissions of hydrocarbons and NO_x.

State

California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date (**Table 3.1-1**). Air pollution from commercial and industrial facilities is regulated by local air quality management districts, whereas mobile sources of air pollution are regulated by the CARB and EPA. All air pollution control districts have been formally designated as "attainment" or "non-attainment" for each state air quality standard. Non-attainment designations are categorized into three levels of severity: (1) moderate; (2) serious; and (3) severe. If there is inadequate or inconclusive data to make a definitive attainment designation, districts are considered "unclassified." The current attainment designations for the Basin are listed in **Table 3.1-2**.

The California Global Warming Solutions Act (AB 32)

The California State Legislature passed the California Global Warming Solutions Act of 2006 (AB 32) which requires CARB to develop regulations and market mechanisms that will ultimately reduce California's greenhouse gas emissions by 25 percent (1990 levels) by 2020. Mandatory caps will begin in 2012 for significant sources and ratchet down to meet the 2020 goals. AB 32 required CARB to prepare a Scoping Plan to achieve these reductions. The Scoping Plan, approved in December 2008 by the CARB, includes the following key actions for reducing its greenhouse gas emissions to 1990 levels by 2020.

Specifically, AB 32 requires CARB to:

1) Establish a statewide greenhouse gas emissions cap for 2020, based on 1990 emissions by January 1, 2008.
2) Adopt mandatory reporting rules for significant sources of greenhouse gases by January 1, 2009.
3) Adopt a plan by January 1, 2009 indicating how emission reductions will be achieved from significant greenhouse gas sources via regulations, market mechanisms and other actions.
4) Adopt regulations by January 1, 2011 to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas, including provisions for using both market mechanisms and alternative compliance mechanisms.
5) Convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee to advise CARB.
6) Ensure public notice and opportunity for comment for all CARB actions.

7) Prior to imposing any mandates or authorizing market mechanisms, CARB must evaluate several factors, including but not limited to, impacts on California's economy, the environment and public health; equity between regulated entities; electricity reliability; conformance with other environmental laws; and that the rules do not disproportionately impact low-income communities.

For the purposes of analysis within this report (and to be completely consistent with AB 32), it will be sought to: (1) quantify the aggregate greenhouse gas emissions due to the proposed project action; and (2) quantify the net heating effect within the State of California.

California Air Resources Board Regulation of Sulfur Hexafluoride

The CARB also identified possible "Discrete Early Actions" that can reduce GHG emissions within the 2007 to 2012 timeframe. One discrete early action is the reduction of sulfur hexafluoride (SF_6). One use of SF_6 is in electrical generation and transmission primarily as an insulating and arc quenching medium in equipment (high voltage electrical switchgear and circuit breakers). On October 25, 2007, CARB approved SF_6 reductions requirements from non-electric and non-semiconductor applications as an early action measure. According to CARB, SF_6 emissions from semiconductor manufacture and electric utilities will be examined separately. Given the varied small uses of SF_6, CARB is currently seeking additional information on uses and associated emissions.

Governor's Executive Orders #S-14-08 and #S-21-09

Executive Order #S-14-08 signed November 2008 set a 33 percent renewable energy generation goal for California by the year 2020 consistent with the AB 32 Scoping Plan and directed state agencies to create comprehensive plans to prioritize regional renewable energy projects. In coordination with Executive Order #S-14-08 the California Energy Commission and Department of Fish and Game, along with the U.S. Fish and Wildlife Service, and BLM signed a Memorandum of Understanding to establish a coordinated approach to expedite the renewable energy permitting process to reduce the time and expense for developing renewable energy on federally-owned California land. Executive Order #S-21-09 signed September 2009 further implemented goals to increase renewable energy generation by directing CARB to adopt regulations to achieve California's renewable energy generation standard to 33 percent by 2020.

California Public Utility Commission and California Energy Commission Greenhouse Gas Emissions Performance Standards

The Electricity GHG Emission Standards Act (SB1368) of 2006 promulgated California Public Utilities Commission (CPUC) and California Energy Commission (CEC) adoption in 2007 of an emissions performance standard for power plants. The standard of 1,100 pounds (0.5 metric tons) or less per megawatt hour (MWh) for any long-term power commitments made by the state's electrical utilities to build or buy baseload power. Utilities are not allowed to enter into long-term commitments (five years or more) to build or buy baseload power capacity that has CO_2 emissions greater than 1,100 pounds per MWh. The project would provide renewable power without fuels that generate GHG.

Senate Bill 97

Approved on August 24, 2007, SB 97 requires that the Governor's Office of Planning and Research (OPR) to develop draft CEQA guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. OPR's draft guidelines were submitted to the California Natural Resources Agency (Resources Agency) in April 2009 for the Administrative Procedure Act rulemaking process that leads to

formal adoption by the Resources Agency on or before January 1, 2010. The Revised Text of Proposed CEQA Guidelines Amendments as of December 23, 2009 was utilized in the project analysis.

Local

Regional Air Quality Planning Framework - Air Quality Plans

The SDAPCD and the 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 San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, and most recently in 2004. The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The SDAPCD has also developed the air basin's input to the State Implementation Plan (SIP), which is required under the Federal Clean Air Act for areas that are out of attainment of air quality standards. The SIP includes the SDAPCD's plans and control measures for attaining the O_3 NAAQS. The SIP is also updated on a triennial basis. The latest SIP update was submitted by the ARB to the EPA in 1998. The attainment schedule in the SIP called for the SDAB to attain the NAAQS for O_3 by 1999. The San Diego SDAPCD has determined that the SDAB has achieved its O_3 attainment goal, and has applied to the EPA for redesignation as an O_3 attainment area. As of July 28, 2003, the SDAB has been redesignated as an O_3 attainment area for the one-hour NAAQS for O_3; however, the SDAB has been designated as a basic nonattainment area for the new 8-hour NAAQS for O_3.

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan.

Bureau of Land Management Eastern San Diego County Resource Management Plan - Air Resources Management

The BLM Eastern San Diego County Resource Management Plan (RMP) was updated in 2008. The BLM has determined that wind energy development is appropriate in McCain Valley. The following goals and objectives of the RMP pertain to protection of air resources.

Goals and Objectives

ARM-01 Maintain or improve air quality as established by the NAAQS and CAAQS through cooperative management of emissions with industry, the State of California, and federal agencies.

ARM-02 BLM will strive to minimize, within the scope of its authority, any emissions that may cause violations of air quality standards, add to acid rain, or degrade visibility.

3.1.3 Environmental Consequences/Impact Analysis

California Environmental Quality Act Significance Criteria

Appendix G of the *CEQA Guidelines* specifies five evaluation criteria, listed below, in identifying potentially significant impacts. It should be noted that currently there is no established threshold for a cumulatively considerable effect from exposure to climate change risks. However, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to determine if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; Create objectionable odors affecting a substantial number of people;
- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

For projects that create mainly combustion exhaust whose emissions require complex photochemical reactions to reach their most harmful state, there is no way to measure the impact to establish a "substantial contribution" because individual impacts would be dispersed to immeasurably dilute levels. It is the cumulative impact, however, of thousands of such small individual sources that leads to regionally degraded air quality. Various air pollution control/management agencies have therefore developed guidelines using total project emissions, instead of ambient air quality, as a 'surrogate' for determining regional impact potential.

Pursuant to Section 40002 of the California Health and Safety Code, air emissions from non-mobile sources within San Diego County are regulated by SDAPCD. As part of their air quality permitting process, SDAPCD has established thresholds for the preparation of Air Quality Impact Assessments (AQIA). SDAPCD Rule 20.2, which outlines these thresholds, states that any project which results in an emissions increase which meets or exceeds these thresholds must:

> *"demonstrate through an AQIA...that the project will not (A) cause a violation of a State or national ambient air quality standard anywhere that does not already exceed such standard, nor (B) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor (C) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded...nor (D) prevent or interfere with the attainment or maintenance of any State or national ambient air quality standard."*

For projects whose stationary-source emissions fall below these thresholds, no AQIA is typically required, and impacts are presumed to be less than significant. In the absence of formally adopted CEQA

significance thresholds for non-stationary (vehicular) sources, SDAPCD staff has suggested that these screening criteria could be used as numeric methods to demonstrate that a project's total emissions (e.g., stationary and fugitive emissions, as well as emissions from non-road mobile sources) would not significantly impact air quality. In the event that emissions exceed these thresholds, additional modeling would be required to demonstrate that the project's air quality impacts are less than significant. Since SDAPCD does not have AQIA thresholds for emissions of VOCs, several agencies use the threshold for reactive organic compounds (ROCs) from the CEQA Air Quality Handbook for the South Coast Air Basin. The screening thresholds are included in **Table 3.1-5**, Screening-Level Criteria for Air Quality Impacts.

