D.11 Air Quality

This section presents information on ambient air quality conditions in the project area and identifies potential impacts to air quality as a result of the construction and operation of the Proposed Project. Sections D.11.1 and D.11.2 describe the existing setting as it relates to existing air quality and applicable regulations, respectively. Section D.11.3 describes methodology and criteria for determining significance and summarized the determined air quality impacts. Section D.11.4 describes the Proposed Project's air quality impacts and mitigation measures for any impact determined to be potentially significant. Section D.11.5 describes the air quality impacts for the alternatives. Emission calculations and detailed quantification of impacts are provided in Appendix 9 (Air Quality).

D.11.1 Regional Setting and Approach to Data Collection

D.11.1.1 Meteorological Conditions

The climates of western Arizona and southeastern California are characterized by hot, dry summers and mild to cold winters. Precipitation totals are low with occasional desert summer monsoon conditions over the eastern part of the route and seasonally heavy precipitation occurring during the winter months in the extreme western portion of the Proposed Project route. The cities of Buckeye, Arizona and Grand Terrace and Blythe, California were selected to characterize the climate of the study area. As described in Table D.11-1, average summer (June-August) high and low temperatures in the study area are 109°F and 57°F, respectively. Average winter (December-February) high and low temperatures in the study area are 73°F and 36°F. The average annual precipitation ranges from 3.98 inches (Blythe) to 10.67 inches (Grand Terrace). Over 75 percent of the annual precipitation in Grand Terrace occurs between December and March, whereas for Blythe and Buckeye, the precipitation has a less distinct seasonal trend, with the exception of a noted reduction in precipitation from April through June.

Table D.11-1. Monthly Average Temperatures and Precipitation

	Buckeye, Arizona			Blythe, California			Grand Terrace, California		
	Temperature, °F		Precip.	Temperature, °F		Precip.	Temperature, °F		Precip.
Month	Max	Min	(inches)	Max	Min	(inches)	Max	Min	(inches)
January	68	37	0.80	67	40	0.51	66	42	2.47
February	73	40	0.80	73	44	0.57	68	44	2.39
March	79	45	0.99	79	48	0.34	70	45	2.19
April	87	50	0.26	87	54	0.11	76	48	0.60
May	96	57	0.15	95	62	0.07	80	53	0.25
June	106	65	0.07	105	69	0.03	87	57	0.10
July	108	74	0.67	109	77	0.18	94	61	0.03
August	106	74	1.22	107	76	0.65	94	62	0.17
September	101	66	0.75	101	69	0.55	91	60	0.26
October	90	53	0.64	89	57	0.25	83	53	0.26
November	77	41	0.64	75	45	0.22	74	45	0.78
December	68	36	0.92	66	39	0.50	68	41	1.17

Source: The Weather Channel 2005.
Note: Averaged over a minimum period of 30 years.

D.11.1.2 Existing Air Quality

Attainment Status

The United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether or not the monitored ambient air quality data shows compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. The relevant National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are provided in Table D.11-2.

Table D.11-2. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards	California Standards
Ozone (O_3)	1-hour	—	0.09 ppm
	8-hour	0.08 ppm	0.070 ppm
Respirable particulate matter (PM_{10})	24-hour	150 µg/m^3	50 µg/m^3
	Annual mean	50 µg/m^3	20 µg/m^3
Fine particulate matter ($PM_{2.5}$)	24-hour	65 µg/m^3	—
	Annual mean	15 µg/m^3	12 µg/m^3
Carbon monoxide (CO)	1-hour	35 pm	20 ppm
	8-hour	9.0 ppm	9.0 ppm
Nitrogen dioxide (NO_2)	1-hour	—	0.25 ppm
	Annual mean	0.053 ppm	—
Sulfur dioxide (SO_2)	1-hour	—	0.25 ppm
	24-hour	0.14 ppm	0.04 ppm
	Annual mean	0.03 ppm	—

Notes: ppm=parts per million; µg/m^3= micrograms per cubic meter; "—" = no standard
Source: CARB Ambient Air Quality Standards Table, 2005.

The Proposed Project area would extend from Maricopa County in the east to San Bernardino County in the west. The easternmost portion of the Proposed Project would be located in western Arizona (Maricopa and La Paz Counties) under the jurisdictions of the Maricopa County Air Quality Department (MCAQD) within Maricopa County and the Arizona Department of Environmental Quality (ADEQ) within La Paz County. In California, the project would run through the Mojave Desert Air Basin (MDAB), the Salton Sea Air Basin (SSAB), and the South Coast Air Basin (SCAB). The eastern most portion of the MDAB is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD), while the rest of the route is under the jurisdiction of South Coast Air Quality Management District (SCAQMD). Figures D.11-1 and D.11-2 show the boundaries of the California Air Basins and California local air quality agencies, respectively.

Table D.11-3 summarizes the federal and California State attainment status of the criteria pollutants for each local air quality jurisdiction.

Figure D.11-1 Air Quality: California Air Basins
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Figure D.11-2. Air Quality: California Air Districts
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Table D.11-3. Attainment Status for Each Local Air Quality Jurisdiction

	Attainment Status - Arizona[d]		Attainment Status – Mojave Desert Air Basin		
	Federal			State	
Pollutant	Maricopa	ADEQ	Federal	MDAQMD	SCAQMD
Ozone – 1 Hr	N/A	N/A	Unclassified/ Attainment	Moderate Non-attainment	Extreme Non-attainment
Ozone – 8 Hr	Phoenix-Mesa Area[e] Nonattainment, rest of county Attainment	Unclassified/ Attainment	Unclassified/ Attainment	Not Available[b]	Not Available[b]
CO	Unclassified/ Attainment	Unclassified/ Attainment	Unclassified/ Attainment	Attainment	Attainment
NO_2	Attainment	Attainment	Attainment	Attainment	Attainment
SO_2	Attainment	Attainment	Attainment	Attainment	Attainment
PM10	Phoenix[f] Moderate Nonattainment, rest of county Attainment	Unclassified/ Attainment	Serious Nonattainment	Non-attainment	Non-attainment
PM2.5	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified

	Attainment Status Salton Sea Air Basin		Attainment Status South Coast Air Basin	
Pollutant	Federal	State – SCAQMD	Federal	State – SCAQMD
Ozone – 1 Hr	N/A	Extreme Nonattainment	N/A	Extreme Nonattainment
Ozone – 8 Hr	Serious Nonattainment[c]	Not Available[b]	Severe-17 Nonattainment[a]	Not Available[b]
CO	Unclassified/ Attainment	Attainment	Serious Nonattainment	Attainment
NO_2	Attainment	Attainment	Attainment	Attainment
SO_2	Attainment	Attainment	Attainment	Attainment
PM10	Serious Nonattainment	Nonattainment	Serious Nonattainment	Nonattainment
PM2.5	Unclassified	Unclassified	Nonattainment	Nonattainment

Source: CARB, 2005b; U.S. EPA, 2005b
a. "Severe-17 Nonattainment" requires the district to attain the ozone standard within 17 years (2021).
b. The attainment status of the California 8-hour ozone standards, promulgated in 2005, have not yet been determined.
c. "Serious Nonattainment" for 8-hour ozone requires the district to attain the ozone standard within 9 years (2013).
d. Arizona has no separate State ambient air quality standards.
e. The Proposed Project and/or alternatives extend within this nonattainment area.
f. The Proposed Project and alternatives do not extend to this nonattainment area.

