Section 4.3

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4.3 AIR QUALITY

This section describes the air quality resources in the project area and discusses the affected environment and regulatory setting for air quality. Potential impacts and alternatives are discussed.

4.3.1 Applicable Laws, Regulations, and Standards

The U.S. Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 and 2.5 microns (PM_{10} and $PM_{2.5}$, respectively), and lead. The EPA has jurisdiction over emissions sources that are under the authority of the federal government, including large sources within air quality attainment areas, aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf).

The California Air Resources Board (CARB) is responsible for ensuring the implementation of the California Ambient Air Quality Standards (CAAQS) and portions of the federal Clean Air Act, as well as regulating emissions from consumer products and motor vehicles. CARB established CAAQS for all pollutants for which the federal government has NAAQS, which are as stringent as or more stringent than the federal standards, and has set standards for vinyl chloride, hydrogen sulfide, sulfates, and visibility. CARB has developed emission standards for vehicles sold in California and also has set fuel specifications for vehicular use to further reduce emissions from mobile sources. Although it has no direct regulatory approval authority over the Proposed Project, CARB has oversight over the local jurisdictions to administer both California and federal air quality regulations.

As set-forth by the California Clean Air Act, CARB is mandated to achieve of the maximum degree of emission reductions possible from vehicular and other mobile sources in order to attain the CAAQS by the earliest practical date.

The review of the project description indicates that most equipment would be mobile or portable. Portable equipment would comply with the CARB Portable Equipment Registration Program. Emissions that would be generated from this project consist of criteria combustion pollutants and fugitive dust emissions.

California also has established the Air Toxics “Hot Spots” Information and Assessment Act (AB2588), which requires operators of certain stationary sources to inventory air toxic emissions from their operations and, if directed to do so by the local air district, prepare a health risk assessment to determine the potential health impacts of such emissions. If the health impacts are determined to exceed significant thresholds for carcinogenic risk (greater than 10 in a million) and non-carcinogenic health effects (greater than one), each facility must provide public notification to affected individuals.

The project area lies within Riverside County and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for air quality planning in the basin and developing the Air Quality Management Plans (AQMPs) for areas in non-attainment of the NAAQS or CAAQS. The AQMPs establish the strategies that would be used to bring the region into compliance with the NAAQS and CAAQS in all areas within SCAQMD’s jurisdiction. The SCAQMD generally regulates stationary sources of air pollutants through the application of permits, fees, and prohibitions.

In addition to the CAAQS, the State of California has implemented Executive Order S-03-05, issued by Governor Schwarzenegger, to reduce greenhouse gas (GHG) emissions (e.g., CO_2, methane) over various timeframes. This process led to the passage of Assembly Bill 32 (AB32), the Global Warming Solutions Act of 2006, which requires CO_2 emissions to be reduced from various sectors such as transportation (e.g., motor vehicles), natural gas usage, and electricity generation.

GHG emissions are not yet required to be evaluated under current CEQA regulations, so no threshold criteria exist. However, a discussion of GHG emissions is presented here for informational purposes only, in anticipation of future requirements. Minimal short-term emissions would occur during the Proposed Project's construction activities, and minimal long-term emissions would occur as a result of operation and maintenance of the Proposed Project.

GHG emissions from construction activities would be expected from fuel combustion in the on-site equipment and on-road vehicles. The most common combustion-related GHG pollutants are CO_2, nitrous oxide (N_2O), and methane. Less than 2800 tons of CO_2 are expected to be emitted from the Proposed Project's construction activities, less than 60 tons of N_2O (CO_2 equivalent), and less than 3 tons of methane (CO_2 equivalent).

Minimal sulfur hexafluoride emissions would be expected as a result of unintended leakage from transformers, breakers, and other equipment within substations associated with the Proposed Project. Sulfur hexafluoride is an insulating gas within the equipment that can leak out as a result of design, operation, maintenance, or equipment failure.

Circuit breakers are the only new equipment identified in the Proposed Project that may contain sulfur hexafluoride. At this time, SCE anticipates installing 19 new circuit breakers, each containing approximately 50 to 150 pounds of sulfur hexafluoride and totaling approximately 1,500 pounds. Historically, emission rates may have exceeded 6 percent per year but they have been reduced significantly, due to new field maintenance policies and new equipment designs. In contrast, the leakage rate for the new circuit breakers installed as part of the Proposed Project would be estimated to be less than 1 percent per year of the total sulfur hexafluoride contained in the equipment. Therefore, the estimated sulfur hexafluoride emission rate from the new equipment would be less than 15 pounds per year.

No CEQA guidelines currently exist regarding GHG emissions. However, because the combustion emissions and sulfur hexafluoride emissions would be minimal for the Proposed Project, the GHG emissions from the Proposed Project would not likely contribute significantly to the overall regional or global emissions.

4.3.2 Significance Criteria

Under the CEQA, impacts to air quality are considered potentially significant 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 classified as non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

The SCAQMD has defined significance criteria for construction and operational activities that meet the compliance of CEQA for the region within its jurisdiction and includes criteria for criteria pollutant emissions, toxic air contaminants, odor thresholds, and ambient air quality. Table 4.3-1: SCAQMD Air Quality Significance Thresholds, summarizes these criteria. In addition, Table 4.3-2: Local Significance Thresholds lists the SCAQMD local and regional significance thresholds.

As seen from the table, significant impacts are defined as:

- Criteria pollutant emissions (including oxides of nitrogen [NO_x], volatile organic compounds [VOC], PM_{10}, $PM_{2.5}$, oxides of sulfur [SO_x], CO, and lead) exceeding the emission thresholds for daily construction or operational activities shown in Table 4.3-1;
- Toxic Air Contaminant (TAC) emissions resulting in an off-site cancer risk of greater than 10 in a million (for carcinogenic compounds) or a hazard index greater than one (for non-carcinogenic compounds);
- Odor levels that adversely affect 10 or more complainants and are verified by SCAQMD;
- Predicted NO_2, PM_{10}, $PM_{2.5}$, CO, or sulfate off-site concentrations that exceed the limits defined in Table 4.3-1;
- Estimated Emissions of NO_x, PM_{10}, $PM_{2.5}$, and CO that exceed the limits defined the Table 4.3-2.

TABLE 4.3-1
AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds[1]		
Pollutant	**Construction**[2]	**Operation**[3]
NO_x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM_{10}	150 lbs./day	150 lbs./day
$PM_{2.5}$	55 lbs./day	55 lbs./day
SO_x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day
Lead	3 lbs./day	3 lbs./day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants[4]		
NO_2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 parts per million (ppm) (state) 0.053 ppm (federal)	
PM_{10} 24-hour average annual geometric average annual arithmetic mean	10.4 micrograms per cubic meter ($\mu g/m^3$) (construction)[5] and 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$ 20 $\mu g/m^3$	

TABLE 4.3-1 AIR QUALITY SIGNIFICANCE THRESHOLDS	
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[e] and 2.5 μg/m^3 (operation)
Sulfate 24-hour average	25 μg/m^3
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)

[1] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[2] Construction thresholds apply to both the South Coast Air Basin (SCAB) and Coachella Valley (Salton Sea and Mojave Desert air basins).
[3] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[4] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
[5] Ambient air quality threshold based on SCAQMD Rule 403.

