Section 3.3

3.3 AIR QUALITY

This section describes existing conditions and the potential air quality impacts associated with the construction and operation of the Proposed Project and alternatives.

3.3.1 Existing Conditions

The South Coast Air Quality Management District (SCAQMD) has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basins (Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties), the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Proposed Project is located within the South Coast Air Basin (Basin), which is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

Air pollutants within the Basin are generated by both stationary and mobile sources. The topography and climate of the Basin combine to make it an area of high smog potential. During the summer months, a warm air mass frequently descends over the lower, cool, moist marine air layer. The warm upper layer forms a cap over the marine layer and inhibits the air pollutants generated near the ground from dispersing upward. Light summer winds and the surrounding mountains further limit the horizontal disbursement of the pollutants. Concentrating volumes of pollutants in this manner allows the summer sunlight to generate high levels of smog. In the winter, cool ground temperatures and very light winds cause extremely low inversions and air stagnation that trap carbon monoxide (CO) and oxides of nitrogen (NO_x) during the late night and early morning hours. On days when no inversions occur, or when winds average 25 miles per hour or more, there would be no major smog effects. A summary of local climatic conditions is provided later in this section.

Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the air basin, and the meteorological conditions. The Basin has low mixing heights and light winds, which are conducive to the accumulation of air pollutants. The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to national and state standards. The criteria pollutants for which federal and state standards have been developed and that are most relevant to air quality planning and regulation in the Basin are ozone (O_3), CO, fine suspended particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). The state and national ambient air quality standards for each of the monitored pollutants are summarized in Table 3.3-1, Ambient Air Quality Standards.[1]

[1] South Coast Air Quality Management District. Draft Environmental Assessment for: Proposed Amended Rule 2202 – On-Road Motor Vehicle Mitigation Options (Diamond Bar, California: South Coast Air Quality Management District, November 2003), p. 3-1. This report may be found on the SCAQMD website at: <http://www.aqmd.gov/ceqa/documents/2003/aqmd/draftea/2202/revisedea/rdea.doc>.

To monitor the concentrations of the criteria pollutants, the SCAQMD has divided the Basin into source receptor areas (SRAs) in which its 33 air quality monitoring stations are operated. The Proposed Project is located within SRA 29, which encompasses the northwestern portion of Riverside County. The station that monitors this SRA is located at the Banning Airport. This station presently only monitors pollutant concentrations of O_3, NO_2, and PM_{10}.[2] Monitored concentrations of $PM_{2.5}$, sulfur oxides (SO_x), and CO were obtained from the second closest monitoring station to the project area, in Palm Springs.

TABLE 3.3-1
AMBIENT AIR QUALITY STANDARDS

Air Pollutant	Concentration/Averaging Time	
	State Standard	**Federal Primary Standard**
Ozone	0.09 ppm, 1-hr. avg.	0.12 ppm, 1-hr avg. (revoked on 6/15/05) 0.08 ppm, 8-hr avg. (3-year average of annual 4th-highest daily maximum)
Carbon Monoxide	9 ppm, 8-hr avg. 20 ppm, 1-hr avg.	9 ppm, 8-hr avg. 35 ppm, 1-hr avg.
Nitrogen Dioxide	0.25 ppm, 1-hr avg.	0.053 ppm, annual arithmetic mean
Sulfur Dioxide	0.04 ppm, 24-hr avg. 0.25 ppm, 1-hr. avg.	0.030 ppm, annual arithmetic mean of 0.14 ppm, 24-hr avg.
Suspended Particulate Matter (PM_{10})*	20 µg/m^3, annual arithmetic mean 50 µg/m^3, 24-hr avg.	50 µg/m^3, annual arithmetic mean 150 µg/m^3, 24-hr avg.
Suspended Particulate Matter ($PM_{2.5}$)*	12 µg/m^3, annual arithmetic mean	15 µg/m^3, annual arithmetic mean (3-year average) 65 µg/m^3, 24-hr avg. (3-year average of 98th percentile)
Sulfates	25 µg/m^3, 24-hr avg.	None
Lead*	1.5 µg/m^3, 30-day avg.	1.5 µg/m^3, calendar quarterly average
Visibility-Reducing Particles	In sufficient amount to reduce the visual range to less than 10 miles at relative humidity less than 70%, 8-hour average (10 AM – 6 PM)	None
Hydrogen Sulfide	0.03 ppm, 1-hr avg.	None
Vinyl Chloride*	0.01 ppm, 24-hr avg.	None

Source: South Coast Air Quality Management District. Final Program Environmental Impact Report to the 2003 Draft AQMP (Diamond Bar, California: South Coast Air Quality Management District, August 2003), Table 3.1-1, p. 3.1-2. This report may be reviewed on the SCAQMD website at http://ww.aqmd.gov/ceqa/documents/2003/aqmd/finalEA/aqmp/AQMP_FEIR.html
µg/m^3 = micrograms per cubic meter.
ppm = parts per million by volume.