Air Pollutant Concentrations

The Proposed Project would be located in Maricopa Counties and La Paz Counties in Arizona and Riverside and San Bernardino Counties in California. Graphs are presented below to summarize the historical air quality data for the project area collected at the nearest representative air quality monitoring stations in Arizona, the SSAB, and the SCAB, respectively. Note that within the MDAB the only available data is for ozone, from monitoring stations at Joshua Tree National Monument and Blythe. This is presented as part of a separate discussion on ozone below. Various monitoring stations in the area were used to compile data from 1985 to 2004 (20-year period), except for Arizona where data is limited to a 10-year period (1995-2004).

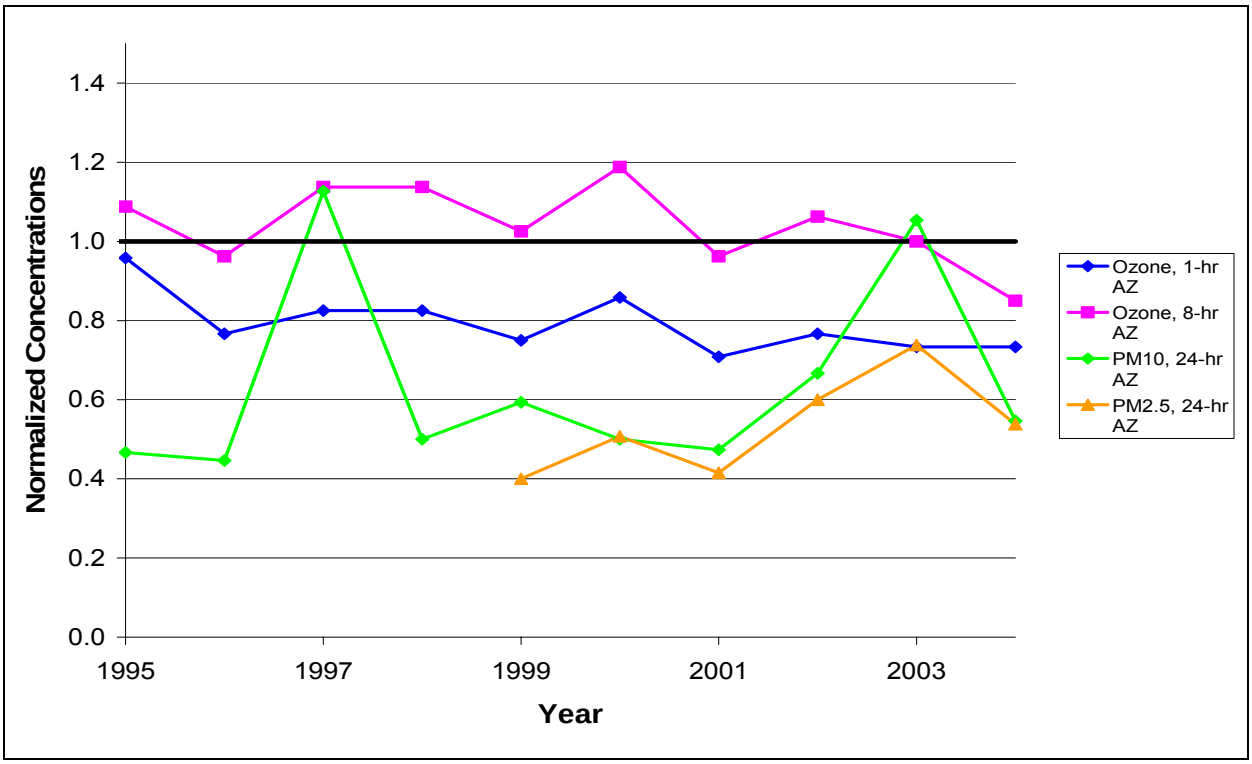
For ozone in Arizona (Maricopa County), the following monitoring stations were used: Glendale–Olive Avenue (1995), Palo Verde Generating Station (1996-2003), and Buckeye (2004). For PM10 in Arizona, the following monitoring stations were used: Glendale–Olive Avenue (1995-1998), Palo Verde Generating Station (1999-2003), and Buckeye (2004). For PM2.5 in Arizona, the Tempe–Rural Road (1999-2003) and the Phoenix–West Phoenix Station (2004) monitoring stations were used. For ozone and PM10 in the SSAB, the Palm Springs Fire Station (1985-2004) and the Indio–Jackson Street (1985-2004) monitoring stations were used, respectively. For PM2.5 in the SSAB, the Palm Springs Fire Station monitoring station was used (2000-2004). For ozone in the SCAB, the following monitoring stations were used: Redlands-Grove (1985-1986) and Redlands-Dearborn (1987-2004). For PM10 in the SCAB, the following monitoring stations were used: San Bernardino 4th Street (1986-1993) and Redlands-Dearborn (1994-2004). For PM2.5 in the SCAB, the San Bernardino 4th Street monitoring station was used (1999-2004).

In the graphs below, the short-term normalized concentrations are provided from 1985 to 2004. Normalized concentrations represent the ratio of the highest measured concentrations in a given year to the most-stringent currently applicable national or State ambient air quality standard. Therefore, normalized concentrations lower than one indicates that the measured concentrations were lower than the most-stringent ambient air quality standard.

As shown in Figure D.11-3, the Phoenix area is above the federal 8-hour ozone standard and continues to exceed the federal PM10 standard; however, the Proposed Project route does not reach into the Phoenix nonattainment areas. The limited ozone air quality monitoring data available for La Paz County (Wenden, Arizona monitoring site), for 2005 only, indicates that the air quality west of Phoenix does not currently exceed the federal 8-hour ozone standard.