TABLE 4.3-2
LOCAL SIGNIFICANCE THRESHOLDS (lbs./day)

Distance to Receptor (m)	CO (lbs./day)	NO_x (lbs./day)	PM_{10} (lbs./day)	$PM_{2.5}$ (lbs./day)
25	845	220	4	3
50	1328	277	13	5
100	2422	396	35	10
200	5,687	627	80	24
500	23,061	1,221	214	105

Note: Used Source Receptor Area (SRA) #30, 1 acre site.

4.3.3 Applicant Proposed Measures

SCE proposes the following APMs to minimize emissions from the Proposed Project. The impact analysis assumes that the applicable APMs would be implemented to reduce Air Quality impacts as discussed below.

AQ-1. Control Exhaust Emissions. Use ultra-low sulfur diesel fuel (e.g., fewer than 15 parts per million).

AQ-2. Control Exhaust Emissions. Use of clean-burning on- and off-road diesel engines. Where feasible, heavy duty diesel-powered construction equipment manufactured after 1996 (with federally mandated "clean" diesel engines) will be utilized.

AQ-3. Control Exhaust Emissions. Construction workers will carpool when possible.

AQ-4. Control Exhaust Emissions. Restrict vehicle idling time to less than 10 minutes whenever possible.

AQ-5. Control Exhaust Emissions. Properly maintain mechanical equipment.

AQ-6. Minimize Diesel Particulate Matter. Use particle traps and other appropriate controls to reduce diesel particulate matter (DPM) where possible. Utilize equipment such as specialized catalytic converters (oxidation catalysts) to control approximately 20 percent of DPM, 40 percent of CO, and 50 percent of hydrocarbon emissions.

AQ-7. Fugitive Dust Control Measures. Implement feasible fugitive dust control measures as provided in SCAQMD Rule 403.

AQ-8. Construction Operations. As feasible, restrict construction operations during the morning hours and during high wind events, when NO_X emissions are more likely to contribute to O_3 formation.

AQ-9. Construction Scheduling. Efficiently schedule staff and daily construction activities to minimize the use of unnecessary/duplicate equipment when possible.

AQ-10. Emissions Reduction. To reduce simultaneous project-related NO_x, PM_{10}, and $PM_{2.5}$, emissions from on- and off-road heavy construction equipment, given the constraints of the construction schedule, SCE shall phase project construction, to the extent feasible, so that off-site disposal of excavated material from Proposed Project area grading and excavation does not occur simultaneously with transmission and subtransmission line and substation construction or upgrade activity (including, but not limited to, access road grading, excavation for tower and pole bases, crane pads, tower and pole delivery, or tower and pole erection). During transmission and subtransmission line construction, SCE shall phase the project construction schedule, to the extent feasible, so that grading and excavation for site access, tower and pole bases, or crane pads do not occur simultaneously with tower or pole delivery or erection.

4.3.4 Environmental Setting

The environmental setting for this chapter describes the baseline conditions relating to the existing air quality for the Proposed Project.

The proposed 220 kV transmission line loop-in to Mirage Substation, Proposed Mirage-Santa Rosa 115 kV Subtransmission Line (Route 4) and substation equipment installation and upgrades at Mirage Substation are located within the same airshed, for the most part north of I-10. For the purpose of evaluating baseline conditions, the above-mentioned Proposed Project elements constructed in the Mirage-Santa Rosa project area (see Figure 2.4: Mirage 115 kV Subtransmission System – Proposed and Alternative Routes) are conflated with the Proposed Farrell-Garnet 115 kV Subtransmission Line (Route 1), equipment installation and upgrades at Devers, Eisenhower, Farrell, and Tamarisk substations, as well as with the relay installation and upgrades at Concho, Garnet, Indian Wells, and Thornhill substations and at Edom Hill Communications Station and Palm Springs Service Center (the work at these substations and telecommunications buildings are inside existing buildings at the respective sites).

Existing Conditions

Climate and Meteorology

The project is located in the Salton Sea Air Basin (SSAB) of Riverside County and is separated from the South Coast Air Basin (SCAB) region of SCAQMD jurisdiction by the San Jacinto Mountains, and from the Mojave Desert Air Basin, to the east, by the Little San Bernardino

Mountains. During the summer, the SSAB generally is influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The SSAB is rarely influenced by cold air masses moving south from Canada and Alaska, because these systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The SSAB averages between 3 and 7 inches of precipitation per year. The SSAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures exceeding 100 degrees Fahrenheit.

Regional Air Quality

The SCAQMD conducts routine air-quality measurement programs throughout its jurisdictional area. The nearest station to the Proposed Project is the SCAQMD Palm Springs Monitoring Station, which measures ambient O_3, NO_2, CO, PM_{10}, and $PM_{2.5}$ concentrations. The closest station that measures ambient SO_2 concentrations is the Rubidoux Monitoring Station, which is representative of all Riverside County for this pollutant. Tables 4.3-3 through 4.3-7 summarize the ambient levels from 2004 through 2006, the most recent air quality data readily available. Table 4.3-8 summarizes the current CAAQS and NAAQS.

TABLE 4.3-3
AMBIENT OZONE LEVELS FROM THE PALM SPRINGS MONITORING STATION 2004 THROUGH 2006 (PPM)[1, 2]

Averaging Period	Palm Springs Monitoring Station		
	2004	2005	2006
Maximum 1-Hour Average	0.125	0.139	0.126
Number of Days Exceeding California 1-Hour Standard[3]	36	41	37
Maximum 8-Hour Average	0.106	0.116	0.109
Number of Days Exceeding California 8-Hour Standard[4]	55	63	67
Number of Days Exceeding Federal 8-Hour Standard[5]	32	35	23

[1] Data Source: CARB – ADAM (http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start).
[2] PPM = parts per million.
[3] The California 1-hour O_3 ambient air quality standard is 0.09 ppm.
[4] The California 8-hour O_3 ambient air quality standard is 0.07 ppm.
[5] The Federal 8-hour O_3 ambient air quality standard is 0.08 ppm.

TABLE 4.3-4
AMBIENT NITROGEN DIOXIDE LEVELS FROM THE PALM SPRINGS MONITORING STATION 2004 THROUGH 2006 (PPM)[1, 2]

Averaging Period	Palm Springs Monitoring Station		
	2004	2005	2006
Maximum 1-Hour Average	0.066	0.059	0.093
Number of Days Exceeding California 1-Hour Standard[3]	0	0	0
Annual Average[4]	0.013	0.012	0.010

[1] Data Source: CARB – ADAM (http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start).
[2] PPM = parts per million.
[3] The California 1-hour NO_2 ambient air quality standard is 0.25 ppm.
[4] The Federal annual average NO_2 ambient air quality standard is 0.053 ppm.