[2] As late as 1991, this station also monitored SO_x, pollutant concentrations for the Santa Clarita Valley. South Coast Air Quality Management District. 2003 AQMP. [Online] September 10, 2004. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix III, Tables A-4 – A-22.

* The ARB has identified lead and vinyl chloride as "toxic air contaminants" 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.

Table 3.3-2, Ambient Pollutant Concentrations Registered in SRA 29, lists the ambient pollutant concentrations registered and the exceedance of state and federal standards that have occurred at the Banning and Palm Springs monitoring stations from 2001 through 2005 data.

As shown, the monitored pollutant levels have registered values above state and federal standards for O_3 and PM_{10}. Ozone and PM_{10} can result in adverse health effects.[3] Concentrations of CO, $PM_{2.5}$, SO_x, and NO_x have not exceeded these standards within the project area between 2001 and 2005. Concentrations of the other two criteria pollutants, sulfur dioxide and lead, have not exceeded the standards anywhere within the Basin since 1990 and 1982, respectively.[4]

TABLE 3.3-2
AMBIENT POLLUTANT CONCENTRATIONS REGISTERED IN SRA 29

Pollutant	Standards[1,2]	2001	2002	2003	2004	2005
Banning Monitoring Station						
Ozone (O_3)						
Maximum 1-hour concentration monitored (ppm)		0.15	0.16	0.17	0.15	0.14
Maximum 8-hour concentration monitored (ppm)		0.13	0.13	0.15	0.12	0.13
Number of days exceeding federal 1-hour standard	>0.12 ppm	16	13	27	7	10
Number of days exceeding state 1-hour standard	>0.09 ppm	63	16	75	49	47
Number of days exceeding federal 8-hour standard	≥0.08 ppm	49	52	63	40	39
Nitrogen dioxide (NO_x)						
Maximum 1-hour concentration monitored (ppm)		0.24	0.15	0.09	0.08	0.07
Number of days exceeding state standard	>0.25 ppm 1-hour	0	0	0	0	0
Particulate Matter (PM_{10})						
Maximum 24-hour concentration ($\mu g/m^3$)		219	70	79	82	76
Number of samples exceeding federal standard	>150 $\mu g/m^3$	1	0	0	0	0
Number of samples exceeding state standard	>50 $\mu g/m^3$	7	6	9	7	6
Palm Springs Monitoring Station						
Particulate Matter ($PM_{2.5}$)						

[3] For example, exceedance of the PM_{10} standard may irritate eyes and can affect respiratory tract functions.
[4] South Coast Air Quality Management District. "2003 AQMP." [Online] September 10, 2004 <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix II, Attachment A, Tables A-17, A-18, A-21, and A-22.

TABLE 3.3-2 *(Continued)*
AMBIENT POLLUTANT CONCENTRATIONS REGISTERED IN SRA 29

Pollutant	Standards[1,2]	2001	2002	2003	2004	2005
Maximum 24-hour concentration (µg/m^3)		44.7	42.3	21.2	27.1	26.1
Number of samples exceeding federal standard	>65 µg/m^3	0	0	0	0	0
Sulfur dioxide (SO_x)[4]						
Maximum 24-hour concentration (ppm)		0.011	0.002	0.012	0.015	0.014
Number of samples exceeding federal standard	>0.14 ppm	0	0	0	0	0
Number of samples exceeding state standard	>0.04 ppm	0	0	0	0	0
Carbon monoxide (CO)						
Maximum 1-hour concentration monitored (ppm)		2.2	1.9	3.3	2.1	2.1
Maximum 8-hour concentration monitored (ppm)		1.5	1.2	1.3	1.0	1.0
Number of days exceeding federal 8-hr standard	≥9.5 ppm	0	0	0	0	0
Number of days exceeding state 8-hour standard	≥9.0 ppm	0	0	0	0	0

Sources: South Coast Air Quality Management District, Air Quality Data (for 2001 through 2005), Diamond Bar, California: South Coast Air Quality Management District, 2001, 2002, 2003, 2004, and 2005. California Air Resources Control Board. Air Quality Data Statistics (2005). [online] Accessed: May 19, 2006. www.arb.ca.gov/adam/welcome.html.

[1] Parts per million of air (ppm) by volume, micrograms per cubic meter of air (µg/m^3), or annual arithmetic mean (aam).

[2] Federal and state standards are for the same time period as the maximum concentration measurement unless otherwise indicated.

3.3.2 Significance Criteria

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 nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

3.3.2.1 SCAQMD Thresholds

As the agency principally responsible for comprehensive air pollution control in the Basin, the SCAQMD recommends that projects be evaluated in terms of air pollution control

thresholds established by the SCAQMD and published in the handbook. These thresholds were developed by the SCAQMD to provide quantifiable levels to which individual projects can be compared. The following quantifiable thresholds are currently recommended by the SCAQMD and were used to determine the significance of air quality impacts associated with the Proposed Project.