The Mojave Desert Air Basin portion of the project area exceeds the State 1-hour and 8-hour ozone standards and the State 24-hour PM10 standard. However, there has been an overall gradual downward trend for the maximum ozone concentrations. No figure for the MDAB ambient pollutant monitoring data is provided due to the limited amount of data available for the MDAB in the area near the project route.

Figure D.11-3. Normalized Maximum Short-Term Historical Air Pollutant Concentrations in Arizona



Source: U.S. EPA, 2005a.

a. A "Normalized Concentration" is the ratio of the highest measured concentration to the applicable most stringent air quality standard. For example, in 1997 the highest 1-hour average ozone concentration measured at Palo Verde Generating Station was 0.099 ppm. Since the most stringent ambient air quality standard is the National standard of 0.120 ppm, the 1997 normalized concentration is 0.099/0.120 = 0.825.

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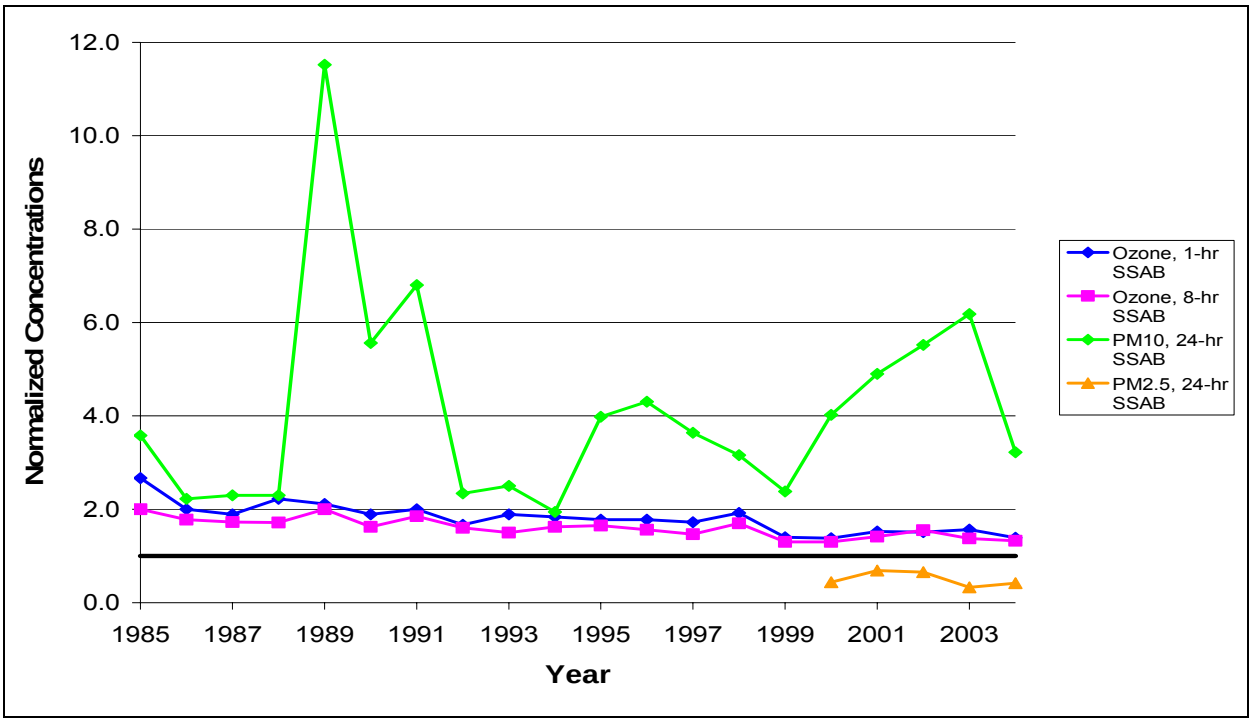
As shown in Figure D.11-4, the SSAB portion of the Proposed Project area also exceeds the State 1-hour and 8-hour ozone standards and the State 24-hour PM10 standards, as well as, the federal 8-hour ozone and PM10 standards.

Figure D.11-4. Normalized Maximum Short-Term Historical Air Pollutant Concentrations in the Salton Sea Air Basin



Source: CARB, 2002; CARB, 2005a.

a. A "Normalized Concentration" is the ratio of the highest measured concentration to the applicable most stringent air quality standard.

b. The second highest maximum for PM10 in 1985, 1989, 1990, and 2001 are used since the highest maximums, which were 358, 712, 520, and 604 $\mu g/m^3$, respectively, likely occurred as a result of wind-related events.

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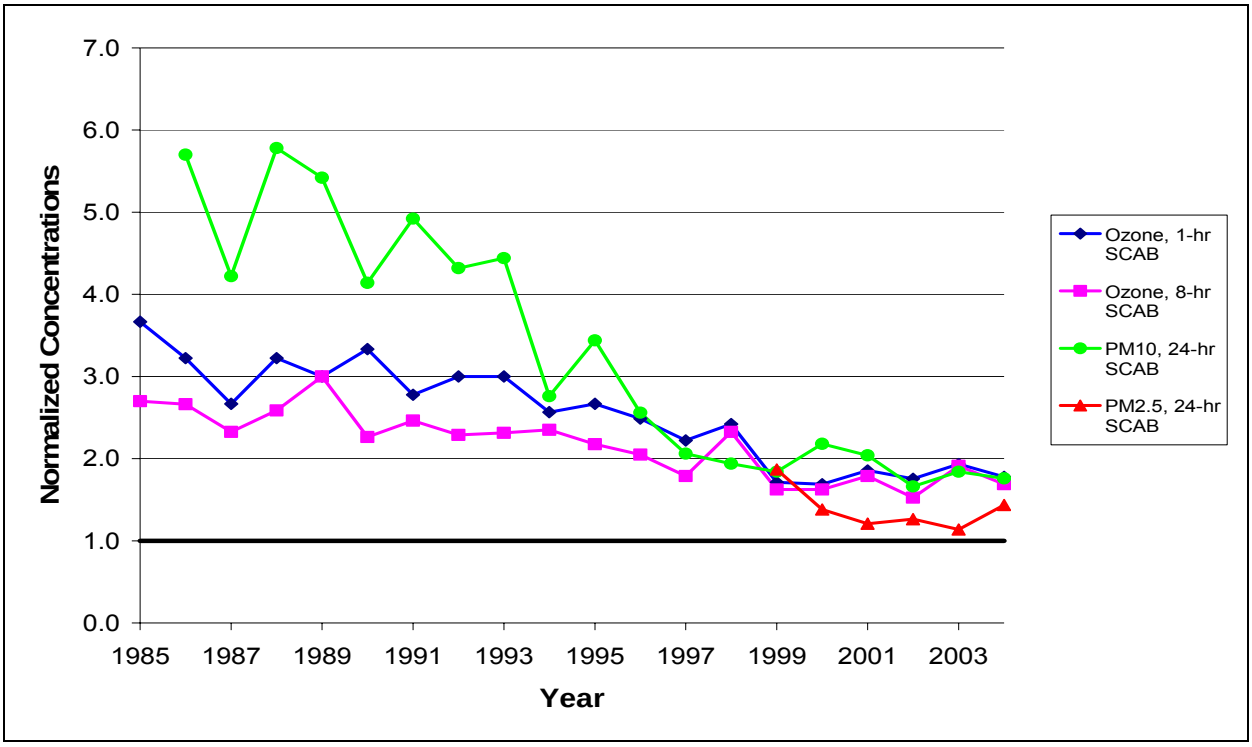
As shown in Figure D.11-5, the SCAB portion of the Proposed Project area is above the State 1-hour and 8-hour ozone standards and the State 24-hour PM10 and PM2.5 standards. Additionally, the SCAB exceeds the federal 8-hour ozone standard and the federal PM10 and PM2.5 standards. However, there has been an overall gradual downward trend for the maximum ozone, PM10, and PM2.5 concentrations.