TABLE 4.3-5 AMBIENT CARBON MONOXIDE LEVELS FROM THE PALM SPRINGS MONITORING STATION 2004 THROUGH 2006 (PPM)[1, 2]			
Averaging Period	**Palm Springs Monitoring Station**		
	2004	**2005**	**2006**
Maximum 1-Hour Average	2	2	2
Number of Days Exceeding California 1-Hour Standard[3]	0	0	0
Number of Days Exceeding Federal 1-Hour Standard[4]	0	0	0
Maximum 8-Hour Average	0.80	0.80	0.65
Number of Days Exceeding California 8-Hour Standard[5]	0	0	0

[1] Data Source: CARB – ADAM (http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start).
[2] PPM = parts per million.
[3] The California 1-hour CO ambient air quality standard is 20.0 ppm.
[4] The Federal 1-hour CO ambient air quality standard is 35.0 ppm.
[5] The California 8-hour CO ambient air quality standard is 9.0 ppm, which is the same as the federal 8-hour standard.

TABLE 4.3-6 AMBIENT SULFUR DIOXIDE LEVELS FROM THE RUBIDOUX MONITORING STATION 2004 THROUGH 2006 (PPM)[1, 2]			
Averaging Period	**Rubidoux Monitoring Station**		
	2004	**2005**	**2006**
Maximum 1-Hour Average	0.02	0.02	0.01
Number of Days Exceeding California 1-Hour Standard[3]	0	0	0
Maximum 24-Hour Average	0.015	0.011	0.004
Number of Days Exceeding California 24-Hour Standard[4]	0	0	0
Number of Days Exceeding Federal 24-Hour Standard[5]	0	0	0
Annual Average[6]	0.003	0.003	0.001

[1] Data Source: CARB – ADAM (http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start).
[2] PPM = parts per million.
[3] The California 1-hour SO_2 ambient air quality standard is 0.25 ppm.
[4] The California 24-hour SO_2 ambient air quality standard is 0.04 ppm.
[5] The Federal 24-hour SO_2 ambient air quality standard is 0.14 ppm.
[6] The Federal annual average SO_2 ambient air quality standard is 0.03 ppm.

TABLE 4.3-7 AMBIENT PARTICULATE LEVELS FROM THE PALM SPRINGS MONITORING STATION 2004 THROUGH 2006 (ug/m^3) [1, 2]			
	Palm Springs Monitoring Station		
Averaging Period	**2004**	**2005**	**2006**
PM_{10}			
Maximum 24-Hour Average	79.0	66.0	122.0
Number of Days Exceeding California 24-Hour Standard[3]	2	2	3
Number of Days Exceeding Federal 24-Hour Standard[4]	0	0	1
Annual Average[5, 6]	26.4	25.9	24.5
$PM_{2.5}$			
Maximum 24-Hour Average	27.1	26.1	24.7
Number of Days Exceeding Federal 24-Hour Standard[7]	0	0	0
Annual Average[8, 9]	10	8.4	9.0

[1] Data Source: CARB – ADAM (http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start).
[2] ug/m^3 = micrograms per cubic meter.
[3] The California 24-hour PM_{10} ambient air quality standard is 50 ug/m^3.
[4] The Federal 24-hour PM_{10} ambient air quality standard is 150 ug/m^3.
[5] The California annual average PM_{10} ambient air quality standard is 20 ug/m^3.
[6] The Federal annual average PM_{10} ambient air quality standard is 50 ug/m^3.
[7] The Federal 24-hour $PM_{2.5}$ ambient air quality standard is 35 ug/m^3.
[8] The Federal annual average $PM_{2.5}$ ambient air quality standard is 15 ug/m^3.
[9] The California annual average $PM_{2.5}$ ambient air quality standard is 12 ug/m^3.

As seen in Table 4.3-3: Ambient Ozone Levels from the Palm Springs Monitoring Station 2004 through 2006, ambient O_3 levels exceed the California daily maximum 1-hour standard from 36 to 41 per year between 2004 and 2006. Similarly, the ambient 8-hour average O_3 levels also exceed the California 8-hour standard 55 to 67 days per year for the 3-year period. However, the newly promulgated federal 8-hour standard has been exceeded between 32 to 35 days per year over the same 3-year period. Wind-blown smog originating in the SCAB, which includes the Los Angeles Basin and Orange County, is a primary source of the O_3 air pollution measured within the Riverside area.

The ambient 24-hour PM_{10} concentrations at the Palm Springs Station have shown few exceedances of the CAAQS, occurring between 2 and 3 days per year. However, it should be noted that the ambient levels have been below federal PM_{10} and $PM_{2.5}$ NAAQS for the 3-year period. Annual averages for PM_{10} and $PM_{2.5}$ have been below all applicable state and federal standards.

The maximum short-term and annual averages for NO_2, SO_2, and CO all show maximum levels below their respective CAAQS and NAAQS thresholds (from 2004 through 2006).

TABLE 4.3-8
SUMMARY OF NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Ozone (O_3)	1 hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 hours	0.070 ppm (137 µg/m^3)		0.08 ppm (157 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 hours	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)	24 hours	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 hours (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	—	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 hour	0.25 ppm (470 µg/m^3)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 hours	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3 hours	—		—	0.5 ppm (1,300 µg/m^3)	
	1 hour	0.25 ppm (655 µg/m^3)		—	—	—
Lead[8]	30 day average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	—	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles	8 hours	Extinction coefficient of 0.23 per kilometer - visibility 10 miles or more due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 hours	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[8]	24 hours	0.01 ppm (26 µg/m^3)	Gas Chromatography			

[1] California standards for O_3, CO, SO_2 (1 and 24 hours), NO_2, suspended PM (PM_{10}, $PM_{2.5}$,), and visibility reducing particles, are values that are not be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

TABLE 4.3-8 SUMMARY OF NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS						
Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]

[2] National standards (other than O_3, PM, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.
[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25° C and a reference pressure of 760 Torr. Most measurements of air quality are to be corrected to a reference temperature of 25° C and a reference pressure of 760 Torr. PPM in this table refers to parts per million, or micromoles of pollutant per mole of gas.
[4] Any equivalent procedure which can be shown to the satisfaction of the EPA Standards Review Board to give equivalent results at or near the level of the air quality standard may be used.
[5] National Primary Standards: the levels of air quality necessary, with an adequate margin of safety to protect the public health.
[6] National Secondary Standards: the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[7] Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
[8] The CARB has identified lead and vinyl chloride asTACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
Source: http://www.arb.ca.gov/research/aaqs/aaqs.htm

4.3.5 Impact Analysis

Construction Impacts

Construction activities would create fugitive dust emissions from earth-moving and grading and combustion exhaust emissions from heavy construction equipment. Construction emissions would be generated during installation of the two new Farrell-Garnet and Mirage-Santa Rosa subtransmission line segments, installation of the new transmission line loop-in, modifications to other subtransmission line segments, substation construction, and upgrading of telecommunications equipment.