New and modified projects will often affect regional air quality both directly and indirectly. When determining the extent of a project's environmental impact and the significance of such an impact, the project should be compared to established thresholds of significance. The SCAQMD recommends that projects with construction-related emissions that exceed any of the following emissions thresholds be considered to present significant air quality impacts.

- 24.75 tons per quarter or 550 pounds per day of CO
- 2.5 tons per quarter or 75 pounds per day of volatile organic compounds (VOC)
- 2.5 tons per quarter or 100 pounds per day of NO_x
- 6.75 tons per quarter or 150 pounds per day of SO_x
- 6.75 tons per quarter or 150 pounds per day of PM_{10}

During construction, if any of the daily air pollutant thresholds identified above were exceeded as a result of the Proposed Project, then the air quality impacts would be considered significant.

3.3.2.2 Localized Significance Thresholds Methodology

In addition to the above-listed emission-based thresholds, the SCAQMD also recommends that the potential impacts on ambient air concentrations due to construction emissions be evaluated. This evaluation requires that anticipated air concentrations, determined using a computer-based air quality dispersion model, be compared to localized significance thresholds for PM_{10}, NO_2, and CO.[5] The significance threshold for PM_{10} represents the allowable increase in concentrations above background levels in the vicinity of the project that would not cause or contribute to an exceedance of the relevant ambient air quality standards. The SCAQMD Localized Significance Threshold Methodology includes "lookup tables" that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., not cause an exceedance of the applicable concentrations limits). The allowable emissions rates depend on 1) the SRA in which the project is located; 2) the size of the project site; and 3) the distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals).

The primary construction activity that would occur for the longest duration associated with the project would be construction occurring at the new substation site. As the construction

[5] SCAQMD, Final Localized Significance Threshold Methodology. Diamond Bar, California. June 2003.

associated with the substation would involve the disturbance of less than 5 acres on a daily basis, the construction emissions were compared to the Localized Significance Threshold for a 5-acre site. For a given SRA and project area, the allowable emission rates are then based on the distance to the nearest sensitive receptor. The distance to the nearest sensitive receptor of the proposed substation site would be approximately 700 feet (214 meters).[6] The project-specific localized significance thresholds for SRA 29 (Northwestern Riverside County) are presented in Table 3.3-3.

TABLE 3.3-3
LOCALIZED SIGNIFICANCE CRITERIA FOR SRA 29

Air Pollutant	Future Sensitive Receptors within Oak Valley Specific Plan
Particulate Matter (PM_{10})	424 lbs/day
Nitrogen Dioxide (NO_2)	976 lbs/day
Carbon Monoxide (CO)	9,365 lbs/day

Source: SCAQMD, Final Localized Significance Threshold Methodology. Diamond Bar, California. June 2003.

3.3.3 Proposed Project Impacts

None of the elements of the Proposed Project would generate odors that could potentially affect individuals in the immediate area. As a result, the Proposed Project would not cause an impact related to the creation of objectionable odors that could affect a substantial number of people. No further analysis is required related to the potential impacts associated with odor generation.

3.3.3.1 Construction Impacts

3.3.3.1.1 Methodology. Typical emission generation rates for different types of construction equipment were obtained from the SCAQMD handbook, the California Air Resources Board, and Appendices A and H from the *Software User's Guide [for] URBEMIS2002*. The handbook provides alternative methodologies for calculating emissions generated by all types of vehicles and equipment associated with construction activities. The methodologies identified can be classified into two categories: a detailed methodology and a generalized methodology. The detailed method of analysis applies to those situations where highly detailed and specific information is available regarding all aspects of the proposed construction activity, such as the daily number of construction employees working on the site, the number of trucks hauling materials to and from the site on a daily basis, and specific,

[6] Under existing conditions, the closest sensitive receptor is located farther from the proposed substation site. For purposes of this analysis, it is assumed that residences will be constructed on the northeast side of San Timoteo Canyon Road pursuant to the approved Oak Valley Specific Plan. Development of the specific plan area has commenced, however, the closest residences to the substation (700 feet away) have not yet been constructed.

numbers, types, and operating times of construction equipment used on a daily basis. The detailed methodology regarding emissions generated during construction activities is generally applicable for subdivisions for which grading and other infrastructure plans have been prepared. The number of locations where activities associated with the project would occur, limited information about the duration of equipment use, and the fact that operations associated with the project may vary depending site accessibility and environmental factors, make it difficult to precisely quantify the daily emissions associated with the proposed project. As such, the generalized methodology was used for this analysis.

This analysis conservatively identified daily emissions associated with the Proposed Project and emission calculation formulas provided in the *Software User's Guide [for] URBEMIS2002* for Windows with Enhanced Construction Module (April 2005).[7] These assumptions have been entered into the spreadsheets that are available for review in Appendix A. The assumptions used to generate a worst-case emissions scenario are identified below.