Figure D.11-5. Normalized Maximum Short-Term Historical Air Pollutant Concentrations in the South Coast Air Basin



Source: CARB, 2002; CARB, 2005a.

a. A "Normalized Concentration" is the ratio of the highest measured concentration to the applicable most stringent air quality standard. For example, in 1990 the highest 1-hour average ozone concentration measured at Redlands-Dearborn was 0.300 ppm. Since the most stringent ambient air quality standard is the California standard of 0.09 ppm, the 1990 normalized concentration is 0.300/0.09 = 3.33.

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Ozone

In the presence of ultraviolet radiation, both NOx and volatile organic compounds (VOCs) go through a number of complex chemical reactions to form ozone. Table D.11-4 summarizes the best representative ambient ozone data for the project area collected over the past five years from monitoring stations in the project area. The table includes the maximum hourly concentration and the number of days above the National and State standards, as applicable. As indicated in this table, ozone formation is generally higher in spring and summer and lower in the winter.

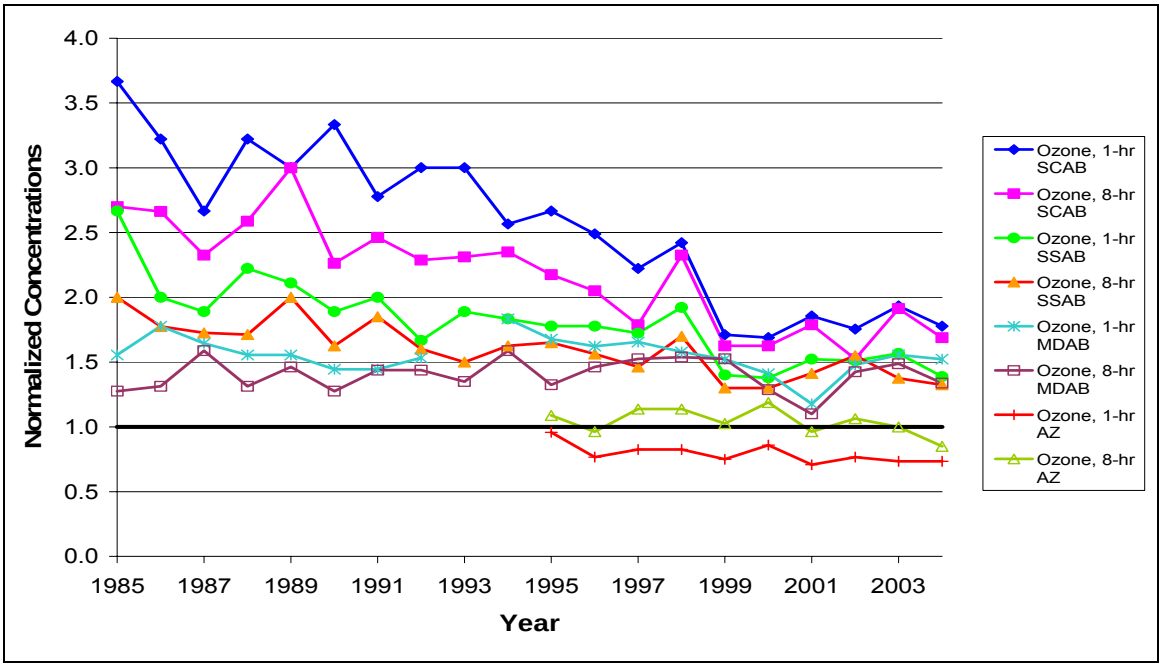
Table D.11-4. Ozone Air Quality Summary 1995-2004

Year	Days Above NAAQS 1-Hr	Days Above CAAQS 1-Hr	Month of Maximum 1-Hr Avg	Maximum 1-Hr Avg (ppm)	Days Above NAAQS 8-Hr	Month of Maximum 8-Hr Avg	Maximum 8-Hr Avg (ppm)
Buckeye – 26453 W. Mc85 (Arizona)							
2004	0	—	—	0.088	0	—	0.068
Palo Verde – 36248 W. Elliott Rd. Palo Verde Generating Station (Arizona)							
2000	0	—	—	0.103	1	—	0.095
2001	0	—	—	0.085	0	—	0.077
2002	0	—	—	0.092	1	—	0.085
2003	0	—	—	0.088	0	—	0.080
Joshua Tree National Monument (Mojave Desert Air Basin)							
2000	1	36	JUN	0.127	27	JUN	0.103
2001	0	3	JUN	0.106	1	SEP	0.088
2002	3	38	AUG	0.133	33	JUN	0.114
2003	9	41	AUG	0.140	39	AUG	0.119
2004	3	35	JUN	0.137	31	JUN	0.107
Palm Springs Fire Station (Salton Sea Air Basin)							
2000	0	40	AUG	0.124	28	AUG	0.104
2001	6	53	AUG	0.137	39	JUN	0.113
2002	2	49	AUG	0.136	46	AUG	0.124
2003	4	54	JUL	0.141	43	JUN	0.110
2004	1	36	JUN	0.125	32	JUL	0.106
Redlands – Dearborn (South Coast Air Basin)							
2000	11	78	AUG	0.152	47	JUN	0.130
2001	21	68	AUG	0.167	52	AUG	0.143
2002	23	66	JUL	0.158	44	JUL	0.122
2003	38	91	JUL	0.174	72	AUG	0.153
2004	12	76	JUN	0.160	56	JUN	0.135