Fugitive dust emissions were calculated using emission factors from the EPA document AP-42, which is a compilation of emission factors for various industrial activities. In addition, AP-42 provides a grading fugitive dust factor of 80 pounds per acre for general site preparation and earth-moving activities. For road travel fugitive dust emissions, regular watering of exposed dirt areas was assumed to reduce emissions by 50 percent. For grading on substation sites, a control efficiency of 60 percent was assumed (SCAQMD 1993).

Combustion emission factors for heavy construction equipment were obtained from the updates to the SCAQMD Air Quality Handbook, Off-Road Emissions Sources (http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html). The SCAQMD Air Quality Handbook also contains emissions factors from EMFAC 2007, which were used for on-road trucks and worker vehicles (http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html). Helicopter emissions factors were obtained from Procedures for Emission Inventory Preparation, Volume IV, Mobile Sources (EPA, 2001). The factors from the T53-L-11D helicopter engine (listed in said volume, Table 5-7), assuming the non-rated approach fuel use and emission factors, were selected to best represent the emissions from the helicopter proposed for this project. The fuel usage was projected at 10.75 pounds per minute or 645 pounds per hour.

Emissions were calculated on a daily basis for comparison to the SCAQMD significant emissions thresholds. The SCAQMD has two sets of thresholds: one for regional, project-wide emissions, and one for localized impacts to sensitive receptors (the local significance thresholds). The regional thresholds are for evaluation of project-wide impacts to the air basin's emissions budget, and the local significance thresholds are for evaluating the impacts of specific project activities that might cause an excess of an air quality standard at a nearby receptor.

Daily emissions were estimated based on assumed activities occurring within a single day, because significance thresholds are given on a daily basis. It was assumed that construction would occur in different phases, some of which would overlap. The daily emissions from road-grading would not occur at the same time as daily emissions from other construction activities. See APM-AQ-9 and APM-AQ-10.

Fugitive dust and combustion emissions from each of the activities are described below. SCAQMD and local emissions and significance thresholds are summarized in Tables 4.3-1: SCAQMD Air Quality Significance Thresholds and 4.3-2: Local Significance Thresholds, respectively. Detailed emissions calculations are provided in Appendix F: Air Quality Calculations.

Devers-Coachella Valley 220 kV Transmission Line Loop-In

The Proposed Devers-Coachella Valley 220 kV Loop-In would involve pole and transmission line removal and installation. These activities would create fugitive dust and combustion emissions, from activities similar to those described above for the subtransmission lines, and emissions were calculated based on a schedule of activities and equipment provided in the Chapter 3: Project Description. Fugitive dust and combustion emissions from construction of the proposed 220 kV transmission line loop-in are summarized in Table 4.3-9: Maximum Daily Construction Emissions Summary below.

Proposed 115 kV Subtransmission Lines

Construction of the Proposed Farrell-Garnet 115 kV Subtransmission Line (Route 1) and the Proposed Mirage-Santa Rosa 115 kV Subtransmission Line (Route 4) and the required reconfigurations of 115 kV subtransmission line connections would generate fugitive dust and combustion emissions from the following activities:

- Grading and preparation of access roads
- Travel on unpaved and paved access roads
- Hole-digging for pole installation
- Pole installation and upgrading

It was assumed that 10 holes per day would be installed and/or removed for purposes of fugitive dust emissions calculations. Some segments of the proposed subtransmission lines pass near residences, and SCAQMD local significance thresholds were used to evaluate the significance of the impact from these activities on nearby residences. It was assumed the closest residence along any line was within 25 meters, which is the minimum distance given for evaluating local significant impacts, according to the SCAQMD CEQA Guidelines. A subtransmission line segment of 500 meters was used to represent the area of activities that would affect a given residence.

Combustion emissions were calculated based on the number of equipment used and daily hours of use, which are summarized in Chapter 3: Project Description. It was assumed that each piece of equipment would be active on a given day. Fugitive dust emissions from roadway travel were based on the longest distance traveled in a given day for pole installation along the proposed subtransmission lines. A certain portion of the access roads were assumed paved and a certain portion unpaved, based on the characteristics of the access roads already existing in the project area. A control efficiency of 50percent for this source type was assumed for regular watering of exposed surfaces (SCAQMD 1993). Combustion and fugitive dust emissions for each of the subtransmission lines and segments are summarized in Table 4.3-9: Maximum Daily Construction Emissions Summary below.

Proposed Substation Upgrades

Fugitive dust and combustion emissions would be generated during site grading for construction and modifications to the substations. The SCAQMD factor of 80 pounds per acre was used to estimate emissions fugitive dust emissions, assuming a 60percent control efficiency for twice daily watering for this source type. Fugitive dust emissions were calculated for each substation, based on the area undergoing construction. The Mirage Substation construction involves the largest area, roughly 1 acre. For each substation, it was assumed that earth-moving would take place on the entire footprint on a given day.

Heavy construction equipment emissions were calculated using equipment information provided in the Project Description. Table 4.3-9: Maximum Daily Construction Emissions Summary summarizes the fugitive dust and combustion emissions for each substation.

Telecommunications Equipment Upgrade

All telecommunications equipment would be installed within existing buildings; thus emissions associated with telecommunications equipment installation primarily would be combustion emissions from equipment used for the installation. This would require vehicles to access each individual pole, separate from the proposed subtransmission line construction activities. Combustion and fugitive dust emissions from trucks installing telecommunications equipment were calculated using the methodology for subtransmission line travel and are summarized below in Table 4.3-9: Maximum Daily Construction Emissions Summary.

Summary of Activities and Emissions

The following table (Table 4.3-9) summarizes the construction emissions for all construction activities involved in the Proposed Project.