3.3.3.1.2 Construction Emissions. Construction activities associated with the Proposed Project would generate emissions through the following actions: 1) construction of the new El Casco Substation (Phases I and II); 2) loop-in of the 220 kV Line to the new substation; 3) installation of new 115 kV lines and rebuilds of the existing 115 kV lines; 4) installation of the 12 kV distribution line getaways; and 5) installation of the telecommunications improvements.[8] Each of these activities and their anticipated emissions are discussed in detail below. Emission calculations in the following subsections were performed separately for each project element. However, there will likely be some degree of overlap, with activities from different construction elements occurring on the same day. The calculations as presented in the following subsections are a representation of worst-case emissions. The actual project emissions would be less than stated; therefore, even during short periods of overlap the estimated emissions would likely not exceed the estimated element-specific emissions.

3.3.3.1.3 Substation Construction. As indicated in the description of the Proposed Project, the new El Casco Substation would be constructed in two phases from June 2008 to May 2010. Construction operations would begin with the grading of the new substation site over a 3 month period. Following the completion of the initial grading of the site, construction of the physical structures and infrastructure (civil construction) would occur on the site. The civil construction on the substation site is anticipated to occur over a 3 month period. Following the completion of the civil construction, the installation of the new electrical equipment and infrastructure would occur on the new substation site. The installation of the

[7] California Air Resources Board. "URBEMIS2002 Program." [Online] April, 2005 <http://www.arb.ca.gov/planning/urbemis/urbemis2002/urbemis2002.htm>.

[8] Construction at Banning and Zanja Substations involves only minor site disturbance. Therefore, construction activities at these substations would generate minimal emissions.

electrical equipment and infrastructure would occur over a 12 month period, with construction activities ending by approximately 2010.

Tables 3.3-4 and 3.3-5 identify the worst-case, daily emissions associated with the construction of the El Casco Substation (Phases I and II). These estimates are based on the expected location, size, and development of the project, as well as the implementation of dust abatement measures in compliance with SCAQMD Rule 403. The purpose of SCAQMD Rule 403 is "...to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust."

As noted in Table 3.3-4, with the exception of fugitive dust (PM_{10}) generated during the grading phase, construction emissions would not exceed SCAQMD thresholds. PM_{10} emissions would exceed the construction emissions significance threshold largely due to the amount of onsite cut and fill of soil that is required. Even with the implementation of all feasible measures as required by SCAQMD Rule 403, PM_{10} emissions would exceed the SCAQMD thresholds. No feasible mitigation measures exist that could mitigate PM_{10} emissions below the SCAQMD threshold.

3.3.3.1.4 Localized Significance Threshold Methodology. As indicated earlier in the discussion of the thresholds of significance, the SCAQMD recommends that potential impacts on ambient air quality during the construction phase of a project be evaluated. The following analysis uses the thresholds based on the Localized Significance Threshold lookup tables. Estimates of construction emissions of PM_{10}, NO_x, and CO are presented in Tables 3.3-4 and 3.3-5. As construction emissions on the substation site would involve the disturbance of less than 5 acres of the substation site on a daily basis, the construction emissions were compared to the Localized Significance Threshold for a 5-acre site. Table 3.3-6 compares construction emissions to the localized significance thresholds listed in Table 3.3-3.

TABLE 3.3-4
ESTIMATED CONSTRUCTION EMISSIONS – EL CASCO SUBSTATION
(PHASE I)

Source	VOC	CO	NO_x	SO_x	PM_{10}
Grading Phase					
Fugitive Dust Generation	--	--	--	--	312.30
Mobile Source Emissions	2.06	24.24	2.87	0.01	0.10
Stationary Source Emissions	0.75	4.26	10.31	2.20	0.49
Grading Maximum Daily Emissions	2.81	28.50	13.18	2.21	312.89
Daily Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	Yes

TABLE 3.3-4 *(Continued)*
ESTIMATED CONSTRUCTION EMISSIONS – EL CASCO SUBSTATION
(PHASE I)

Source	VOC	CO	NO_x	SO_x	PM_{10}
Civil Phase					
Mobile Source Emissions	2.40	28.20	3.31	0.01	0.11
Stationary Source Emissions	0.77	4.42	10.28	0.52	2.55
Asphalt Off-gassing	--	--	--	--	0.30
Asphalt Stationary Source	0.27	1.18	1.71	0.16	0.46
Grading Maximum Daily Emissions	3.44	33.80	15.30	0.69	3.42
Daily Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Electrical Phase					
Mobile Source Emissions	5.35	63.02	7.73	0.03	0.26
Stationary Source Emissions	1.22	5.74	12.38	0.83	2.55
Grading Maximum Daily Emissions	6.57	68.76	20.11	0.86	2.81
Daily Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No

Emission Calculations are provided in Appendix A.