Table 3.1-5. Screening-Level Criteria for Air Quality Impacts

Pollutant	Total Emissions	
	Pounds/Day	Tons/Year
Respirable Particulate Matter (PM_{10})	100	100
Oxides of Nitrogen (NO_x)	250	50
Oxides of Sulfur (SO_x)	250	100
Carbon Monoxide (CO)	550	100
Particulate Matter (PM2.5)	55	100
Volatile / Reactive Organic Compounds & Gasses (VOC/ROG	75	50

Source: San Diego Air Pollution Control District Pollutant Thresholds
Threshold for VOCs based on the threshold of significance for reactive organic gases (ROGs) from Chapter 6 of the CEQA Air Quality Handbook of the South Coast Air Quality Management District.
Threshold for ROG's in the eastern portion of the County based on the threshold of significance for reactive organic gases (ROGs) from Chapter 6 of the CEQA Air Quality Handbook of the Southeast Desert Air Basin.
Thresholds are applicable for either construction or operational phases of a project action.
The $PM_{2.5}$ threshold is based upon the proposed standard identified in the, *"Final – Methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds"*, published by SCAQMD in October 2006.

For toxic air contaminants (TAC), the SCAQMD, in its CEQA Air Quality Handbook, identifies an excess individual cancer risk of one in one million to be a minimal risk. Risk levels of up to ten in one million are considered acceptable if toxics best available control technology (T-BACT) is used. Any individual cancer risk from project-related TACs of less than one in one million would be considered a less than significant risk.

Emissions of dusts, fumes, mists or odors that annoy any considerable number of reasonable people are considered a nuisance under the California Health & Safety Code. Project-related emissions that create a nuisance would be considered to have a significant air quality impact.

It should also be noted that there is no established threshold for a cumulatively considerable effect from exposure to climate change risks from GHG emissions. However, *CEQA Guidelines* section 15064(h)(3) states "A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan, or mitigation program (including, but not limited to … plans or regulations for the reduction of greenhouse gas emission) which provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located."; and "When relying on a plan or program, the lead agency should explain how the particular requirements in the plan or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable."

Conflict with or obstruct implementation of the applicable air quality plan

Construction, Operation and Maintenance, and Decommissioning

The San Diego County RAQS establishes what could be referred to as an "emissions budget" for the SDAB. This budget takes into account existing conditions, planned growth based on General Plans for cities within the SANDAG region, and air quality control measures implemented by the SDAPCD.

The RAQS relies on information from the CARB and SANDAG, including mobile and area source emissions and information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. As such, projects that propose development that are consistent with the growth anticipated by the general plans would be consistent with the RAQS. To determine whether the proposed project is consistent with the RAQS requires a comparison of net emissions from the proposed project to the emissions associated with previously approved and accounted for plans (commonly known as the Consistency Criterion of the RAQS).

During the construction period, up to 325 peak daily workers are expected to work in the project area during the peak construction period, with approximately 125 on-site construction employees and 200 delivery truck drivers. The number of workers on-site at any time will vary depending on the specific stage of construction. During operation, the project is expected to be supported by five permanent full-time on the operation and maintenance staff. Typically, O&M staff will be present on-site during normal business hours. Decommissioning is anticipated be similar to the construction period of the project.

The SDAPCD RAQS anticipates and allows for population growth in the project area, which involves construction of a certain amount of new infrastructure. Implementation of the proposed project would not result in a substantial negative effect on the ability to meet the federal and state clean air standards of the RAQS. The proposed project would be consistent with future build-out plans for the project site under the County's General Plan, with less impact than the current housing densities projected. The project would not conflict or obstruct implementation of an area air quality plan. No impacts are identified.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction

The project is proposed to be constructed over 18 to 24 months. During that time, it is possible that construction activities would result in short-term impacts to air quality. Construction related impacts are anticipated to occur due to use of heavy construction equipment, resulting in fugitive dust and emissions. **Table 3.1-6** lists equipment typically used for wind facility construction.

Construction activities associated with the project are anticipated to generate pollutant emissions from rough grading, surface paving activities, building construction, architectural coatings containing VOCs, and construction worker commutes. The primary construction vehicle pollutant emission generators expected for the proposed project will consist predominately of diesel-powered grading equipment. Exhaust emissions from rough grading activity would result from both on-road and off-road heavy equipment operating during this activity. **Table 3.1-7** presents baseline construction emissions based upon ISE's past experience with similar operations, and consultation with Iberdrola Renewables.

Table 3.1-6. Equipment Typically Used for Wind Facility Construction

Equipment	Use
Bulldozer	Road and pad construction
Grader	Road and pad construction
Water trucks	Compaction, erosion and dust control
Roller/compactor	Road and pad compaction
Backhoe/trenching machine	Digging trenches for underground utilities
Excavator	Foundation excavation
Heavy duty rock trencher	Underground trenching
Truck-mounted drilling rig	Drilling power pole holes
Concrete trucks/concrete pumps	Pouring tower and other structure foundations
Cranes	Tower/turbine erection
Dump trucks	Hauling road and pad material
Flatbed & Low-bed trucks	Hauling turbine towers, turbines and components, construction equipment
Pickup trucks	General use and hauling of minor equipment
Small hydraulic cranes/forklifts	Loading and unloading equipment
Four-wheel-drive all-terrain vehicles	Rough grade access and underground cable installation
Rough-terrain cranes / forklifts	Lifting equipment and pre-erection assembly

Source: Iberdrola Renewables

Table 3.1-7. Baseline 'Tier 0' AP-42 Equipment Pollutant Generation Rates

Equipment Class	Generation Rates (pounds per horsepower-hour)					
	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
Track Backhoe	0.0150	0.0220	0.0020	0.0010	0.0009	0.0030
Dozer - D8 Cat	0.0150	0.0220	0.0020	0.0010	0.0009	0.0030
Hydraulic Crane	0.0090	0.0230	0.0020	0.0015	0.0014	0.0030
Loader/Grader	0.0150	0.0220	0.0020	0.0010	0.0009	0.0030
Side Boom	0.0130	0.0310	0.0020	0.0015	0.0014	0.0030
Water Truck	0.0060	0.0210	0.0020	0.0015	0.0014	0.0020
Concrete Truck	0.0060	0.0210	0.0020	0.0015	0.0014	0.0020
Concrete Pump	0.0110	0.0180	0.0020	0.0010	0.0009	0.0020
Dump/Haul Trucks	0.0060	0.0210	0.0020	0.0015	0.0014	0.0020
Paver / Blade	0.0070	0.0230	0.0020	0.0010	0.0009	0.0010
Roller / Compactor	0.0070	0.0200	0.0020	0.0010	0.0009	0.0020
Scraper	0.0110	0.0190	0.0020	0.0015	0.0014	0.0010

Source: ISE Draft Air Quality Report March 2010

Emissions Reduction Mandates:

- The maximum CO emissions from Tier 2equipment is 0.0082 pounds per horsepower-hour (lb/HP-hr) for equipment with power ratings between 50 and 175 HP, and 0.0057 lb/HP-hr for equipment with power ratings over 175 HP. Tier 3ratings only apply between 50 to 750 HP and are identical to Tier 2 requirements. Tier 4 requirements (to be phased-in between 2008 and 2015) set a sliding scale on CO limits ranging from 0.0132 lb/HP-hr for small engines, to 0.0057 lb/HP-hr for engines up to 750 HP.
- The maximum NO_x and PM_{10} emissions from Tier 2equipment are 0.0152 and 0.0003 lb/HP-hr regardless of the engine size. Tier 3emissions must meet the Tier 2 requirement. Tier 4 standards further reduce this level to 0.0006 lb/HP-hr for NO_x, and 0.00003 lb/HP-hr for PM_{10} for engines over 75 HP.

Table data sourced U.S. EPA AP-42 "Compilation of Air Pollutant Emission Factors", 9/85 through present.
Ratings shown for full (100%) load factor.

A typical day during the peak of the construction period would generate approximately 200 truck trips, which would include the transportation of turbines, movement of heavy equipment, transport of material and concrete as well as trips for pump trucks and subcontractor trucks. The total project is expected to have a maximum construction trip generation level of 1,250 average daily traffic (ADT). The average one-way trip length would be 30.0 miles given the expected service increment of the proposed facility. A median speed of 45 MPH was used, consistent with average values observed (i.e., combined highway and surface street traffic activity) as the expected emissions for the proposed project is shown in **Table 3.1-8**.