Source: CARB, 2002; CARB, 2005a; U.S. EPA, 2005a.
National Ambient Air Quality Standard (NAAQS): 1-hr, 0.12 ppm; 8-hr, 0.08 ppm
California Ambient Air Quality Standard (CAAQS): 1-hr, 0.09 ppm

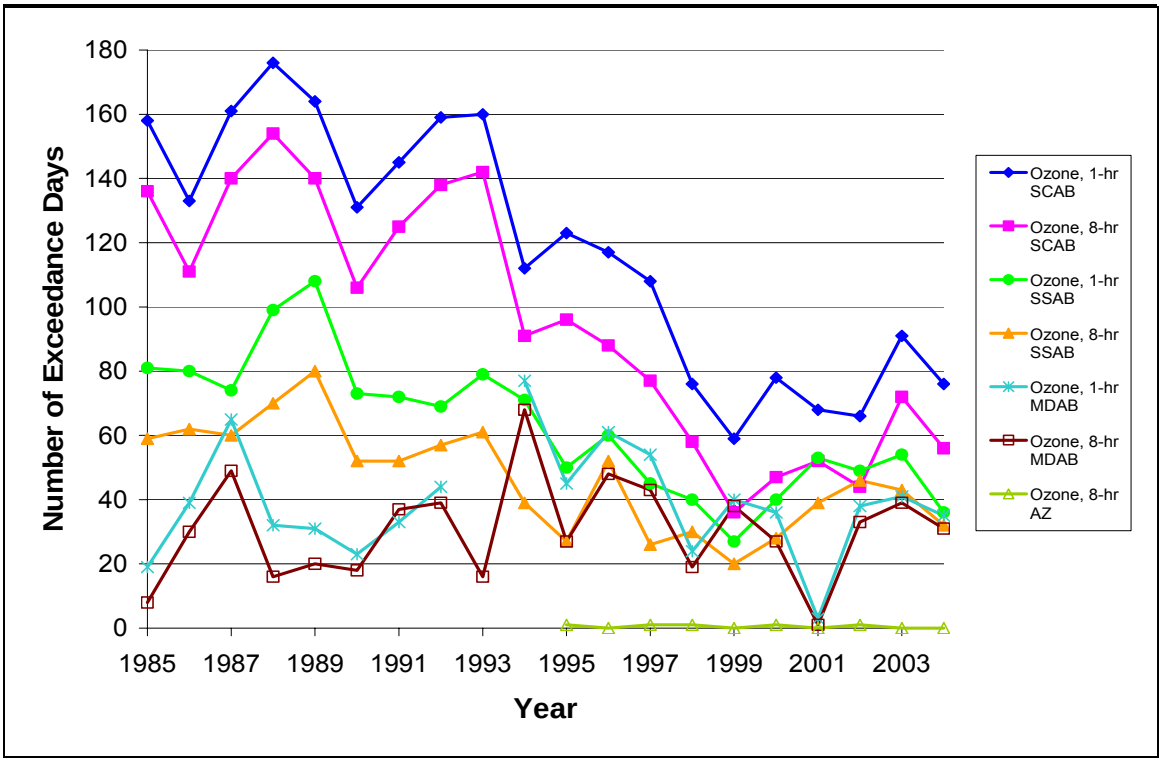
The 1985–2004 trends for the maximum 1-hour and 8-hour ozone concentrations, referenced to the most stringent standard, and the number of days exceeding the federal 8-hour standard for the Arizona, MDAB, SSAB, and SCAB areas, and the California 1-hour standard for the MDAB, SSAB and SCAB areas are shown in Figures D.11-6 and D.11-7, respectively.

Figure D.11-6. Normalized Ozone Air Quality Maximum Concentrations (1985-2004)



Source: CARB, 2002; CARB, 2004a; U.S. EPA, 2005a.
Note: A "Normalized Concentration" is the ratio of the highest measured concentration to the applicable most stringent air quality standard. The standard used for 1-hour ozone is the California standard of 0.09 ppm (SCAB, SSAB, MDAB) or the national standard of 0.120 ppm (Arizona), and for 8-hr ozone is the national standard of 0.08 ppm.

Figure D.11-7. Ozone – Number of Days Exceeding the CAAQS for 1-Hour and NAAQS for 8-Hour (1985-2004)



Source: CARB, 2002; CARB, 2004a; U.S. EPA, 2005a.

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As shown in Figures D.11-6 and D.11-7, long-term trends in reduced emissions of ozone precursors have led to reduced ozone formation in the project area through 1999. After 1999, ozone concentrations increased somewhat and stabilized. In general, ozone continues to be above the California 1-hour and federal 8-hour ozone standards.

Carbon Monoxide

Carbon monoxide (CO) is generally found in high concentrations only near a significant source of emissions (i.e., freeway, busy intersection, etc.). The highest concentrations of CO occur when low wind speeds and a stable atmosphere trap the pollution emitted at or near ground level. These conditions occur frequently in the wintertime late in the afternoon, persist during the night and may extend one or two hours after sunrise. Since mobile sources (motor vehicles) are the main cause of CO, ambient concentrations of CO are highly dependent on motor vehicle activity. In fact, the peak CO concentrations occur during the rush hour traffic in the morning and afternoon. Carbon monoxide concentrations throughout California have declined significantly due to two Statewide programs: (1) the 1992 wintertime oxygenated gasoline program, and (2) Phases I and II of the reformulated gasoline program. Additionally, overall vehicle fleet turnover from higher-emitting older engines to lower-emitting new engines is a significant factor in the declining CO levels.

Table D.11-5 summarizes the best representative ambient carbon monoxide data for the project area collected over the past five years from Arizona, SSAB, and SCAB monitoring stations. The table includes the maximum 1-hour and 8-hour concentrations.

Most of the Proposed Project area would be expected to have lower CO levels than those presented in Table D.11-5, as most of the route is remote and outside of urban areas where vehicle traffic is the major contributor to CO concentrations. There have been no exceedances of CAAQS or NAAQS since at least 1995 for the 1-hour and the 8-hour CO standards in the project area.