As presented in Table 3.3-6, the construction of the proposed substation would not cause localized significance thresholds for PM_{10}, NO_x, and CO, to be exceeded. Consequently, there is no potential for significant construction air quality impacts under these thresholds.

TABLE 3.3-5
ESTIMATED CONSTRUCTION EMISSIONS – EL CASCO SUBSTATION
(PHASE II)

Source	VOC	CO	NO_x	SO_x	PM_{10}
Civil Phase					
Mobile Source Emissions	2.88	33.82	4.02	0.02	0.14
Stationary Source Emissions	0.77	4.42	10.28	0.52	2.55
Grading Maximum Daily Emissions	3.65	38.24	14.30	0.54	2.69
Daily Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Electrical Phase					
Mobile Source Emissions	5.35	63.02	7.73	0.03	0.26
Stationary Source Emissions	1.22	5.74	12.38	0.83	2.55

TABLE 3.3-5 *(Continued)*
ESTIMATED CONSTRUCTION EMISSIONS – EL CASCO SUBSTATION (PHASE II)

Source	VOC	CO	NO_x	SO_x	PM_{10}
Grading Maximum Daily Emissions	6.57	68.76	20.11	0.86	2.81
Daily Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Transformer Assembly					
Mobile Source Emissions	4.78	56.28	6.87	0.03	0.23
Stationary Source Emissions	1.04	4.94	10.24	0.72	2.11
Grading Maximum Daily Emissions	5.82	61.22	17.11	0.75	2.34
Daily Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No

Emission Calculations are provided in Appendix A.

TABLE 3.3-6
LOCALIZED SIGNIFICANCE THRESHOLDS ANALYSIS

Pollutant	Maximum Emissions lbs/day	Local Significance Thresholds lbs/day	Exceeds Threshold?
Particulate Matter (PM_{10})	314.65	424	No
Nitrogen Dioxide (NO_2)	20.11	976	No
Carbon Monoxide (CO)	68.76	9,365	No

Source: SCAQMD, Final Localized Significance Threshold Methodology. Diamond Bar, California. June 2003, Appendix L.

3.3.3.1.5 <u>220 kV Transmission Line Loop In</u>. Construction of the 220 kV loop-in to the new El Casco Substation would begin with the initial survey of the project site by a survey crew. Following the completion of the initial survey, construction of the loop-in would begin with delivery of materials to the substation site. Next, footings would be installed, towers would be erected, and conductor would be strung. Overall, construction of the 220 kV loop-in is expected to take approximately 3 months. Table 3.3-7, Estimated Construction Emissions – 220 kV Loop-in, identifies the worst-case construction emissions based on the equipment that would be utilized during each phase of construction associated with the 220 kV loop-in.

As indicated in Table 3.3-7, construction emissions generated during the approximate three month construction time frame for the 220 kV loop-in would not exceed SCAQMD thresholds.

TABLE 3.3-7
ESTIMATED CONSTRUCTION EMISSIONS – 220 kV LOOP-IN

Source	VOC	CO	NO_x	SO_x	PM_{10}
Surveys					
Mobile Source Emissions	1.81	21.34	2.71	0.01	0.09
Grading Maximum Daily Emissions	1.81	21.34	2.71	0.01	0.09
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Receive and Load Materials					
Mobile Source Emissions	1.81	21.34	2.71	0.01	0.09
Stationary Source Emissions	0.78	3.01	5.86	0.51	1.00
Grading Maximum Daily Emissions	2.59	24.35	8.57	0.52	1.09
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Foundation Work					
Mobile Source Emissions	1.81	21.34	2.71	0.01	0.09
Stationary Source Emissions	0.53	2.86	6.42	0.37	1.48
Grading Maximum Daily Emissions	2.34	24.2	9.13	0.38	1.57
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Lattice Steel Tower Installation					
Mobile Source Emissions	1.81	21.34	2.71	0.01	0.09
Stationary Source Emissions	0.78	3.96	9.73	0.46	1.67
Grading Maximum Daily Emissions	2.59	25.3	12.44	0.47	1.76
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Conductor Stringing					
Mobile Source Emissions	1.81	21.34	2.71	0.01	0.09
Stationary Source Emissions	1.15	4.95	11.97	0.63	1.71
Grading Maximum Daily Emissions	2.96	26.29	14.68	0.64	1.80
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No

Emission Calculations are provided in Appendix A.

3.3.3.1.6 <u>115 kV Subtransmission Line Work</u>. Construction of the new 115 kV lines and rebuilds to the existing 115 kV lines would occur at various locations between the El Casco Substation and the existing Banning and Maraschino Substations, as discussed in the Project

Description. Table 3.3-8, Estimated Construction Emissions – 115 kV Line Construction, identifies the estimated daily construction emissions that are anticipated to occur on a daily basis over the period required to construct the 115 kV line.

On a daily basis, the construction of the 115 kV lines is not anticipated to exceed SCAQMD thresholds based on the work crews and equipment use that would be required.