Table 3.1-8. Construction Worker Trip Emissions – Tule Wind Project

Development Phase	ADT	Aggregate Trip Emissions in Pounds / Day					
		CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG
EMFAC 2007Year 2012 Emission Rates (in grams/mile @ 45 MPH)							
Light Duty Autos (LDA)		1.937	0.253	0.003	0.008	0.008	0.055
Light Duty Trucks (LDT)		2.416	0.391	0.003	0.017	0.017	0.057
Medium Duty Trucks (MDT)		2.662	0.796	0.005	0.018	0.018	0.087
Heavy Duty Trucks (HDT)		3.750	8.884	0.013	0.270	0.269	0.402
Buses (UBUS)		3.471	15.139	0.021	0.149	0.149	0.468
Motorcycles (MCY)		29.672	1.504	0.002	0.024	0.024	2.642
3.17.1 Proposed Project Action @ 1,250 Net ADT							
Light Duty Autos (LDA)	863	110.50	14.43	0.17	0.46	0.5	3.14
Light Duty Trucks (LDT)	243	38.75	6.27	0.05	0.27	0.3	0.91
Medium Duty Trucks (MDT)	80	14.08	4.21	0.03	0.10	0.1	0.46
Heavy Duty Trucks (HDT)	59	14.57	34.52	0.05	1.05	1.0	1.56
Buses (UBUS)	0	0.00	0.00	0.00	0.00	0.0	0.00
Motorcycles (MCY)	6	12.27	0.62	0.00	0.01	0.0	1.09
Total	1,250	190.2	60.1	0.3	1.9	1.9	7.2
Significance Threshold (SDAPCD)		550	250	250	100	55	75

Source: ISE Draft Air Quality Report March 2010

Assumes average 30.0-mile trip distance per vehicle (proposed project). San Diego air basin wintertime conditions (50° F), which is the condition whereby pollutant concentrations have the highest persistence and thus are most likely to produce an impact in a CEQA context. For vehicular traffic, the fractional emission factor is 0.998 $PM_{2.5}$ / PM_{10}

The project will be cleared, graded, and constructed over the course of approximately 576 days (6 days a week for approximately two years). **Table 3.1-9** presents the predicted rough grading construction emissions, and **Table 3.1-10** presents the predicted underground utility construction emissions.

On-site construction equipment was found to generate maximum daily pollutant levels during the rough grading phase. Based upon the air model results, all criteria pollutants were below the recommended health risk level with a PM_{10} risk probability of 0.005 percent per 70-year exposure duration. Additionally, the analysis identified a maximum PM_{10} level of 0.18 $\mu g/m^3$ occurring at a distance of 7,042 meters (23,098 feet) from the project site. This pollutant concentration is far below both the NAAQS and CAAQS thresholds for any given exposure period. Both of the projected construction emissions estimates fall below the SDAPCD significance thresholds which are more stringent than the federal standard.

Table 3.1-9. Predicted Construction Emissions – Rough Grading/Tower Base Work

Equipment Type	Qty. Used	HP	Daily Load Factor (%)	Duty Cycle (Hrs./day)	Aggregate Emissions in Pounds/Day					
					CO	NOx	SOx	PM_{10}	$PM_{2.5}$	ROG
Dozer - D6 Cat	2	250	50	6	22.5	33.0	3.0	1.5	1.4	4.5
Dozer - D8 Cat	2	300	50	8	21.6	55.2	4.8	3.6	3.3	7.2
Loader/Trencher	2	150	50	8	18.0	26.4	2.4	1.2	1.1	3.6
Water Truck	2	200	50	4	4.8	16.8	1.6	1.2	1.1	1.6
Mini Excavator	1	50	50	4	1.1	2.4	0.2	0.2	0.2	0.1
Dump/Haul & Drills	4	300	20	4	5.8	20.2	1.9	1.4	1.3	1.9
Scraper	1	450	75	4	14.9	25.7	2.7	2.0	1.8	1.4
Total for this Construction Task (Σ)					88.7	179.7	16.6	11.1	10.2	20.3
Significance Threshold (SDAPCD)					550	250	250	100	55	75

Source: ISE Draft Air Quality Report March 2010

Table 3.1-10. Predicted Construction Emissions – Underground Utility Construction/Tower Work

Equipment Type	Qty. Used	HP	Daily Load Factor (%)	Duty Cycle (hrs./day)	Aggregate Emissions in Pounds/Day					
					CO	NOx	SOx	PM_{10}	$PM_{2.5}$	ROG
Underground Utility Construction										
Track Backhoe	2	150	50	6	13.5	19.8	1.8	0.9	0.8	2.7
Dozer - D4 Cat	2	200	50	6	18.0	26.4	2.4	1.2	1.1	3.6
Loader	1	150	50	6	6.8	9.9	0.9	0.5	0.5	1.4
Water Truck	1	200	50	4	2.4	8.4	0.8	0.6	0.6	0.8
Concrete Truck	16	250	25	0.5	3.0	10.5	1.0	0.8	0.7	1.0
Dump/Haul Trucks	2	300	45	4	6.5	22.7	2.2	1.6	1.5	2.2
Total for this Construction Task (Σ)					50.2	97.7	9.1	5.6	5.2	11.7
Tower Construction / Finish Work										
Skid Steer Cat	1	150	50	6	6.8	9.9	0.9	0.5	0.5	1.4
Hydraulic Crane	1	200	25	4	1.8	4.6	0.4	0.3	0.3	0.6
Water Truck	1	200	50	4	2.4	8.4	0.8	0.6	0.6	0.8
Welding Rig	1	50	50	4	1.1	1.8	0.2	0.1	0.1	0.2
Dump/Haul Trucks	6	300	45	0.5	2.4	8.5	0.8	0.6	0.6	0.8
Paver/Compactor	1	150	35	8	2.9	9.7	0.8	0.4	0.4	0.4
Roller	1	150	35	8	2.9	8.4	0.8	0.4	0.4	0.8
Total for this Construction Task (Σ)					20.3	51.3	4.7	2.9	2.9	5.0
Significance Threshold (SDAPCD)					550	250	250	100	55	75

Source: ISE Draft Air Quality Report March 2010

Construction activities are also a source of fugitive dust emissions that may have a substantial, but temporary, impact on local air quality. These emissions are typically associated with land clearing, excavating, and construction of a proposed action. Substantial dust emissions also occur when vehicles travel on paved and unpaved surfaces, and haul trucks lose material.

Dust emissions and impacts vary substantially from day to day, depending on the level of activity, the specific operation being conducted, and the prevailing meteorological conditions. Wet dust suppression techniques, such as watering and/or applying chemical stabilization, would be used during construction to suppress the fine dust particulates from leaving the ground surface and becoming airborne through the action of mechanical disturbance or wind motion. Construction grading operations at the proposed project development site are anticipated as being approximately 2,550,000 cubic-yards (cy) of material moved over an anticipated 576-day earthwork period. It is estimated that 95.2 pounds per day of PM_{10} would be generated due to fugitive dust, which is below the 100 pounds per day SDAPCD and Federal CAA thresholds. $PM_{2.5}$ levels would be 29.3 pounds per day, which is also below the proposed State threshold of significance of 55 pounds per day for this pollutant and below the Federal CAA threshold. As shown in **Table 3.1-2**, the San Diego Basin is a nonattainment area for state PM_{10} and $PM_{2.5}$ standards. However, federal standards show that PM_{10} is unclassifiable and $PM_{2.5}$ standards have been met. The construction of the project would comply with the standards for SDAPCD Rule 55 for fugitive dust. Impacts due to fugitive dust emissions fall below the SDAPCD and Federal CAA thresholds.

The project does not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The calculated aggregate project trip generation for the project is presented in **Table 3.1-11**, of which the project totals fall below the significance threshold. Based upon the findings, no significant impacts for any criteria pollutants were identified.

Table 3.1-11. Aggregate Construction Emissions Synopsis – Tule Wind Project

Construction Scenario Examined	Aggregate Emissions in Pounds/Day					
	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	ROG VOC
Grading Emissions (Tier 0 Baseline)	88.7	179.7	16.6	11.1	10.2	20.3
Surface Grading Dust Generation	--	--	--	59.1	12.3	--
Powered Haulage Dust Generation	0.0	0.0	0.0	23.1	4.9	0.0
Construction Vehicular Traffic Generation	190.2	60.1	0.3	1.9	1.9	7.2
Total (Σ)	278.9	239.8	16.9	95.2	29.3	27.5
Significance Threshold (SDAPCD)	550	250	250	100	55	75

Source: ISE Draft Air Quality Report

[1]Values shown in this column are for informational purposes only. $PM_{2.5}$ emissions are not currently regulated by CARB. The 55 pound-per-day level shown is a proposed standard that has not been adopted.