Table D.11-5. Carbon Monoxide Air Quality Summary 1995-2004

Year	Maximum 1-Hr Avg (ppm)	Month of Maximum 8-Hr Avg	Maximum 8-Hr Avg (ppm)
Glendale – 6000 W Olive Avenue (Arizona)			
2000	4.6	—	3.6
2001	4.7	—	3.1
2002	4.1	—	3.2
2003	5.7	—	2.4
2004	6.1	—	2.4
Palm Springs Fire Station (Salton Sea Air Basin)			
2000	2.7	DEC	1.59
2001	2.2	OCT	1.60
2002	—	FEB	1.14
2003	—	APR	1.29
2004	—	JAN	0.80
San Bernardino – 4th Street (South Coast Air Basin)			
2000	4.8	DEC	4.14
2001	4.1	NOV	3.26
2002	—	DEC	3.20
2003	—	OCT	4.45
2004	—	JAN	3.24

Source: CARB, 2002; CARB, 2005a; U.S. EPA, 2005a.
National Ambient Air Quality Standard (NAAQS): 1-hr, 35 ppm; 8-hr, 9 ppm
California Ambient Air Quality Standard (CAAQS): 1-hr, 20; 8-hr, 9.0 ppm

Nitrogen Dioxide

The majority of the oxides of nitrogen (NOx) emitted from combustion sources is in the form of nitrogen oxide (NO), while the balance is mainly nitrogen dioxide (NO_2). NO is oxidized by O_2 (oxygen) in the atmosphere to NO_2 but some level of photochemical activity is needed for this conversion. This is why the highest concentrations of NO_2 generally occur during the fall and not in the winter, when atmospheric conditions favor the trapping of ground level releases of NO but lack significant radiation intensity (less sunlight) to oxidize NO to NO_2. In the summer, the conversion rates of NO to NO_2 are high, but the relatively high temperatures and windy conditions (atmospheric unstable conditions) disperse pollut-

ants, preventing the accumulation of NO_2 to levels approaching the 1-hour ambient air quality standard. NO is also oxidized by O_3 to form NO_2. The formation of NO_2 in the summer with the help of the ozone occurs according to the following reaction:

$$NO + O_3 \rightarrow NO_2 + O_2$$

In urban areas, daytime ozone concentrations are typically high. These levels drop substantially at night as the above reaction takes place between ozone and NO. This reaction explains why, in urban areas, ozone concentrations at ground level drop after dark, while aloft and in downwind rural areas (without sources of fresh NOx emissions) ozone concentrations can remain relatively high.

Table D.11-6 summarizes the best representative ambient nitrogen dioxide data for the project area collected over the past five years from various monitoring stations. The table includes the maximum 1-hour and annual concentrations. There have been no exceedances of the ambient air quality standards since at least 1995 for these annual and 1-hour NO_2 standards, respectively.

Table D.11-6. Nitrogen Dioxide Air Quality Summary 1995-2004

Year	Month of Maximum 1-Hr Avg	Maximum 1-Hr Avg (ppm)	Maximum Annual Avg (ppm)
Buckeye – 26453 W. Mc85 (Arizona)			
2004	—	0.045	0.011
Palo Verde – 36248 W. Elliott Rd. Palo Verde Generating Station (Arizona)			
2000	—	0.032	0.004
2001	—	0.043	0.005
2002	—	0.037	0.006
2003	—	0.043	0.005
Palm Springs Fire Station (SSAB)			
2000	JAN	0.064	0.016
2001	OCT	0.081	0.017
2002	NOV	0.068	0.016
2003	OCT	0.067	0.016
2004	JAN	0.066	0.013
San Bernardino – 4th Street (SCAB)			
2000	OCT	0.106	0.032
2001	OCT	0.114	0.030
2002	SEP	0.105	0.029
2003	OCT	0.101	0.026
2004	OCT	0.118	0.026

Source: CARB, 2005a; U.S. EPA, 2005a.
National Ambient Air Quality Standard (NAAQS): Annual, 0.053 ppm
California Ambient Air Quality Standard (CAAQS): 1-hr, 0.25 ppm

Inhalable Particulate Matter

Inhalable particulate matter (PM10) can be emitted directly or it can be formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere. Gaseous emissions of pollutants like NOx, SOx, VOC, and ammonia, given the right meteorological conditions, can form particulate matter in the form of nitrates, sulfates, and organic particles. These pollutants are known as secondary particulates, because they are not directly emitted, but are formed through complex chemical reactions in the atmosphere.

Table D.11-7 summarizes the ambient particulate matter data collected from various monitoring stations nearest the project area. The table includes the maximum 24-hour and annual arithmetic average concentrations.

As shown in Table D.11-7, the project area within Arizona is either unclassified or in attainment of the PM10 NAAQS, whereas the Phoenix area east of the Proposed Project in Maricopa County does not attain the PM10 NAAQS. The SSAB and SCAB are classified as serious nonattainment for the PM10 NAAQS; and the MDAB, SSAB, and SCAB experience exceedances of the PM10 CAAQS.

Table D.11-7. Particulate Matter Air Quality Summary 1995-2004

Year	Days* Above Daily NAAQS	Days* Above Daily CAAQS	Month of Maximum Daily Average	Maximum Daily Average ($\mu g/m^3$)	State Annual Arithmetic Mean ($\mu g/m^3$)
Buckeye – 26453 W. Mc85 (Arizona)					
2004	0	—	—	82	40
Palo Verde – 36248 W. Elliott Rd. Palo Verde Generating Station (Arizona)					
2000	0	—	—	75	21
2001	0	—	—	71	23
2002	0	—	—	100	29
2003	6	—	—	158	26
Indio – Jackson Street (SSAB)					
2000	9	183	MAY	201	55.4
2001	18	171	JUN	245**	59.0
2002	9	174	NOV	276	53.9
2003	9	158	JUN	309	56.1
2004	3	74	OCT	161	40.6
Redlands – Dearborn (SCAB)					
2000	0	162	OCT	109	46.0
2001	0	129	MAY	102	—
2002	0	96	APR	83	—
2003	0	78	OCT	92	—
2004	0	114	APR	88	36.5

Source: CARB, 2002; CARB, 2005a; U.S. EPA, 2005a.