TABLE 4.3-9 MAXIMUM DAILY CONSTRUCTION EMISSIONS SUMMARY						
Construction Phase	Maximum Emissions (lbs./day)					
	CO	NO_x	VOC	SO_x	PM_{10}	$PM_{2.5}$
Transmission Loop-in Line						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	119.29	23.81
Onsite Vehicle Exhaust	57.84	146.20	13.75	0.17	7.04	1.46
Employee Vehicle Exhaust	6.33	0.66	0.65	0.01	0.05	0.03
Total	64.17	146.86	14.39	0.17	126.37	25.30
Subtransmission Line						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	196.56	40.82
Onsite Vehicle Exhaust	78.53	230.94	20.06	0.24	9.84	2.05
Employee Vehicle Exhaust	24.79	2.59	2.54	0.03	0.20	0.12
Total	103.32	233.53	22.59	0.27	202.60	42.99
Devers Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	11.85	2.51
Onsite Vehicle Exhaust	21.48	44.77	5.21	0.05	2.26	0.47
Employee Vehicle Exhaust	3.16	0.33	0.32	0.00	0.03	0.02
Total	24.64	45.10	5.54	0.05	14.13	2.99
Mirage Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	31.75	6.60
Onsite Vehicle Exhaust	51.96	119.57	13.43	0.12	6.05	1.26
Employee Vehicle Exhaust	12.13	1.27	1.24	0.01	0.10	0.06
Total	64.10	120.84	14.67	0.13	37.91	7.92
Concho Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Vehicle Exhaust	2.13	4.10	0.39	0.00	0.18	0.04
Employee Vehicle Exhaust	1.05	0.11	0.11	0.00	0.01	0.01
Total	3.19	4.21	0.50	0.01	0.19	0.04
Indian Wells Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Vehicle Exhaust	2.13	4.10	0.39	0.00	0.18	0.04
Employee Vehicle Exhaust	1.05	0.11	0.11	0.00	0.01	0.01
Total	3.19	4.21	0.50	0.01	0.19	0.04
Santa Rosa Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Vehicle Exhaust	2.13	4.10	0.39	0.00	0.18	0.04
Employee Vehicle Exhaust	1.05	0.11	0.11	0.00	0.01	0.01
Total	3.19	4.21	0.50	0.01	0.19	0.04
Eisenhower Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	11.94	2.23
Onsite Vehicle Exhaust	23.66	51.30	6.05	0.05	2.64	0.55
Employee Vehicle Exhaust	3.16	0.33	0.32	0.00	0.03	0.02
Total	26.82	51.63	6.38	0.06	14.60	3.09
Farrell Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	12.78	2.70
Onsite Vehicle Exhaust	23.66	51.30	6.05	0.05	2.64	0.55
Employee Vehicle Exhaust	3.16	0.33	0.32	0.00	0.03	0.02

TABLE 4.3-9 MAXIMUM DAILY CONSTRUCTION EMISSIONS SUMMARY						
Construction Phase	**Maximum Emissions (lbs./day)**					
	CO	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Total	26.82	51.63	6.38	0.06	15.45	3.27
Garnet Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	3.71	0.79
Onsite Vehicle Exhaust	2.13	4.10	0.39	0.00	0.18	0.04
Employee Vehicle Exhaust	1.05	0.11	0.11	0.00	0.01	0.01
Total	3.19	4.21	0.50	0.01	3.90	0.83
Thornhill Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	3.71	0.79
Onsite Vehicle Exhaust	2.13	4.10	0.39	0.00	0.18	0.04
Employee Vehicle Exhaust	1.05	0.11	0.11	0.00	0.01	0.01
Total	3.19	4.21	0.50	0.01	3.90	0.83
Tamarisk Substation Construction						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	0.13	0.03
Onsite Vehicle Exhaust	17.88	34.10	4.24	0.04	1.79	0.37
Employee Vehicle Exhaust	2.11	0.22	0.22	0.00	0.02	0.01
Total	19.99	34.32	4.46	0.04	1.93	0.41
Telecommunications Line						
Fugitive Dust Sources[1]	0.00	0.00	0.00	0.00	44.93	9.46
Onsite Vehicle Exhaust	20.37	62.28	5.65	0.06	2.98	0.62
Employee Vehicle Exhaust	2.11	0.22	0.22	0.00	0.02	0.01
Total	22.48	62.50	5.86	0.06	47.92	10.09

[1] Fugitive dust sources include emissions from general construction, on-/off-road construction equipment, and on-/off-road worker vehicles.

For the purposes of comparing construction emissions from the proposed 220 kV transmission line loop-in, the sub-transmission lines, and the telecommunication lines to the LST values, the maximum daily emissions values were "normalized" so that they would apply to one receptor rather than the entire project area. It was assumed that only emissions within 500 meters of the receptor would have a significant impact on the receptor. Therefore, maximum emissions from these three phases were divided by the ratio of the total distance for all the lines to the distance of the impact area (500 meters). The substation construction emissions were not normalized because they are localized in a single area. The maximum daily emission rate that would impact a single receptor is summarized below in Table 4.3-10: Construction Emissions Impacting a Single Receptor.

TABLE 4.3-10 CONSTRUCTION EMISSIONS IMPACTING A SINGLE RECEPTOR (lbs./day) [1, 2, 3]					
Construction Phase	**Distance to Receptor (m)**	**CO (lbs./day)**	**NO_x (lbs./day)**	**PM_{10} (lbs./day)**	**$PM_{2.5}$ (lbs./day)**
Transmission Line [2, 3]	25	2.00	3.81	3.35	0.67
Subtransmission Line [2, 3]	25	2.74	6.19	**4.58**	0.97
Devers Substation Construction	55	24.64	45.10	3.00	0.63
Mirage Substation Construction	30	64.10	120.84	**37.91**	**7.92**

TABLE 4.3-10 CONSTRUCTION EMISSIONS IMPACTING A SINGLE RECEPTOR (lbs./day) [1, 2, 3]					
Construction Phase	**Distance to Receptor (m)**	**CO (lbs./day)**	**NO_x (lbs./day)**	**PM_{10} (lbs./day)**	**$PM_{2.5}$ (lbs./day)**
Concho Substation Construction	20	3.19	4.21	0.19	0.04
Indian Wells Substation Construction	35	3.19	4.21	0.19	0.04
Santa Rosa Substation Construction	40	3.19	4.21	0.19	0.04
Eisenhower Substation Construction	50	26.82	51.63	3.48	0.73
Farrell Substation Construction	24	26.82	51.63	**4.32**	0.91
Garnet Substation Construction	39	3.19	4.21	0.19	0.04
Thornhill Substation Construction	10	3.19	4.21	0.19	0.04
Tamarisk Substation Construction	41	19.99	34.32	1.93	0.41
Telecommunication	25	0.60	1.66	1.07	0.23

[1] Values above the localized significance threshold (LST) are shown in **BOLD**.
[2] There was more than one receptor within 25 meters of the construction activities. For receptor distance equal to or less than 25 meters the most stringent LST values are applicable.
[3] Assume 500 meters (0.31 mile) of activity (11.7 miles total) would impact one receptor.

Based on the values above, the following activities would exceed the local significance thresholds at a nearby residential receptor for PM_{10} and $PM_{2.5}$:

- Construction at Mirage Substation
- Construction at Farrell Substation
- Construction of the subtransmission lines

For these areas, the localized impacts could expose sensitive receptors to substantial short-term particulate dust concentrations, depending upon the specific location, wind direction, and atmospheric conditions. Thus, localized construction emissions would have a significant impact on air quality. It should be noted that these construction emissions are temporary in nature, and no long-term impacts are likely to occur. None of the remaining activities would cause an excess of the LSTs, and they are not expected to expose sensitive receptors to substantial pollutant concentrations.