Operation and Maintenance

The proposed project is expected to be operational for a minimum of 30 years. Project operational emissions would result from vehicle use associated with maintenance, repair, and inspection of the project components. During operation, the project is expected to be supported by five permanent full-time employees. Throughout the operation of the proposed project, new vehicle trips are not anticipated to increase substantially, as compared to existing conditions. Pollutant emissions associated with the operation of the project would be negligible. Therefore, project operations would not violate air quality standards or contribute substantially to an existing or projected air quality violation. Impacts are less than significant.

Decommissioning

Decommissioning activities would be less than the construction phase since the construction of roadways will not be required. Activities associated with the removal and hauling of project components would have a temporary impact on air quality. The proposed project would contribute to the existing NAAQS and CAAQS air quality violation within the Basin during construction and decommissioning, although impacts would be reduced with BMPs. However, incorporating the same BMPs for decommissioning as for construction will result in less than significant impacts.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

Construction

Construction related impacts are anticipated to occur due to use of heavy construction equipment and fugitive dust and emissions generated at the project site. As discussed above, construction activities will occur over a period of 18 to 24 months and will result in short-term impacts to air quality. Construction emissions associated with the proposed project would contribute to the existing NAAQS and CAAQS air quality violation within the Basin. However, implementation of SDSPCD Rule 55 and 61, along with the BMPs listed in **Table 2.0-6**, will result in less than significant impacts.

Operation and Maintenance

Operational emissions associated with the proposed project would be considered minimal. Wind turbines are considered a clean renewable energy source and would not impact air quality standards by its operation. Additionally, emissions from the operation and maintenance vehicles are considered minimal and would not result in a considerable cumulative net increase of pollutants to the region. The operation and maintenance of the proposed project would not generate a considerable net increase in non-attainment criteria pollutants. Impacts are less than significant.

Decommissioning

Decommissioning activities would result in temporary air quality impacts associated with the removal and hauling of project components similar to construction related activities. The proposed project would contribute to the existing NAAQS and CAAQS air quality violation within the Basin during decommissioning. Incorporation of BMPs such as SDAPCD Rule 55 and 61 will ensure that impacts are less than significant.

Expose sensitive receptors to substantial pollutant concentrations

Construction

Sensitive receptors are defined as those segments of the population most susceptible to poor air quality (i.e., children, elderly and the sick) and certain at-risk sensitive land uses such as schools, hospitals, parks, or residential communities. Land use conflicts can arise when sensitive receptors are located next to major sources of air pollutant emissions. The nearest sensitive receptors in the vicinity of the project area are the residents along McCain Valley and Ribbonwood Roads and residents in the community of Boulevard located south of I-8. There are no hospitals, or local parks in the immediate area where turbines and construction related activities are proposed, as the area is primarily rural in nature. The nearest school is

Clover Flat Elementary, located at 39639 Old Highway 80, approximately 3,500 feet (0.6 miles) from the I-8 and Ribbonwood off-ramp.

The inhalation of VOCs causes smell sensations in humans. These odors can affect human health in four primary ways:

- The VOCs can produce toxicological effects;
- The odorant compounds can cause irritations in the eye, nose, and throat;
- The VOCs can stimulate sensory nerves that can cause potentially harmful health effects;
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors.

Development of the proposed project could generate trace amounts (less than 1 $\mu g/m^3$) of substances such as ammonia, carbon dioxide, hydrogen sulfide, methane, dust, organic dust, and endotoxins (i.e., bacteria are present in the dust). Additionally, proposed on-site uses could generate such substances as volatile organic acids, alcohols, aldehydes, amines, fixed gases, carbonyls, esters, sulfides, disulfides, mercaptans, and nitrogen heterocycles. It should be noted that odor generation impacts due to the project are not expected to be significant, since any odor generation would be intermittent, dissipate with distance, and would terminate upon completion of the construction phase of the project, if it occurred at all.

The majority of emissions associated with the proposed project would occur during construction. Residents and business owners within approximately 2,000 feet of construction activities are anticipated to be subject to increased amount of air quality impacts than in the surrounding areas. The nearest sensitive receptor is located 13 feet from roadway improvements and 884 feet from turbine pad construction from the project boundary. These construction-related emissions are generally short-term in duration but can still cause adverse air quality impacts. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce construction emissions. These construction impacts are expected to be temporary in nature and will not impact sensitive receptors. Therefore, impacts to sensitive receptors are less than significant.

Operation and Maintenance

Project operational emissions would result from vehicle use associated with maintenance, repair, and inspection of the project components. Operational emissions associated with the proposed project would be negligible and would not expose sensitive receptors to substantial pollutant concentrations. Impacts are less than significant.

Decommissioning

Decommissioning activities would result in temporary air quality impacts associated with the removal and hauling of project components similar to construction related activities. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce decommissioning emissions. Therefore, impacts to sensitive receptors during the decommissioning of the project are less than significant.

Create objectionable odors affecting a substantial number of people

Construction and Decommissioning

The proposed project includes short-term construction and decommissioning activities that would generate airborne odors. Odors from diesel and gasoline-powered equipment exhausts and application of a variety of architectural coatings would occur during the project's construction phase. Because construction related exhausts and emissions from architectural coatings settle quickly, these emissions are not expected to generate significant odor impacts to a large amount of people. It should be noted that odor generation impacts from construction and decommissioning would be intermittent, dissipate with distance, and would terminate upon completion of construction activities. Implementation of project BMPs listed in **Table 2.0-6** would decrease diesel exhaust associated with construction and decommissioning activities. Impacts are less than significant.

Operation and Maintenance

The operation and maintenance of the project would not involve sources of nuisance odors, such as wastewater treatment facilities, landfills, or other land uses that would generate significant objectionable odors. Wind turbines are not known to create odors during the operation and routine maintenance of the turbines and related facilities. Therefore, there are no impacts from odors due to the operation and maintenance of the project.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

Construction and Decommissioning

Temporary GHG emissions related to construction and decommissioning activities would be generated as a result of the project. These temporary GHG emissions would be above existing conditions; and include CO_2, CH_4, and N_2O emissions from fuel combustion due to wind turbine installation equipment and construction vehicle use. The project applicant would reduce construction and decommissioning related GHG emissions by using fuel-efficient construction equipment, conserving fuel, and minimizing individual commuter trips to the extent possible. Additionally, the project would incorporate BMPs such as; incorporating low-emission construction equipment, encouraging carpooling, and minimizing construction vehicle idling to assist in the reduction of GHG emissions.

The Tule Wind Project would utilize a maximum impact contingency of equipment required to grade and prepare the site for a period of 576 days (i.e., a total of 192 days per each of the following phases: rough grading / tower pad work, underground utility construction / tower foundation work, and actual tower construction / finish work). Air quality calculations from the *Air Quality Conformity Assessment* were utilized to calculate the GHG emissions for the proposed project. The GHG findings are shown in **Table 3.1-12**.

Since N_2O has a global warming potential (GWP) of 296 with respect to CO_2this result can be expressed as an *equivalent* CO_2 level (sometimes denoted as CO_{2e}) of 5,604,108.8 pounds. Thus, the final equivalent CO_2 GHG load due to the project would be the summation of this value and the direct CO_2 production, or 6,429,401.6 pounds CO_{2e}, during construction activities.

Table 3.1-12. Construction Vehicle GHG Emission Levels – Tule Wind Project (Tier 0)

Construction Phase	Equipment Classification	Construction Vehicle Emission Levels (in pounds)			
		(Per day from AQIA Report)		(Total Over Construction Period)	
		CO	NO_X	CO_2= 27·CO	N_2O = 0.3·NO_X
Rough Grading/Tower Base Work	Dozer - D6 Cat	22.5	33.0	116,640.0	1,900.8
	Dozer - D8 Cat	21.6	55.2	111,974.4	3,179.5
	Loader/Trencher	18.0	26.4	93,312.0	1,520.6
	Water Truck	4.8	16.8	24,883.2	967.7
	Mini Excavator	1.1	2.4	5,702.4	138.2
	Dump/Haul & Drills	5.8	20.2	30,067.2	1,163.5
	Scraper	14.9	25.7	77,241.6	1,480.3
Underground Utility Construction	Track Backhoe	13.5	19.8	69,984.0	1,140.5
	Dozer - D4 Cat	18.0	26.4	93,312.0	1,520.6
	Loader	6.8	9.9	35,251.2	570.2
	Water Truck	2.4	8.4	12,441.6	483.8
	Concrete Truck	3.0	10.5	15,552.0	604.8
	Dump/Haul Trucks	6.5	22.7	33,696.0	1,307.5
Tower Construction/ Finish Work	Skid Steer Cat	6.8	9.9	35,251.2	570.2
	Hydraulic Crane	1.8	4.6	9,331.2	265.0
	Water Truck	2.4	8.4	12,441.6	483.8
	Welding Rig	1.1	1.8	5,702.4	103.7
	Dump/Haul Trucks	2.4	8.5	12,441.6	489.6
	Paver/Compactor	2.9	9.7	15,033.6	558.7
	Roller	2.9	8.4	15,033.6	483.8
			Sum (Σ)	825,292.8	18,932.8

Source: ISE Draft Greenhouse Gas/Global Warming Risk Assessment March 2010

Motor vehicles are the primary source of greenhouse gas emissions associated with worker construction activities. The aggregate project emission levels are shown below, in **Table 3.1-13**. The proposed project is expected to have a total construction worker trip generation level of 1,250 ADT. The average vehicle trip length would be 30 miles, with a median running speed of 45 MPH.