3.3.3.1.7 12 kV Distribution Line Getaways. Table 3.3-9, Estimated Construction Emissions – 12 kV Getaways, identifies the worst-case construction emissions based on the equipment that would be utilized during each phase of construction associated with the 12 kV Conduit.

As indicated in Table 3.3-9, construction emissions generated during the installation of the 12 kV getaways would not exceed SCAQMD thresholds.

3.3.3.1.8 Telecommunications Improvements. Table 3.3-10, Estimated Construction Emissions – Telecommunications Improvements, presents the worst-case daily emission estimates for the installation of the telecommunications upgrades.

As is presented in Table 3.3-10, emissions generated during construction of the telecommunications improvements would not exceed SCAQMD thresholds.

TABLE 3.3-8
ESTIMATED CONSTRUCTION EMISSIONS – 115 kV LINE CONSTRUCTION

Source	VOC	CO	NO_x	SO_x	PM_{10}
Line Surveys					
Mobile Source Emissions	1.52	17.97	2.28	0.01	0.08
Grading Maximum Daily Emissions	1.52	17.97	2.28	0.01	0.08
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Receive and Load Materials					
Mobile Source Emissions	1.52	17.97	2.28	0.01	0.08
Stationary Source Emissions	0.19	0.75	1.26	0.12	0.21
Grading Maximum Daily Emissions	1.71	18.72	3.54	0.13	0.29
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Line-Out Materials					
Mobile Source Emissions	1.52	17.97	2.28	0.01	0.08
Stationary Source Emissions	0.60	2.71	5.65	0.40	1.16
Grading Maximum Daily Emissions	2.12	20.68	7.93	0.41	1.24

TABLE 3.3-8 *(Continued)*
ESTIMATED CONSTRUCTION EMISSIONS – 115 kV LINE CONSTRUCTION

Source	VOC	CO	NO_x	SO_x	PM_{10}
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Road Work					
Mobile Source Emissions	1.52	17.97	2.28	0.01	0.08
Stationary Source Emissions	0.26	1.28	3.15	0.16	0.65
Grading Maximum Daily Emissions	1.78	19.25	5.43	0.17	0.73
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Foundation Work					
Mobile Source Emissions	1.52	17.97	2.28	0.01	0.08
Stationary Source Emissions	1.63	5.65	18.87	0.94	3.49
Grading Maximum Daily Emissions	3.15	23.62	21.15	0.95	3.57
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No
Steel Pole Construction					
Mobile Source Emissions	1.52	17.97	2.28	0.01	0.08
Stationary Source Emissions	0.50	2.12	4.42	0.29	0.74
Grading Maximum Daily Emissions	2.02	20.09	6.70	0.30	0.82
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No

TABLE 3.3-9
ESTIMATED CONSTRUCTION EMISSIONS – 12 kV GETAWAYS

Source	VOC	CO	NO_x	SO_x	PM_{10}
Surveys					
Fugitive Dust Emissions	--	--	--	--	3.61
Mobile Source Emissions	2.88	33.82	4.02	0.02	0.14
Stationary Source Emission	0.95	5.10	11.04	0.68	2.72
Grading Maximum Daily Emissions	3.83	38.92	15.06	0.69	6.46
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No

Emission Calculations are provided in Appendix A.

TABLE 3.3-10
ESTIMATED CONSTRUCTION EMISSIONS – TELECOMMUNICATIONS IMPROVEMENTS

Source	VOC	CO	NO_x	SO_x	PM_{10}
Construction Emissions					
Mobile Source Emissions	1.44	16.91	2.01	0.01	0.07
Stationary Source Emissions	1.25	5.86	15.09	0.74	2.78
Grading Maximum Daily Emissions	2.69	22.77	17.10	0.75	2.85
Emissions Thresholds	75.00	550.00	100.00	150.00	150.00
Exceeds Threshold	No	No	No	No	No

3.3.3.1.9 Construction Summary. The emission calculations are based on assumptions that certain engine types and operational parameters are used. To ensure that these assumptions are valid, SCE would implement the following procedures:

- *Schedule deliveries outside of peak hours.* All material deliveries to the construction sites will be scheduled to occur outside of peak "rush hour" traffic hours (7:00 to 10:00 a.m. and 4:00 to 7:00 pm) to the extent feasible, and other truck trips during peak traffic hours will be minimized to the extent feasible.

- *Restrict engine idling.* Engine idle time will be restricted to no more than 10 minutes in duration.

- *Use on-road vehicles that meet California on-road standards.* All on-road construction vehicles working within California will meet all applicable California on-road emission standards and will be licensed in the State of California. This does not apply to construction worker personal vehicles.

- *Use lower emitting off-road gasoline-fueled equipment.* All off-road stationary and portable gasoline powered equipment will have USEPA Phase 1/Phase 2 compliant engines, where the specific engine requirement will be based on the new engine standard in effect two years prior to initiating project construction.