For the purposes of evaluating construction emissions to the regional thresholds, the maximum daily construction emissions from phases that would be scheduled to be done simultaneously were added together. These values, summarized in Table 4.3-11: Regional Construction Emissions, represent the maximum regional construction emissions. The following activities would cause an excess of the regional emissions thresholds:

TABLE 4.3-11 REGIONAL CONSTRUCTION EMISSIONS (lbs./day)							
Quarter	Construction Phases Occurring Simultaneously[1]	Combined Maximum Emissions (lbs./day)					
		CO	NO_x	VOC	SO_x	PM_{10}	$PM_{2.5}$
2nd Qtr., 2009	*Subtransmission Line (Mirage-Santa Rosa)*	103.3	**233.5**	22.6	0.3	**202.6**	43.0
3rd Qtr., 2009	*Mirage Substation Construction, Devers Substation Construction, Eisenhower Substation Construction*	115.6	**217.6**	26.6	0.2	66.6	14.0
3rd Qtr., 2009	*Mirage Substation Construction, Devers Substation Construction, Eisenhower Substation Construction, Subtransmission Line (Mirage-Santa Rosa-Tamarisk)*	218.9	**451.1**	49.2	0.5	**269.2**	**57.0**
3rd Qtr., 2009	*Mirage Substation Construction, Concho Substation Construction, Eisenhower Substation Construction, Subtransmission Line (Mirage-Santa Rosa-Tamarisk)*	197.4	**410.2**	44.1	0.5	**255.3**	54.1
4th Qtr., 2009	*Mirage Substation Construction, Concho Substation Construction, Farrell Substation Construction, Subtransmission Line (Mirage-Santa Rosa-Tamarisk)*	197.4	**410.2**	44.1	0.5	**256.1**	54.2
1st Qtr., 2010	*Mirage Substation Construction, Indian Wells Substation Construction, Farrell Substation Construction, Subtransmission Line (Mirage-Devers-Capwind-Tamarisk)*	197.4	**410.2**	44.1	0.5	**256.1**	54.2
1st Qtr., 2010	*Mirage Substation Construction, Indian Wells Substation Construction, Thornhill Substation Construction, Subtransmission Line (Mirage-Devers-Capwind-Tamarisk)*	134.8	**358.7**	34.3	0.4	16.3	3.4
1st Qtr., 2010	*Mirage Substation Construction, Indian Wells Substation Construction, Thornhill Substation Construction, Subtransmission Line (Mirage-Concho)*	173.8	**362.8**	38.3	0.4	**244.6**	51.8
1st Qtr., 2010	*Mirage Substation Construction, Santa Rosa Substation Construction, Thornhill Substation Construction, Subtransmission Line (Mirage-Devers-Capwind-Tamarisk)*	173.8	**362.8**	38.3	0.4	**244.6**	51.8
1st Qtr., 2010	*Mirage Substation Construction, Santa Rosa Substation Construction, Thornhill Substation Construction, Subtransmission Line (Mirage-Concho)*	173.8	**362.8**	38.3	0.4	**244.6**	51.8
2nd Qtr., 2010	*Mirage Substation Construction, Santa Rosa Substation Construction, Tamarisk Substation Construction, Subtransmission Line (Mirage-Concho)*	190.6	**392.9**	42.2	0.4	**242.6**	51.4
2nd Qtr., 2010	*Mirage Substation Construction, Garnet Substation Construction, Tamarisk Substation Construction, Subtransmission Line (Mirage-Concho)*	190.6	**392.9**	42.2	0.4	**246.3**	52.2
2nd Qtr., 2010	*Mirage Substation Construction, Garnet Substation Construction, Tamarisk Substation Construction, Transmission Line (Devers-Mirage #2)*	149.3	**302.1**	33.6	0.3	**166.2**	33.6

Quarter	Construction Phases Occurring Simultaneously[1]	Combined Maximum Emissions (lbs./day)					
		CO	NO_x	VOC	SO_x	PM_{10}	$PM_{2.5}$
2nd Qtr., 2010	*Transmission Line (Devers-Mirage #2, Coachella Valley-Mirage)*	64.2	**146.9**	14.4	0.2	126.4	25.3
MAXIMUM DAILY REGIONAL EMISSIONS		*218.9*	***451.1***	*49.2*	*0.5*	***269.2***	***57.0***

TABLE 4.3-11
REGIONAL CONSTRUCTION EMISSIONS (lbs./day)

[1] Based on schedule provided by SCE.

The maximum construction emissions are expected to occur during the third quarter of 2009. During this period, the following activities will be taking place:

- Mirage Substation Construction
- Devers Substation Construction
- Eisenhower Substation Construction
- Subtransmission Line Construction (Mirage-Santa Rosa-Tamarisk)

The construction emissions for NO_x, PM_{10}, and $PM_{2.5}$ generated during this time are above the regional thresholds that are presented in Table 4.3-1: SCAQMD Air Quality Significance Thresholds. Thus, the regional construction emissions could contribute to short-term existing or projected air quality exceedances. In addition, these emissions could contribute to cumulatively considerable net emission increases of NO_x or PM, which are non-attainment pollutants. Therefore, regional construction emissions would have a significant impact on air quality. The VOC, CO, SO_x, and construction emissions would be less than the regional thresholds, and therefore would not likely contribute to air quality exceedances or considerable net emission increases for these pollutants either individually or cumulatively. The construction of the Proposed Project would not conflict with SCAQMD plans because the Proposed Project would not induce growth, and thus would not conflict with the growth projections within any applicable plan. Also, construction of the Proposed Project would not create objectionable odors affecting a substantial amount of people.

Operational Impacts

The operation of the upgraded transmission lines would not result in long-term air emissions from any stationary sources. Intermittent vehicular emissions associated with maintenance and repair of the project components would be the only sources of air emissions during the operational phase. Operational emissions would be less than significant.

Summary of Proposed Project Air Quality Impacts, APMS and Construction Schedule Implications

The Proposed Project is forecasted to occur over a 15-month period, beginning in the second quarter of 2009, following the receipt of all project approvals, and to be completed by mid-2010. The prospective engineering, material procurement, and construction schedule for the major elements of the Proposed Project is shown in Figure 4.3-1: Devers-Mirage 115 kV Subtransmission System Split Project Construction Schedule The impact analysis assumes that the applicable APMs would be implemented to reduce air quality impacts.

Use of these APMs is expected to minimize emissions from the construction of this project; however, maximum daily construction emissions would not be reduced to a less than significant level. No viable mitigation measures for construction activities are available.

Operation of the Proposed Project would have a less than significant impact with APMs.