Table 3.1-13. Construction Worker Vehicle GHG Levels – Tule Wind Project

Vehicle Classification	Trip ADT	Total Emissions (pounds per day)	
		CO_2	N_2O
Light Duty Autos (LDA)	863	16,299.0	4.3
Light Duty Trucks (LDT)	243	5,735.5	1.9
Medium Duty Trucks (MDT)	80	2,566.6	1.3
Heavy Duty Trucks (HDT)	59	5,439.9	10.4
Buses (UBUS)	0	0.0	0.0
Motorcycles (MCY)	6	52.0	0.2
Total (Σ)	1,250	30,093.1	18.0

Source: ISE Draft Greenhouse Gas/Global Warming Risk Assessment March 2010

Since N_2O has a GWP of 296 with respect to CO_2, the *equivalent* CO_{2e}level would be 5,328.0 pounds for N_2O. The final equivalent daily CO_{2e} load due to vehicular traffic would be 35,421.1 pounds.

The projected greenhouse gas emission budget for the proposed project would be the summation of the individual sources identified, the total budget would equate to the following levels shown in **Table 3.1-14**.

Table 3.1-14. GHG Emission Budget for Tule Wind Project

Project Scenario	CO_{2e}	Total Project Emissions in Pounds per ...
Construction Operations	6,429,401.6	... total construction period
Construction Vehicle Emissions	35,421.1	... day

Source: ISE Draft Greenhouse Gas/Global Warming Risk Assessment March 2010

The total aggregate construction GHG emissions would be 6,429,401.6 pounds CO_{2e}. The total construction vehicle GHG emissions would be 35,421.1 pounds of equivalent CO_{2e} per day. Thus, the total emissions would be expressed as 6,429,401.6 + 35,421.1/day pounds of CO_{2e}. The construction vehicles would produce 35,241,1 pounds of CO_{2e} per day for the duration of the construction, assuming the project would continue over a two year period, The temperature in the State of California (worst-case assumption) would rise by 0.00000335687 degrees Celsius (°C) due to this amount of CO_{2e} increase. This would be considered a small temperature increase. Further, the project is a clean, green energy project and would have a direct beneficial affect on reducing GHG.

The total time duration would be at least two years, which is consistent with the proposed construction plan. The local annual warming effect due to this level of project emissions was found to be $3.3567x10^{-6}$ °C. The net contribution to the planet would be deemed insignificant. Impacts are less than significant.

Impacts from decommissioning would be very similar to construction as the same type of equipment and activities would be employed. However, decommissioning impacts would be less than construction because the roadways for the activities would already be in place, thus requiring less grading, paving, and use of less construction vehicles. Impacts would remain less than significant.

Operation and Maintenance

The operation and maintenance of the project would contribute a small amount of vehicle emissions from the twelve permanent full-time employees. This small amount of vehicle emissions would not be considered significant. Further, the project would have on-going beneficial impacts due to the creation of new and clean renewable wind energy generation. According to the EPA EGRID modeling, it is estimated that a 200 MW wind project in California would reduce GHG by 304,283 metric tons of CO2e per year. During operation, the project would provide a renewable and direct net decrease in GHG emissions from power plants, thus off setting any O&M emissions. The proposed project will have a beneficial effect of reducing GHG. No impacts are identified.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

Construction, Operation and Maintenance, and Decommissioning

The proposed project partially implements adopted plans, policies, and regulations intended to reduce GHG emissions. The project implements AB 32 by creating a new renewable energy source that achieves GHG reduction. The project is consistent with the CARB AB 32 Scoping Plan by increasing renewable energy by 200 MW, in support of achieving a statewide renewable energy mix of 33 percent and furthering a GHG emissions cap-and-trade program. The project is also consistent with the BLM Eastern San Diego County (RMP/ROD) that was adopted in 2008. The RMP/ROD described and analyzed five land use alternatives (A-E) for managing approximately 102,869 acres of BLM administered land, including the project site. All RMP/EIS alternatives, except the no-action alternative, included renewable energy generation on the project site. The RMP/ROD determined quantities of greenhouse gas emissions generated under alternatives B through E that included renewable energy development to be equal to or less than those generated under the no-action alternative. The RMP/ROD noted the development of renewable sources of energy could reduce the irreversible/irretrievable commitment of nonrenewable energy resources, particularly from GHG generating energy sources. The proposed project does not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. No impacts are identified.

3.1.4 Cumulative Impacts

Construction and Decommissioning

As discussed in Section 2.8, Cumulative Projects, there are a variety of related projects in the project vicinity. According to the air analysis conducted for the project, the proposed project is not expected to contribute to the existing NAAQS and CAAQS air quality violation within the Basin during construction. The proposed project in conjunction with other related developments projected within the vicinity of the site would generate increased air emissions. Increased air emissions would result from increased mobile and stationary sources, thereby further hampering the ability to achieve conformance with the SDAPCD air quality significance thresholds. Cumulatively, construction and decommissioning of the proposed project in conjunction with other development in the project vicinity would continue to exceed SDAPCD thresholds. Implementation of the proposed project would not result in significant cumulative impacts to air quality during project construction and decommissioning. These impacts are anticipated to be temporary and short-term in duration.

Operation and Maintenance

While no single development can be deemed individually responsible for global climate change, GHG emissions from the construction and decommissioning of proposed project would combine with GHG emissions across California, the United States, and the world to cumulatively contribute to global climate change. However, the operation and maintenance of the project is estimated to reduce GHG emissions by up to 304,283 metric tons per year according to EPA eGrid modeling by providing renewable energy that can replace existing energy sources' GHG emissions.

The CARB AB 32 Scoping Plan requires the creation/production of renewable energy to help avoid or sustainably lessen the cumulative GHG emissions impact on climate change. The project is compliant with the CARB AB 32 Scoping Plan actions to reduce GHG emissions by contributing to the planned statewide renewable energy mix of 33 percent and by providing GHG reductions that may support a GHG

emissions cap-and-trade program. The project is also consistent with the Governor's Executive Orders #S-14-08 and #S-21-09 to facilitate renewable energy. The inclusion of new renewable energy requirements in such plans, executive orders, and legislation is evident that the incremental contribution of GHG emissions from creating renewable energy to the cumulative effect on climate change is not cumulatively considerable.

The long-term benefit of the operation and maintenance of the project offsets all short-term and temporary impacts of construction and decommissioning. The project will not have cumulative greenhouse gas or air quality impacts.

3.1.5 CEQA Levels of Significance Before Mitigation

Conflict with or obstruct implementation of the applicable air quality plan

Construction, Operation and Maintenance, and Decommissioning

The applicable air quality plan, SDAPCD RAQS, anticipates and allows for population growth in the project area, which involves construction of a certain amount of new infrastructure. Implementation of the proposed project would not result in a substantial negative effect on the ability to meet the federal and state clean air standards of the RAQS. The proposed project development would be consistent with future build-out plans for the project site under the County's General Plan, with less impact than the current housing densities projected. The project would not conflict or obstruct implementation of an area air quality plan. No impacts are identified.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction

The projected construction emissions estimates fall below the SDAPCD significance thresholds which also meet the federal standard. The inclusion of SDAPCD Rule 55 and Rule 61 as best management practices render impacts less than significant. Pollutant levels due to grading are not expected to exceed the significance thresholds. Impacts are less than significant.

Operation and Maintenance

Project operation emissions are expected to be minimal and would not violate air quality standards or contribute substantially to an existing or projected air quality violation. Impacts are less than significant.

Decommissioning

The proposed project would contribute to the existing NAAQS and CAAQS air quality violation within the Basin during decommissioning. Incorporating the same BMPs for decommissioning as for construction will result in less than significant impact to air quality standards.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

Construction and Decommissioning

Construction and decommissioning activities associated with this alternative would result in short-term impacts to air quality. Construction and decommissioning related impacts are anticipated to occur due to use of heavy construction equipment resulting in fugitive dust and emissions. The project will be constructed over a period of two years which will reduce impact to air quality. Emissions associated with this alternative would be similar to those as the proposed project and would temporarily contribute to the existing NAAQS and CAAQS air quality violation within the Basin. Additionally, implementation of SDSPCD Rule 55 and 61, along with the BMPs listed in **Table 2.0-6**, will result in less than significant impacts.