National Ambient Air Quality Standard (NAAQS): 24-hr, 150 $\mu g/m^3$; annual arithmetic, 50 $\mu g/m^3$

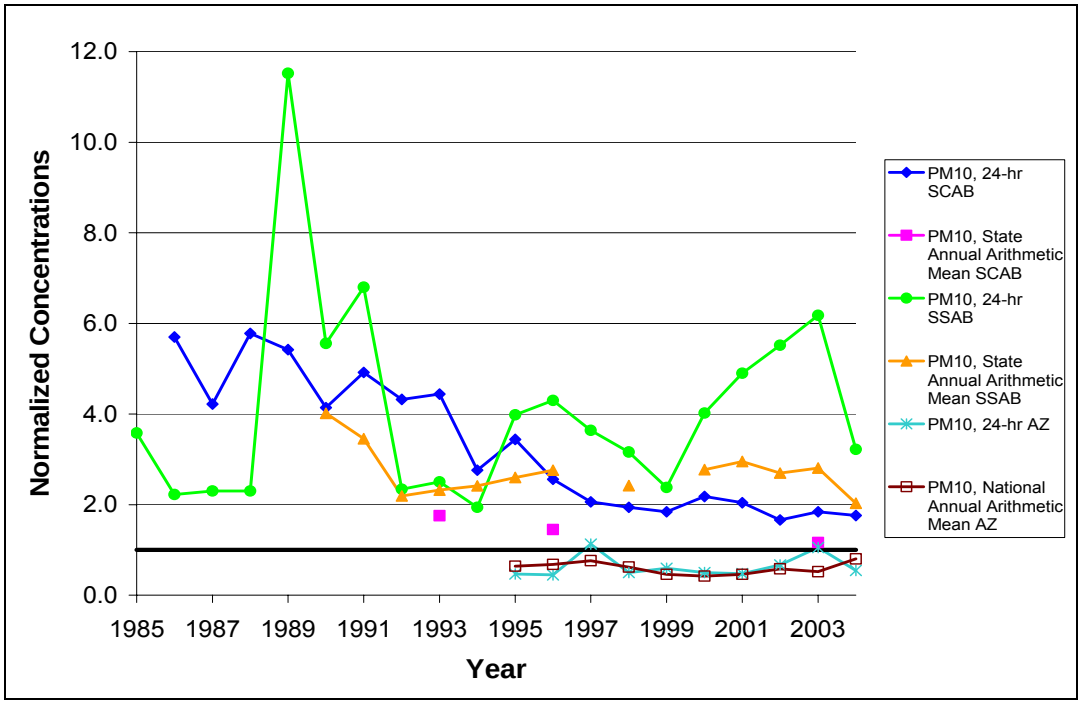
California Ambient Air Quality Standard (CAAQS): 24-hr, 50 $\mu g/m^3$; annual arithmetic, 20 $\mu g/m^3$

* Days above the State and national standard (calculated): Because PM10 is monitored approximately once every six days, the potential number of exceedance days is calculated by multiplying the actual number of days of exceedance by six.

** The second highest maximum for PM10 in 2001 is used since the highest maximum, which was 604 $\mu g/m^3$, likely occurred as a result of wind-related events.

The year 1985 to 2004 trends for the maximum 24-hour PM10 and annual arithmetic mean PM10, referenced to the most stringent standard, and the number of days exceeding the most stringent 24-hour PM10 standards are shown in Figures D.11-8 and D.11-9, respectively. The following monitoring stations were used: Glendale–Olive Avenue (1995-1998), Palo Verde Generating Station (1999-2003), and Buckeye (2004) for Arizona; Indio–Jackson Street (1985-2004) for the SSAB; Redlands Dearborn (1994-2004) and San Bernardino–4th Street (1986-1993) for the SCAB. Representative PM10 monitoring data does not exist within the MDAB.

Figure D.11-8. Normalized PM10 Air Quality Maximum Concentrations (1985-2004)

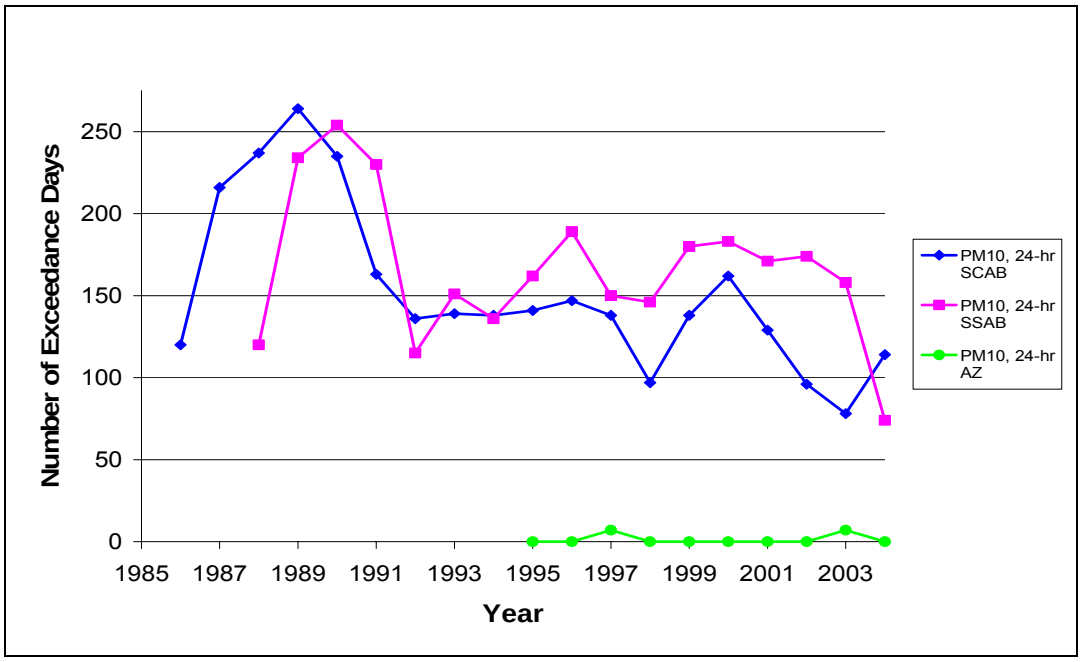


Source: CARB, 2002; CARB, 2005a; U.S. EPA, 2005a.

a. A Normalized Concentration is the ratio of the highest measured concentration to the applicable most stringent air quality standard. The following standar ds are used: CAAQS 24-hr, 50 μg/m^3; State annual arithmetic, 20 μg/m^3; NAAQS 24-hr, 150 μg/m^3 (Arizona only); national annual arithmetic, 50 μg/m^3.

b. The second highest maximum for PM10 in 1985, 1989, 1990, and 2001 for the SSAB are used since the highest maximums, which were 358, 712, 520, and 604 μg/m^3, respectively, likely occurred as a result of wind-related events.