4.3.6 Alternatives

The alternatives under consideration for the environmental analysis include alternative routes for System Alternative A, which is the Proposed Project.

Construction

Air quality impacts would be mostly equivalent for any of the route alternatives in terms of daily maximum emissions, if daily equipment usage were to be the same for each route. However, there would be different daily maximum emissions between the Proposed Mirage-Santa Rosa 115 kV Subtransmission Line (Route 4) and Alternative Route 5, as discussed below. The SCAQMD regional and local significance thresholds that were used to evaluate air quality impacts are defined on a daily basis, and thus daily maximum emissions were calculated for comparison to those thresholds. Regardless of the route alternative selected for the Farrell-Garnet 115 kV subtransmission line, it is assumed that on any given day, only a certain amount of pole installation, removal, and foundation construction would be accomplished, and so the daily equipment used, distance traveled, and associated emissions are likely to be independent of the proposed or alternative route chosen (i.e., Route 1, Route 2, or Route 3).

With respect to localized impacts to residences near the routes, the Proposed Project analysis conservatively assumed a minimum distance of 25 meters for the applicable local significance threshold; thus impacts along an alternative route would not be any greater and would only be less if there was no residence within 25 meters of the alternative route.

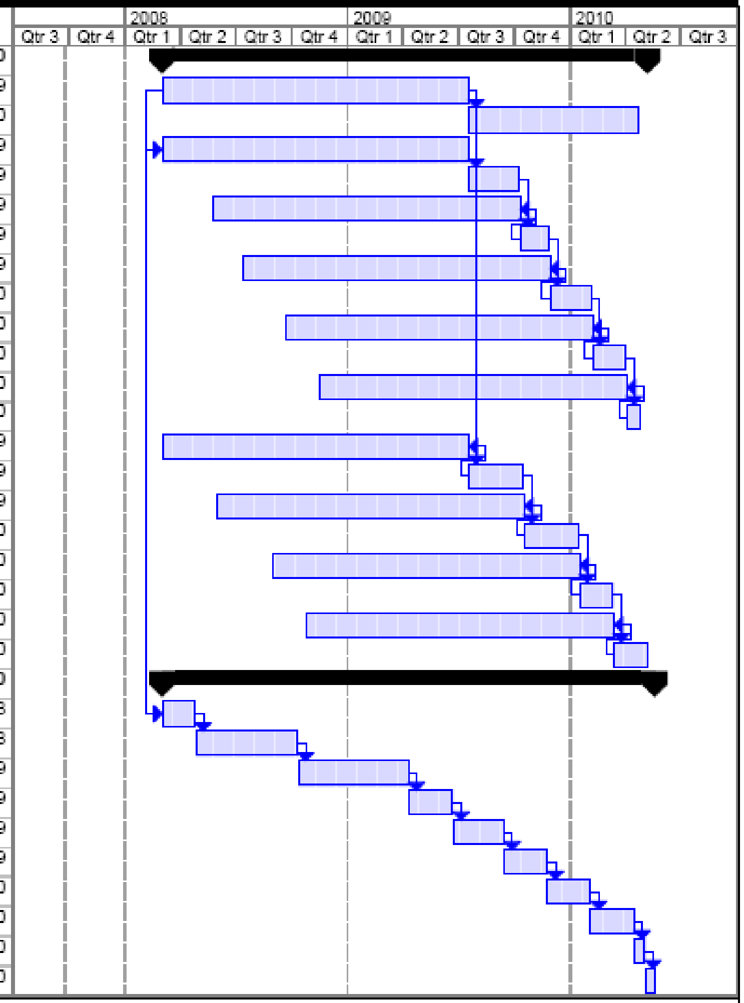
Farrell-Garnet 115 kV Subtransmission Line Route Alternatives (Route 2 and Route 3)

Since Alternative Routes 2 and 3 for the Farrell-Garnet 115 kV subtransmission line would be greater in length (approximately 6.0 miles and 6.5 miles, respectively) and would require more poles and conductor to be installed, the number of days on which construction would occur would be greater than for the Proposed Project, assuming the same level of daily construction activity would occur as for the Proposed Project.

Alternative Route 2 also would include the need to grade approximately 2.5 miles of new access roads, from Four Seasons Boulevard north to the top of Garnet Hill, where it would join the existing SCE Devers-Farrell-Windland 115 kV ROW. Finally, Alternative Route 2 would require the installation of 0.5 mile of underground subtransmission line facilities, between San Rafael Road to Four Seasons Boulevard, involving more construction equipment for this segment of Route 2. The additional equipment required for underground construction is discussed in depth below for Alternative Route 5.

Figure 4.3-1 Devers-Mirage 115 kV Subtransmission System Split Project Construction Schedule

ID	Task Name	Duration	Start	Finish
1	**Substation**	**570 days**	**Mon 3/3/08**	**Fri 5/7/10**
2	Mirage Engineering	18 mons	Mon 3/3/08	Fri 7/17/09
3	Mirage Construction	10 mons	Mon 7/20/09	Fri 4/23/10
4	Devers Engineering	18 mons	Mon 3/3/08	Fri 7/17/09
5	Devers	60 days	Mon 7/20/09	Fri 10/9/09
6	Concho Engineering	18 mons	Mon 5/26/08	Mon 10/12/09
7	Concho	35 days	Mon 10/12/09	Fri 11/27/09
8	Indian Wells	18 mons	Mon 7/14/08	Mon 11/30/09
9	Indian Wells	50 days	Mon 11/30/09	Fri 2/5/10
10	Santa Rosa Engineering	18 mons	Mon 9/22/08	Mon 2/8/10
11	Santa Rosa	40 days	Mon 2/8/10	Fri 4/2/10
12	Garnet Engineering	18 mons	Mon 11/17/08	Mon 4/5/10
13	Garnet	16 days	Mon 4/5/10	Mon 4/26/10
14	Eisenhower Engineering	18 mons	Mon 3/3/08	Mon 7/20/09
15	Eisenhower	65 days	Mon 7/20/09	Fri 10/16/09
16	Farrell Engineering	18 mons	Mon 6/2/08	Mon 10/19/09
17	Farrell	65 days	Mon 10/19/09	Fri 1/15/10
18	Thornhill Engineering	18 mons	Mon 9/1/08	Mon 1/18/10
19	Thornhill	40 days	Mon 1/18/10	Fri 3/12/10
20	Tamarisk Engineering	18 mons	Mon 10/27/08	Mon 3/15/10
21	Tamarisk	40 days	Mon 3/15/10	Fri 5/7/10
22	**Transmission/Subtransmission**	**578 days**	**Mon 3/3/08**	**Wed 5/19/10**
23	Survey	8 wks	Mon 3/3/08	Fri 4/25/08
24	Engineering	6 mons	Mon 4/28/08	Fri 10/10/08
25	Material	26 wks	Mon 10/13/08	Fri 4/10/09
26	Mirage-Santa Rosa	51 days	Mon 4/13/09	Mon 6/22/09
27	No Outages	3 mons	Tue 6/23/09	Mon 9/14/09
28	Mirage-Santa Rosa-Tamarisk	51 days	Tue 9/15/09	Tue 11/24/09
29	Mirage-Capwind-Devers-Tamarisk	51 days	Wed 11/25/09	Wed 2/3/10
30	Mirage-Concho	51 days	Thu 2/4/10	Thu 4/15/10
31	Devers-Mirage #2	12 days	Fri 4/16/10	Mon 5/3/10
32	Coachella Valley-Mirage	12 days	Tue 5/4/10	Wed 5/19/10