Operation and Maintenance

Operational emissions associated with the proposed project would be negligible, therefore, operation of the proposed project would not generate a considerable net increase in non-attainment criteria pollutants. Impacts are less than significant.

Expose sensitive receptors to substantial pollutant concentrations

Construction and Decommissioning

Construction and decommissioning related emissions related to the proposed project are short-term in duration but could cause adverse air quality impacts. The nearest non-participating sensitive receptor is located 2,200 feet from the project boundary and the private parcel boundary. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce construction emissions. Therefore, impacts to sensitive receptors are less than significant.

Operation and Maintenance

Operational emissions associated with the proposed project would be negligible and would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts are less than significant.

Create objectionable odors affecting a substantial number of people

Construction and Decommissioning

Odor generation impacts from construction and decommissioning of the proposed project would be temporary, intermittent, would dissipate with distance, and would terminate upon completion of construction activities. Also, implementation of project BMPs listed in **Table 2.0-6** would decrease diesel exhaust associated with construction and decommissioning activities and reduce impacts to a less than significant level.

Operation and Maintenance

The operation and maintenance phase of the project would not involve sources of nuisance odors, as wind turbines are not known to create odors during the operation and routine maintenance. There will be no impacts from odors during operation and maintenance of the project.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

Construction and Decommissioning

The local annual warming effect due to construction and decommissioning of the proposed project would raise the GHG emission by 6,429,401.6 total pounds CO_{2e}. The temperature in the State of California (worst-case assumption) would rise by 0.00000335687 °C due to this amount of CO_{2e} increase. This would be considered a small temperature increase compared to the 304,283 metric tons of CO_{2e} per year that this wind energy project will save in GHG. The net contribution to the planet would be insignificant. Impacts are less than significant.

Operation and Maintenance

The proposed project will have a beneficial effect of reducing GHG. No impacts are identified.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

Construction, Operation and Maintenance, and Decommissioning

The proposed project does not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. Therefore, no impacts are identified.

3.1.6 Mitigation Measures

No significant impacts were identified; therefore, no mitigation measures are required.

3.1.7 CEQA Levels of Significance After Mitigation

Construction and decommissioning impacts are short-term and temporary and phased over an 18 to 24-month period. The incorporation of BMPs are anticipated to reduce overall construction and decommissioning air quality effects and keep impacts to a less than significant level. No mitigation measures are necessary.

3.1.8 Comparison of Alternatives

In developing the alternatives to be addressed in this environmental document, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the project, while avoiding or reducing the environmental impacts of the project identified in Section 3.0, Environmental Analysis. The alternatives will contain all the same components and construction corridor as the proposed project except they may vary in number and location.

No Project/No Action Alternative

Under the No Project/No Action Alternative, there would be no air quality and GHG emissions from the project. Although there would be no impacts to air quality as a result of the project, the BLM's determination that the area is conducive to wind and renewable energy development will still be valid, thus leaving the area available for another project. This alternative would continue to leave the San Diego County region dependent on electricity generated by fossil fuels. The BLM, State, and County would be forced to continue to search for renewable energy projects to contribute to their renewable energy mandates and portfolios. Additionally, the County of San Diego would not move any closer to meeting air quality and attainment goals.

The No Project/No Action Alternative would not result in the operation of a new renewable wind energy project that would reduce fossil fuel electricity generation and associated GHG emissions. This alternative would have greater impacts than the proposed project.

Alternate Transmission Line Alternative #1

The Alternate Transmission Line Alternative #1 (T-line Alternative #1) would include all of the same components as the proposed project except for an alternate overhead 138 kV transmission line (T-line Alternative #1), as shown in **Figure 2.0-12**. The T-line Alternative #1 would be located parallel to, but in-lieu of, the proposed transmission line. T-line Alternative #1 would be located further west and run from either the proposed or deviant collector substation approximately 5.5 miles south to the Rough Acres Ranch (south of turbine G-19). From Rough Acres Ranch, the line would continue west to Ribbonwood Road. The line would continue south on Ribbonwood Road to Old Highway 80, and east along Old Highway 80 to the SDG&E proposed Rebuilt Boulevard Substation.

This alternative would increase the land disturbance by approximately 7.6acres, from 772.7 acres to 780.3 acres, utilizing the deviant collector substation. The 138 kV transmission line would increase in distance from 9.7 miles to 11.7 miles and would increase the amount of transmission line poles from 116 poles to 152 poles, utilizing the deviant collector substation. The 34.5 kV overhead collector lines would remain the same distance of 9.4 miles, and would require the same amount of collector line poles (250), and the underground collector lines would also remain the same distance of 29.3 miles, utilizing the deviant collector substation

Conflict with or obstruct implementation of the applicable air quality plan

Construction, Operation and Maintenance, and Decommissioning

This alternative would have the same temporary construction and decommissioning effects to air quality as the proposed project. As such, impacts to air quality would be the same as the proposed project during the operational phase of the project. Once operational the proposed project with this alternative will result in a reduced dependence on fossil fuels for electricity and provide a substantial reduction of GHG emissions while contributing to the goals and objectives of the applicable air quality management plan This alternative is not anticipated to conflict with any applicable air quality management plan. Impacts are less than significant.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction and Decommissioning

This alternative increases the construction area land disturbance by approximately one percent. This increase in construction related activities would provide an increase in project impacts and further contribute to the current non-attainment of the San Diego Basin for state PM_{10} and $PM_{2.5}$ standards and the existing NAAQS and CAAQS air quality violation within the Basin during construction. Although there is a slight increase in land disturbance, the grading would be conducted over a two-year period greatly reducing the amount of emissions that would occur at one time. Also, incorporating the BMPs will result in less than significant impact to air quality standards. Impacts are less than significant.

Operation and Maintenance

This alternative would contribute the same amount of pollutants and potential effects of air quality impacts as the proposed project. Impacts are less than significant.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

Construction and Decommissioning

Construction and decommissioning activities associated with this alternative would result in short-term impacts to air quality. Construction and decommissioning related impacts are anticipated to occur due to use of heavy construction equipment resulting in fugitive dust and emissions. The project will be constructed over a period of two years which will reduce impacts to air quality. Emissions associated with this alternative would be similar to those as the proposed project and would temporarily contribute to the existing NAAQS and CAAQS air quality violation within the Basin. However, implementation of BMPs such as SDAPCD Rule 55 and 61, and those listed in **Table 2.0-6**, will result in less than significant impacts.

Operation and Maintenance

Operational emissions associated with this alternative would be the same as the proposed project and are considered negligible. Therefore, this alternative would not generate a considerable net increase in non-attainment criteria pollutants. A less than significant impact has been identified for this issue area.

Expose sensitive receptors to substantial pollutant concentrations

Construction and Decommissioning

The nearest sensitive receptors in the vicinity of the project area are the residents along McCain Valley and Ribbonwood Roads and those residents in the community of Boulevard located south of I-8. There are no hospitals, or local parks in the immediate area where turbines and construction related activities are proposed, as the area is primarily rural in nature. The nearest school is Clover Flat Elementary, located at 39639 Old Highway 80, approximately 3,500 feet (0.6 miles) from the I-8 and Ribbonwood off-ramp. The majority of emissions associated with this alternative would occur during construction. Residents and business owners within approximately 2,000 feet of construction activities are anticipated to be subject to increased amount of air quality impacts than in the surrounding areas. Construction related emissions are

generally short-term in duration but can still cause adverse air quality impacts. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce construction emissions. This alternative is not anticipated to expose substantial pollutant concentrations to sensitive receptors. Impacts are less than significant.

Operation and Maintenance

This alternative would emit the same amount of emissions as the proposed project resulting from vehicle use associated with employees travelling to and from work, and maintenance, repair, and inspection of the project components. Operational emissions associated with this alternative would be negligible and would not expose sensitive receptors to substantial pollutant concentrations. Impacts are less than significant.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

Construction, Operation and Maintenance, and Decommissioning

This alternative would have similar impacts as the proposed project. The project would have ongoing and long-term beneficial impacts due to the creation of new, clean renewable wind energy generation at the project site. The operation of this alternative would provide a renewable energy source and direct net decrease in GHG emissions from power plants. Impacts are less than significant.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

Construction, Operation and Maintenance, and Decommissioning

This alternative does not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. Therefore, no impacts are identified.

This alternative would have the same level of impacts to air quality as the proposed project.