Particulate emissions during substation grading are likely to exceed the daily significance thresholds. However, the implementation of the above procedures and compliance with all rules and regulations administered by the SCAQMD (in particular, Rule 403) would reduce PM_{10} emissions generated during the grading of access roads to the greatest extent possible. Emissions from the remainder of construction activities are expected to be below significance thresholds.

In summary, project construction impacts related to air quality would be significant and unavoidable.

3.3.3.2 Operational Impacts

Once construction of the Proposed Project is completed, the new substation does not include any stationary source emissions associated with routine operations. As such, the operation of the Proposed Project would not generate any stationary source emissions. Mobile source emissions may be generated through limited maintenance and repair of subtransmission lines, facilities, etc. However, as the new substation would be an unmanned substation and the repair and maintenance of the facility and subtransmission lines would occur infrequently, the project would generate very limited mobile source emissions. For this reason, the operational emissions associated with the Proposed Project would not exceed SCAQMD thresholds and would not conflict with the adopted AQMP. Once constructed and operating, the Proposed Project would not result in long-term air emissions from stationary sources.

In summary, impacts to air quality due to operation of the Proposed Project would be less than significant.

3.3.3.3 Applicant Proposed Mitigation Measures

Because impacts to air quality are significant but unavoidable, no feasible mitigation measures are available to reduce impacts to a less than significant level. Compliance with best available control measures contained in Rule 403, and presented in Table 3.3-11, would reduce PM_{10} emissions generated during the grading of access roads to the greatest extent possible.

3.3.4 Alternatives

3.3.4.1 Northerly 115 kV Subtransmission Line Route Alternative

Emissions generated during construction activities associated with the construction of the northerly 115 kV subtransmission line route would likely be comparable to emissions generated by the construction of the southerly 115 kV subtransmission line route. This is due to the fact that the alternative route would likely require the same amount of stationary equipment as well as mobile source equipment use. Overall, activities associated with the construction of the northerly 115 kV subtransmission line route would not generate emissions that exceed SCAQMD thresholds. In addition, operation of the 115 kV line would generate very limited mobile source emissions. Impacts to air quality due specifically to the construction and operation of the subtransmission line route alternative would be less than significant. However, this alternative in conjunction with the remaining elements of the project (and the substation in particular) would result in a significant and unavoidable impact during construction.

3.3.4.2 Site 38 (Alternate Site)

Construction of the El Casco Substation at Site 38 would also generate construction emissions. It is expected that the construction emissions generated by construction at this site would be equivalent to the emissions generated by construction at the Preferred Site. This is due to the fact that construction at the Alternate Site would require grading, cut and fill of soils, and use of heavy-duty construction equipment. Similar to the Preferred Site, construction activities occurring at the Alternate Site would likely generate emissions that exceed SCAQMD thresholds for PM_{10} (fugitive dust generated during grading). However, the implementation of the procedures described above for the Proposed Project and compliance with all rules and regulations administered by the SCAQMD (in particular, Rule 403), would reduce PM_{10} emissions generated during the grading of access roads to the greatest extent possible. The substation on Site 38 would operate as an unattended facility, and does not include any stationary source emissions associated with routine operations. In summary, impacts to air quality due to the construction and operation of the substation at Site 38 would be significant and unavoidable.

TABLE 3.3-11
RULE 403 BEST AVAILABLE CONTROL MEASURES

Fugitive Dust Source Category	Suggested Control Measures
Earth-moving	Cease all active operations.
	Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months.
	Apply chemical stabilizers prior to wind event.
	Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day.
	Utilize any combination of control actions presented above such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	Apply chemical stabilizers prior to wind event.
	Apply water twice [once] per hour during active operation.
	Stop all vehicular traffic.