Project: Mirage system split
Date: Tue 9/25/07

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

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Alternative Route 3 would use existing SCE ROWs and franchise locations. Alternative Route 3 would require an additional 0.5 mile of ROW, which could require additional ground disturbance for grading a 30-foot-wide access road for the new subtransmission poles at the north end of Indian Canyon Road.

Accordingly, Alternative Routes 2 and 3 would have a similar impact due to construction activity and would have an increase in temporary fugitive dust emissions due, to the additional access roads that would be required for each alternative. Therefore, Alternative Routes 2 and 3 would have unavoidable significant air quality impacts from the estimated construction activities and additional access roads.

Mirage-Santa Rosa 115 kV Subtransmission Line Alternative (Route 5)

Alternative Route 5 would require approximately 1.9 miles of new underground 115 kV line, from Mirage Substation to the approximate location of the steel pole located on the north side of I-10 at Varner Road, east of Monterey Avenue, where the new line would cross to the south side of I-10, to connect to the existing idle 115 kV subtransmission line. The trench excavation, installation of new 115 kV conduit duct banks (this includes the PVC conduits and required concrete encasement), trench refill, compaction, and street resurfacing would cause more fugitive dust than the Proposed Mirage-Santa Rosa 115 kV Subtransmission Line (Route 4). Since Route 5 would have a significant section of underground 115 kV subtransmission line, the prospective daily construction activity would be dramatically different from Route 4, which would be an overhead 115 kV subtransmission line route in its entirety. The major construction activity differences between Route 4 and Route 5 would be the use of backhoe and compaction equipment to prepare and complete the trench, additional construction vehicles like dump trucks to remove soil displaced by the installation of 115 kV conduit duct banks, concrete trucks for the concrete required to create the 115 kV conduit duct banks, and the dump trucks to bring asphalt to temporarily and permanently resurface the streets.

Additionally, because Route 5 would impede traffic flow on major streets (Ramon Road, Monterey Avenue, and Varner Road) during the trenching, creation of the 115 kV conduit duct banks, and street resurfacing activities for approximately 1.9 miles, there would inevitably be an increase in vehicle emissions while traffic would be stopped to allow installation of the underground system to occur safely. Moreover, in the event that other existing underground utilities (water, sewer, natural gas, telephone, cable television, and IID distribution lines) are impacted by underground construction of Route 5, additional construction activities would be required, extending the duration. Underground construction would require additional equipment, such as small cranes, to place vertical support plates adjacent to these underground systems. Should this be required, temporary road closures and rerouting of local traffic around these excavation areas could be necessary, which would most likely increase vehicle emissions while the detour remains.

Accordingly, Alternative Route 5 would have a similar or greater impact due to daily construction activity and would have an increase in temporary fugitive dust emissions, due to the additional underground construction. Therefore, Alternative Route 5 would have an unavoidable significant air quality impact from the estimated construction activities.

Operational Impacts

Farrell-Garnet 115 kV Subtransmission Line Route Alternatives (Route 2 and Route 3)

There would be practically no change in long-term air quality impacts from the operation of the Proposed Project (Route 1) and Alternative Route 2, because both alternatives would be located on existing SCE ROWs and franchise locations that are not subject to drifting sandy soils, which, over time, could affect access to these lines. Route 1 would cross a small area of open desert, from the east side of Garnet Hill south to the west side of Gene Autry Trail. Access-road maintenance for the new LWS and TSP poles installed on Route 1 would be minimal compared to the maintenance of the 2.5 miles of access roads across the Whitewater River Floodplain required for Route 2. Thus, increased fugitive dust emissions would be greater on an annual basis for Route 2 versus Route 1. Additionally, the increased air quality impact for maintenance and inspection of the 0.5-mile segment of underground subtransmission line would be similar to those discussed below for Route 5.

Route 3 would incur less fugitive dust emissions due to maintenance and inspection of the LWS poles than Route 1 or Route 2, because Route 3 would be located primarily in existing franchise locations near paved streets.

Accordingly, the operation of Routes 2 and 3 would be less than significant with the implementation of APMs.

Mirage-Santa Rosa 115 kV Subtransmission Line Alternative (Route 5)

There are extreme differences between the operation of Proposed Mirage-Santa Rosa 115 kV Subtransmission Line (Route 4) and Alternative Route 5. Route 4 would be an overhead 115 kV subtransmission line route, would be patrolled annually, and would require physical access to each pole for required maintenance and inspection. However, Route 4 would be constructed within existing SCE ROWs and in franchise locations with other existing 115 kV lines, so no new ROWs would be required to perform this activity. Moreover, since patrol, maintenance, and inspection of the existing 115 kV subtransmission lines are already required, no incremental air quality impacts would occur from the operation of Route 4. Only if one of the new LWS or TSPs were required to be replaced in the future, would there be an incremental air quality impact as compared to Route 5.

Alternative Route 5 would require the inspection of underground cable and the connecting components every three years. This operating activity would require the blocking of vehicle traffic in the areas where the 115 kV vaults would be located on Ramon Road, Monterey Avenue, and Varner Road. Since the majority of the 115 kV subtransmission lines would be placed in the center of these three major streets, the operation, maintenance, and inspection of the alternative underground 115 kV subtransmission lines would result in increased vehicle emissions at the vault locations during maintenance and inspection activities.

The operation of Alternative Route 5 would be less than significant with the implementation of APMs.

Summary of Project Alternative Air Quality Impacts, APMs, and Construction Schedule Implications

The alternatives to the Proposed Project would implement the applicable APMs as defined in Section 4.3.-3: Applicant Proposed Measures. Use of these APMs would minimize emissions from the construction of the Project Alternatives; however, maximum daily construction emissions would not be reduced to a less than significant level. No other viable additional mitigation measures for construction activities are available. Project Alternative Routes 2 and 3 would have a similar impact due to construction activity as the Proposed Project and a similar increase in temporary fugitive dust emissions due to the additional access roads that would be required for each alternative. Alternative Route 5 would have a similar or greater impact due to construction than the Proposed Project and would have an increase in temporary fugitive dust emissions due to underground construction.

4.3.7 <u>References</u>

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