Alternate Transmission Line #2 and Collector Substation Alternative

The Alternate Transmission Line #2 and Collector Substation Alternative would include the alternate O&M/Substation facility co-located on Rough Acres Ranch (T17S R7E Sec9), the Alternate Transmission Line #2 (138 kV), as well as an alternate overhead collector system, as shown in **Figure 2.0-13**. This alternative would consist of two 34.5 kV lines connecting the turbines to the alternate collector substation location. All other elements of the project including the turbine locations, parking and laydown areas, roadway upgrades, and batch plant would remain as described in the proposed project. The Alternate Transmission Line #2 would run from the alternate collector substation south along McCain Valley Road, and then west along Old Highway 80 until reaching the SDG&E proposed Rebuilt Boulevard Substation.

This alternative would increase the land disturbance by 1.9 acres, from 772.7 acres to 774.6 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

Conflict with or obstruct implementation of the applicable air quality plan

Construction, Operation and Maintenance, and Decommissioning

This alternative would have the same temporary construction and decommissioning effects to air quality as the proposed project. As such, impacts to air quality would be the same as the proposed project during the operational phase of the project. Once operational the proposed project with this alternative will result in a reduced dependence on fossil fuels for electricity and provide a substantial reduction of GHG emissions while contributing to the goals and objectives of the applicable air quality management plan This alternative is not anticipated to conflict with any applicable air quality management plan. Impacts are less than significant.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction and Decommissioning

This alternative increases the construction area land disturbance by approximately one percent. This increase in construction related activities would provide an increase in project impacts and further contribute to the current non-attainment for the San Diego Basin for state PM_{10} and $PM_{2.5}$ standards and the existing NAAQS and CAAQS air quality violation within the Basin during construction. Although there is a slight increase in land disturbance, the grading would be conducted over a two-year period thus reducing the concentration of pollutants. Impacts are temporary and dispersed over a long period of time. Impacts are less than significant.

Operation and Maintenance

This alternative would contribute the same amount of pollutants and potential effects of air quality impacts as the proposed project. Impacts are less than significant.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

Construction and Decommissioning

Construction and decommissioning activities associated with this alternative would result in short-term impacts to air quality. Construction and decommissioning related impacts are anticipated to occur due to use of heavy construction equipment resulting in fugitive dust and emissions. The project will be constructed over a period of two years which will reduce impact to air quality. Emissions associated with this alternative would be similar to those as the proposed project and would temporarily contribute to the existing NAAQS and CAAQS air quality violation within the Basin. However, implementation of BMPs such as SDAPCD Rule 55 and 61, and those listed in **Table 2.0-6**, will result in less than significant impacts.

Operation and Maintenance

Operational emissions associated with this alternative would be the same as the proposed project and are considered negligible. Therefore, this alternative would not generate a considerable net increase in non-attainment criteria pollutants. A less than significant impact has been identified for this issue area.

Expose sensitive receptors to substantial pollutant concentrations

Construction and Decommissioning

There are no schools, hospitals, or local parks in the immediate vicinity of this alternative location where turbines and construction/ decommissioning related activities are proposed. The majority of emissions associated with this alternative would occur during construction and decommissioning. Residents and business owners within approximately 2,000 feet of construction activities are anticipated to be subject to increased amount of air quality impacts than in the surrounding areas. Construction related emissions are generally short-term in duration but can still cause adverse air quality impacts. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce construction emissions. This alternative will not expose substantial pollutant concentrations to sensitive receptors. Impacts are less than significant.

Operation and Maintenance

This alternative would emit the same amount of emissions as the proposed project resulting from vehicle use associated with maintenance, repair, and inspection of the project components. Operational emissions associated with this alternative would be negligible and would not expose sensitive receptors to substantial pollutant concentrations. Impacts are less than significant.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

Construction, Operation and Maintenance, and Decommissioning

The project would have on-going and long-term beneficial impacts due to the creation of new, clean renewable wind energy generation at the project site. The operation of this alternative would provide a renewable energy source and direct net decrease in GHG emissions from power plants. Impacts are less than significant.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

Construction, Operation and Maintenance, and Decommissioning

This alternative does not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. Therefore, no impacts are identified.

This alternative would have the same level of impacts to air quality as the proposed project.

Alternate Transmission Line #3 and Collector Substation Alternative

The Alternate Transmission Line #3 and Collector Substation Alternative would include the alternate O&M/Substation facility co-located on Rough Acres Ranch (T17S R7E Sec9), the Alternate Transmission Line #3 (138 kV), as well as an alternate overhead collector system as shown in **Figure 2.0-14**. This alternative would consist of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements including the turbine locations, parking and laydown areas, roadway upgrades, and batch plant would remain as described in the proposed project. The Alternate Transmission Line #3 would run from the alternate collector substation west to Ribbonwood Road,

continue south along Ribbonwood Road, and then east along Old Highway 80 until reaching the SDG&E proposed Rebuilt Boulevard Substation.

This alternative would increase the land disturbance by 7.3 acres, from 772.7 acres to 780.0 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 5.4 miles and would decrease the amount of transmission line poles from 116 poles to 60 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

Conflict with or obstruct implementation of the applicable air quality plan

Construction, Operation and Maintenance, Decommissioning

This alternative would have the same temporary construction and decommissioning effects to air quality as the proposed project. As such, impacts to air quality would be the same as the proposed project during the operational phase of the project. Once operational the proposed project with this alternative will result in a reduced dependence on fossil fuels for electricity and provide a substantial reduction of GHG emissions while contributing to the goals and objectives of the applicable air quality management plan This alternative is not anticipated to conflict with any applicable air quality management plan. Impacts are less than significant.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction and Decommissioning

This alternative increases the disturbed construction area by approximately one percent. This increase in temporary construction related activities would provide an approximate one percent increase in temporary project impacts and further contribute to the current non-attainment criteria pollutants for the San Diego Basin for state PM_{10} and $PM_{2.5}$ standards and the existing NAAQS and CAAQS air quality violation within the Basin during construction. Decommissioning activities would have the same temporary effects of air quality and contribute to the current non-attainment status of the Basin. However, these impacts are short-term, temporary, and with the inclusion of the BMP's listed in **Table 2.0-6**, impacts are less than significant.

Operation and Maintenance

This alternative would contribute the same amount of pollutants and potential effects of air quality impacts as the proposed project. Impacts are less than significant.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

Construction and Decommissioning

Construction and decommissioning activities associated with this alternative would result in short-term impacts to air quality. Construction and decommissioning related impacts are anticipated to occur due to use of heavy construction equipment resulting in fugitive dust and emissions. The project will be constructed over a period of two years which will reduce impact to air quality. Emissions associated with

this alternative would be similar to those as the proposed project and would temporarily contribute to the existing NAAQS and CAAQS air quality violation within the Basin. However, implementation of BMPs such as SDAPCD Rule 55 and 61, and those listed in **Table 2.0-6**, will result in less than significant impacts.

Operation and Maintenance

Operational emissions associated with this alternative would be the same as the proposed project and are considered negligible. Therefore, this alternative would not generate a considerable net increase in non-attainment criteria pollutants. A less than significant impact is identified.

Expose sensitive receptors to substantial pollutant concentrations

Construction and Decommissioning

The nearest sensitive receptors to this alternative that would have the potential to be exposed to potential air quality impacts would be the residents along McCain Valley and Ribbonwood Roads and those residents in the community of Boulevard located south of I-8. There are no hospitals, or local parks in the immediate area where turbines and construction related activities are proposed, as the area is primarily rural in nature. The nearest school is Clover Flat Elementary, located at 39639 Old Highway 80, approximately 3,500 feet (0.6 miles) from the I-8 and Ribbonwood off-ramp. Construction and decommissioning related emissions are generally short-term in duration but can still cause adverse air quality impacts. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce construction emissions. This alternative is not anticipated to expose substantial pollutant concentrations on sensitive receptors. Impacts are less than significant.

Operation and Maintenance

This alternative would emit the same amount of emissions as the proposed project resulting from vehicle use associated with maintenance, repair, and inspection of the project components. Operational emissions associated with this alternative would be negligible and would not expose sensitive receptors to substantial pollutant concentrations. A less than significant impact is identified.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

Construction, Operation and Maintenance, and Decommissioning

The project would have on-going and long-term beneficial impacts due to the creation of new, clean renewable wind energy generation at the project site. The operation this alternative would provide a renewable energy source and direct net decrease in GHG emissions from power plants. Impacts are less than significant.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

Construction, Operation and Maintenance, and Decommissioning

This alternative does not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. No impacts are identified. This alternative would have the same level of impacts to air quality as the proposed project.

Operation and Maintenance Facility Location #1 Alternative

The O&M Facility Location #1 Alternative would be located on private property (T17S R7E Sec4), north of the alternate collector substation and located west of McCain Valley Road, as shown in **Figure 2.0-13**. This alternative would consist of separating the 5-acre O&M building site from the collector substation; however, both would remain on Rough Acres Ranch property. Alternate Transmission Line #2 would be utilized under this alternative, as well as the Alternate Overhead Collector System consisting of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements of the project including the turbine locations, parking and laydown areas, and batch plant would remain as described in the proposed project.