TABLE 3.3-11 *(Continued)*
RULE 403 BEST AVAILABLE CONTROL MEASURES

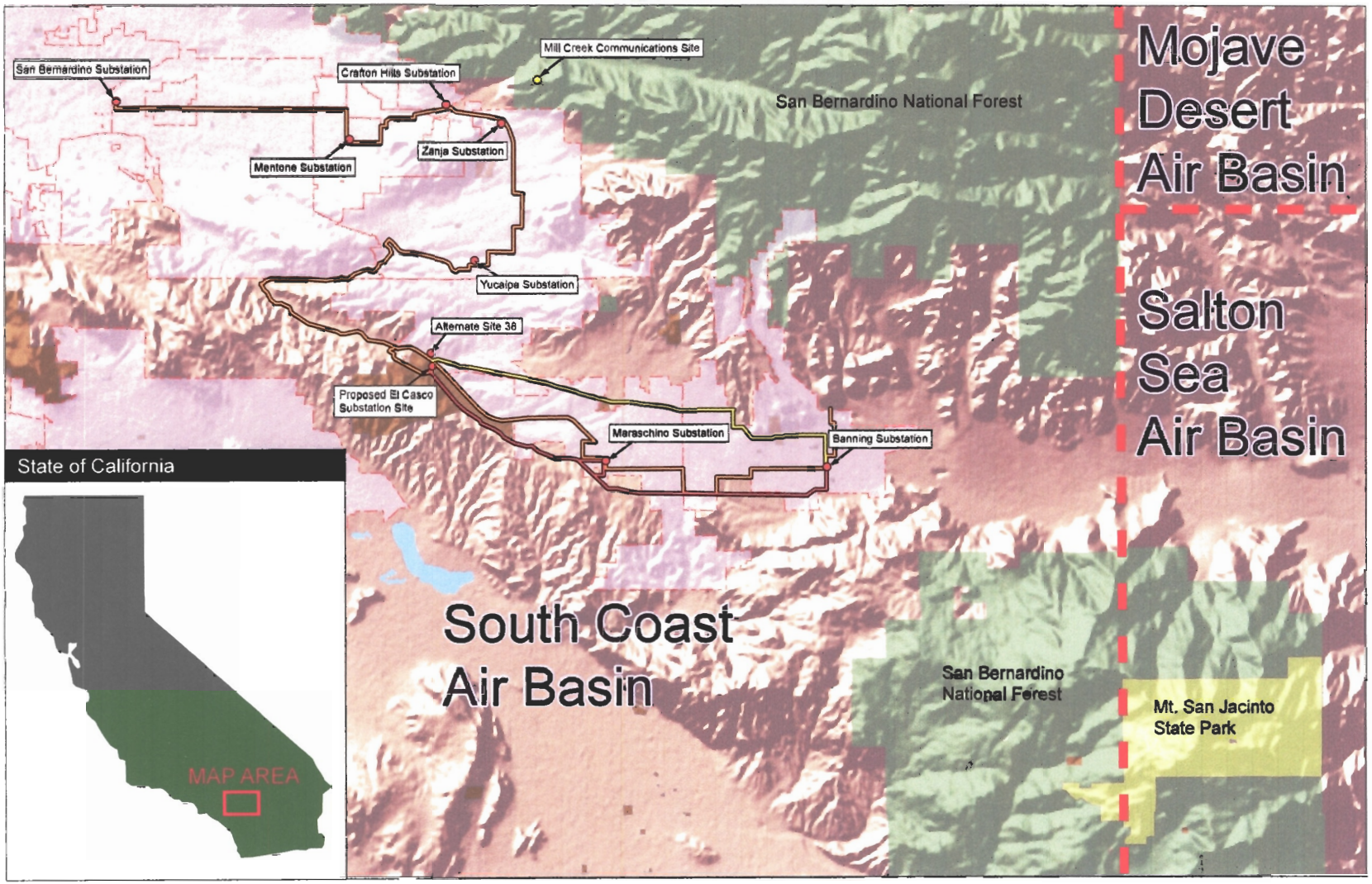
Fugitive Dust Source Category	Suggested Control Measures
Open storage piles	Apply water twice [once] per hour.
	Install temporary coverings.
Paved road track-out	Cover all haul vehicles.
	Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent.
Earth-moving (except construction cutting and filling areas, and mining operations)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations.
	For any earth-moving, which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four hour period of active operations.
Construction cut areas and mining operations	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.

TABLE 3.3-11 *(Continued)*
RULE 403 BEST AVAILABLE CONTROL MEASURES

Fugitive Dust Source Category	Suggested Control Measures
Disturbed surface areas (except completed grading areas)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 [70] percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	Apply chemical stabilizers within five working days of grading completion.
Inactive disturbed surface areas	Apply water to at least 80 [70] percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions.
	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface.
	Establish a vegetative ground cover within 21 [30] days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter.
	Utilize any combination of control actions presented above such that, in total, these actions apply to all inactive disturbed surface areas.
Unpaved Roads	Water all roads used for any vehicular traffic at least once per every two hours of active operations (3 times per normal 8 hour work day).
	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour.
	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	Apply chemical stabilizers.
	Apply water to at least 80 [70] percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust.
	Install temporary coverings.
	Install a three-sided enclosure with walls with no more than 50 percent porosity, which extend, at a minimum, to the top of the pile.

TABLE 3.3-11 *(Continued)*
RULE 403 BEST AVAILABLE CONTROL MEASURES

Fugitive Dust Source Category	Suggested Control Measures
All Categories	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Rule 403 Table 2 may be used.
Track Control Options	Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
	Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.
	Any other control measures approved by the Executive Officer and the U.S. EPA



SOURCE: Southern California Edison 2006

LEGEND

- SCE Substation Site
- Proposed 115 kV Route
- Alternative 115 kV Route
- Proposed Fiber Optic Cable Route
- City Area
- Water
- Mill Creek Communications Site

N, W, E, S

0 1.5 3 6 9 12 Miles

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Figure 3.3-1, Proposed El Casco Project Site and California Air Basins