This alternative is estimated to have the same land disturbance impacts as the Alternate Transmission Line #2 and Collector Substation Alternative. However, by relocating the O&M building site to the northern portion of Rough Acres Ranch, this alternative would require an approximate 650 foot new access road to be constructed on the west side of McCain Valley Road, thus necessitating an approximate 0.07 acres of permanently impacted area and a temporary impact of 0.55 acres. In comparison to the proposed project, this alternative would decrease the land disturbance by approximately 2.5acres, from 772.7 acres to 775.2 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

Conflict with or obstruct implementation of the applicable air quality plan

Construction, Operation and Maintenance, Decommissioning

This alternative would have the same temporary construction and decommissioning effects to air quality as the proposed project. As such, impacts to air quality would be the same as the proposed project during the operational phase of the project. Once operational this alternative will result in a reduced dependence on fossil fuels for electricity and provide a substantial reduction of GHG emissions while contributing to the goals and objectives of the applicable air quality management plan. This alternative is not anticipated to conflict with any applicable air quality management plan. Impacts are less than significant.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction and Decommissioning

This alternative will result in temporary project impacts that would further contribute to the current non-attainment criteria pollutants for the San Diego Basin for state PM_{10} and $PM_{2.5}$ standards and the existing NAAQS and CAAQS air quality violation within the Basin during construction and decommissioning.

However, the implementation of BMPs such as SDAPCD Rule 55 and 61, and others listed in **Table 2.0-6**, would render impacts less than significant.

Operation and Maintenance

This alternative would contribute the same amount of pollutants and potential effects of air quality impacts as the proposed project. The operation and maintenance phase of the project would not violate or contribute any air quality standard. No impacts are identified.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursor)

Construction and Decommissioning

Construction and decommissioning activities associated with this alternative would result in short-term impacts to air quality. Construction and decommissioning related impacts are anticipated to occur due to use of heavy construction equipment resulting in fugitive dust and emissions. The project will be constructed over a period of two years which will reduce impact to air quality. Emissions associated with this alternative would be similar to those as the proposed project and would temporarily contribute to the existing NAAQS and CAAQS air quality violation within the Basin. However, implementation of BMPs such as SDAPCD Rule 55 and 61, and those listed in **Table 2.0-6**, will result in less than significant impacts.

Operation and Maintenance

Operational emissions associated with this alternative would be the same as the proposed project and are considered negligible. Therefore, this alternative would not generate a net increase in non-attainment criteria pollutants. A less than significant impact is identified.

Expose sensitive receptors to substantial pollutant concentrations

Construction and Decommissioning

The nearest sensitive receptors to this alternative that would have the potential to be exposed to potential air quality impacts would be the residents and businesses along McCain Valley Road and Old Highway 80. There are no schools, hospitals, or local parks in the immediate area where turbines and construction related activities are proposed, as the area is primarily rural in nature. The majority of emissions associated with this alternative would occur during construction and decommissioning. Residents and business owners within approximately 2,000 feet of construction and decommissioning activities are anticipated to be subject to an increased amount of air quality impacts than those in the surrounding areas. Emissions are generally short-term in duration but can still cause adverse air quality impacts. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce construction emissions. This alternative is not anticipated to expose substantial pollutant concentrations on sensitive receptors. Impacts are less than significant.

Operation and Maintenance

This alternative would emit the same amount of emissions as the proposed project resulting from vehicle use associated with maintenance, repair, and inspection of the project components. Operational emissions

associated with this alternative would be negligible and would not expose sensitive receptors to substantial pollutant concentrations. A less than significant impact is identified.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

Construction, Operation and Maintenance, and Decommissioning

The project would have on-going and long-term beneficial impacts due to the creation of new, clean renewable wind energy generation at the project site. The operation this alternative would provide a renewable energy source and direct net decrease in GHG emissions from power plants. Impacts are less than significant.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

Construction, Operation and Maintenance, and Decommissioning

This alternative does not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. No impacts are identified.

This alternative would have the same level of impact to air quality as the proposed project.

Operation and Maintenance Facility Location #2 Alternative

The O&M Facility Location #2 Alternative would be located on private property (T17S R7E Sec 16), south of the alternate collector substation and located west of McCain Valley Road, as illustrated in **Figure 2.0-13**. This alternative would consist of separating the 5-acre O&M building site from the collector substation; however, both would remain on Rough Acres Ranch property. Alternate Transmission Line #2 would be utilized under this alternative as well as the Alternate Overhead Collector System consisting of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements of the project including the turbine locations, parking and laydown areas, and batch plant would remain as described in the proposed project.

This alternative is estimated to have the same land disturbance impacts as the Alternate Transmission Line #2 and Collector Substation Alternative. However, by relocating the O&M building site to the southern portion of Rough Acres Ranch, this alternative would result in a very slight difference 1.0 acres of permanent impacts and 0.08 acres of temporary impacts resulting from the construction of new access roads than those described in Table 2.0-10. In comparison to the proposed project, this alternative would increase the land disturbance by approximately 2.0 acres, from 772.7 acres to 774.7acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

Conflict with or obstruct implementation of the applicable air quality plan

Construction, Operation and Maintenance, Decommissioning

This alternative would have the same temporary construction and decommissioning effects to air quality as the proposed project. As such, impacts to air quality would be the same as the proposed project during

the operational phase of the project. Once operational the proposed project with this alternative will result in a reduced dependence on fossil fuels for electricity and provide a substantial reduction of GHG emissions while contributing to the goals and objectives of the applicable air quality management plan. This alternative is not anticipated to conflict with any applicable air quality management plan. Impacts are less than significant.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction and Decommissioning

This alternative will result in temporary impacts during construction and decommissioning that would further contribute to the current non-attainment criteria pollutants for the San Diego Basin for state PM_{10} and $PM_{2.5}$ standards and the existing NAAQS and CAAQS air quality violation within the Basin. However, implementation of BMPs such as SDAPCD Rule 55 and 61 and others listed in **Table 2.0-6**, as well as these activities being spread across an 18-24 month period, would result in less than significant impacts.

Operation and Maintenance

This alternative would contribute the same amount of pollutants and potential effects of air quality impacts as the proposed project. Operational emissions associated with this alternative would be negligible and this alternative would not violate any air quality standards. No impacts are identified.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

Construction and Decommissioning

Construction and decommissioning activities associated with this alternative would result in short-term impacts to air quality. Construction and decommissioning related impacts are anticipated to occur due to use of heavy construction equipment resulting in fugitive dust and emissions. The project will be constructed over a period of two years which will reduce impact to air quality. Emissions associated with this alternative would be similar to those as the proposed project and would temporarily contribute to the existing NAAQS and CAAQS air quality violation within the Basin. However, implementation of BMPs such as SDAPCD Rule 55 and 61, and those listed in **Table 2.0-6**, will result in less than significant impacts.

Operation and Maintenance

Operational emissions associated with this alternative would be the same as the proposed project and are considered negligible. Therefore, this alternative would not generate a considerable net increase in non-attainment criteria pollutants. A less than significant impact is identified.

Expose sensitive receptors to substantial pollutant concentrations

Construction and Decommissioning

The nearest sensitive receptors to this alternative that would have the potential to be exposed to air quality impacts would be the residents and businesses along McCain Valley Road and Old Highway 80. There

are no schools, hospitals, or local parks in the immediate area where turbines and construction / decommissioning related activities are proposed, as the area is primarily rural in nature. The majority of emissions associated with this alternative would occur during construction and decommissioning. Residents and business owners within approximately 2,000 feet of construction activities are anticipated to be subject to an increased amount of air quality impacts than those in the surrounding areas. Construction and decommissioning related emissions are generally short-term in duration but can still cause adverse air quality impacts. Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs would substantially reduce construction emissions. This alternative is not anticipated to expose substantial pollutant concentrations on sensitive receptors. Impacts are less than significant.

Operation and Maintenance

This alternative would emit the same amount of emissions as the proposed project resulting from vehicle use associated with maintenance, repair, and inspection of the project components. Operational emissions associated with this alternative would be negligible and would not expose sensitive receptors to substantial pollutant concentrations. A less than significant impact is identified.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

Construction, Operation and Maintenance, and Decommissioning

The project would have on-going and long-term beneficial impacts due to the creation of new, clean renewable wind energy generation at the project site. The operation this alternative would provide a renewable energy source and direct net decrease in GHG emissions from power plants. Impacts are less than significant.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

Construction, Operation and Maintenance, and Decommissioning

This alternative does not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. No impacts are identified.

This alternative would have the same level of impacts to air quality as the proposed project.