Figure D.11-9. PM10 24-Hour – Number of Days Exceeding the CAAQS (1985-2004)



Source: CARB, 2002; CARB, 2004a; U.S. EPA, 2005a.

As the two figures show, there is an overall gradual downward trend for PM10 concentrations and number of exceedances of the State and federal standards; however, there has been little or no notable trend since 1994.

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Fine Particulate Matter

Table D.11-8 summarizes the ambient fine particulate matter (PM2.5) data collected over the past five years for the project area.

Table D.11-8. Fine Particulate Matter Air Quality Summary 1999-2004

Year	Month of Maximum Daily Avg	Maximum Daily Avg (μg/m³)	98th Percentile of Maximum Daily Avg (μg/m³)	Days Above 98th Percentile Daily NAAQS	3-Yr Avg 98th Percentile of Maximum Daily Avg (μg/m³)	National Annual Avg (μg/m³)	3-Yr Avg of National Annual Avg (μg/m³)
Phoenix – West Phoenix Station (Arizona)							
2004	—	35	30	0	—	11.6	—
Tempe – 3340 S Rural Road (Arizona)							
2000	—	33	20	0	—	10.3	—
2001	—	27	23	0	—	9.4	—
2002	—	39	22	0	—	10.4	—
2003	—	48	25	0	—	9.6	—
Palm Springs Fire Station (SSAB)							
2000	OCT	28.5	22.6	0	—	9.6	—
2001	MAR	44.7	33.0	0	—	10.7	—
2002	NOV	42.3	23.3	0	26	10.0	10
2003	OCT	21.2	20.0	0	25	9.0	9
2004	JUL	27.1	23.3	0	22	8.9	9
San Bernardino – 4th Street (SCAB)							
2000	OCT	89.8	70.3	2	—	25.9	—
2001	APR	78.5	68.4	5	70	26.1	25
2002	OCT	82.1	66.3	3	68	25.8	25
2003	OCT	73.9	58.4	1	64	22.2	24
2004	JUL	93.4	72.4	4	66	21.9	23

Source: CARB, 2005a; U.S. EPA, 2005a.
National Ambient Air Quality Standard: 3-Year Average - 98th Percentile of 24-Hr Avg. Conc., 65 μg/m³.
3-Year Average of Annual Arithmetic Mean (National Annual Average), 15 μg/m³; 3-Year Average of Annual Arithmetic Mean (State Annual Average), 12 μg/m³.

As shown in Table D.11-8, the 98th percentile 24-hour average PM2.5 concentration levels and the national annual average PM2.5 concentration levels are well below the NAAQS of 65 μg/m³ and 15 μg/m³, respectively, in Arizona and the SSAB, but they are exceeded in the SCAB.

Sulfur Dioxide

Sulfur dioxide (SO_2) is typically emitted as a result of the combustion of a fuel containing sulfur. Fuels such as natural gas contain very little sulfur and consequently have very low SO_2 emissions when combusted. By contrast, fuels high in sulfur content such as coal or heavy fuel oils can emit very large amounts of SO_2 when combusted. Sources of SO_2 emissions come from every economic sector and include a wide variety of fuels, gaseous, liquid, and solid.

Table D.11-9 summarizes the best representative ambient SO_2 data for the project area collected over the past five years from various monitoring stations. As shown in Table D.11-9, no exceedances of the CAAQS or NAAQS have occurred since at least 2000. Arizona, the MDAB, SSAB, and SCAB are all designated attainment for all SO_2 federal and State ambient air quality standards.

Table D.11-9. Sulfur Dioxide Air Quality Summary 1999-2004

Year	Maximum 1-Hr Avg (ppm)	Days Above 1-Hr CAAQS	Maximum Daily Avg (ppm)	Days Above Daily CAAQS	Days Above Daily NAAQS	Annual Avg (ppm)	Days Above Annual Avg NAAQS
Phoenix – Central Phoenix Station (Arizona)							
2000	0.029	—	0.012	—	0	0.003	0
2001	0.018	—	0.010	—	0	0.003	0
2002	0.021	—	0.012	—	0	0.003	0
2003	0.015	—	0.007	—	0	0.003	0
2004	0.015	—	0.009	—	0	0.003	0
Fontana – Arrow Highway (SCAB)							
2000	0.020	0	0.010	0	0	0.002	0
2001	0.010	0	0.006	0	0	0.002	0
2002	—	—	0.005	0	0	0.001	0
2003	—	—	0.004	0	0	0.001	0
2004	—	—	0.003	0	0	0.001	0

Source: CARB, 2002; CARB, 2005a; U.S. EPA, 2005a.
National Ambient Air Quality Standard (NAAQS): 24-hr, 0.14 ppm; Annual, 0.030 ppm
California Ambient Air Quality Standard (CAAQS): 1-hr, 0.25 ppm; 24-hr, 0.04 ppm

Summary

As discussed above and shown in Table D.11-3, Arizona within the project area is considered either unclassified or in attainment for all pollutants, although the Phoenix area east of the Proposed Project has been classified as nonattainment for the federal 8-hour ozone standards, as well as the federal PM10 standard. The MDAB is in moderate nonattainment (MDAQMD portion) and extreme nonattainment (SCAQMD portion) and for the State 1-hour ozone standard, nonattainment for the State PM10 standard. The SSAB is in serious nonattainment for the federal 8-hour ozone standard, extreme nonattainment for the State 1-hour ozone standard, serious nonattainment for the federal PM10 standard and nonattainment for the State PM10 standard. The SCAB is in severe nonattainment for the federal 8-hour ozone standard, extreme nonattainment for the State 1-hour ozone standard, serious nonattainment for the State CO standard, serious nonattainment for the federal PM10 standard and nonattainment for the State PM10 standard, and nonattainment for both the federal and State PM2.5 standards.

Long-term trends in reduced emissions of ozone precursors, specifically NOx and VOCs, have led to reduced ozone formation in the region; however, the western part of the project area generally continues to be above the federal 8-hour and California State 1-hour ozone standards. In addition, while there is an overall gradual downward trend for PM10 concentrations, there has been little or no progress since 1994. As such, any increase in emissions of ozone precursors and particulate matter could cause or contribute to existing air quality violations.

D.11.1.3 Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained expo-

sure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of workers tend to stay indoors most of the time.

A land use survey was conducted to identify sensitive receptors (e.g., local residences, schools, hospitals, churches, recreational facilities) in the general vicinity of the proposed Project alignment. Through most of the proposed Devers-Harquahala route, the transmission lines would travel through generally undeveloped areas where only a few rural residences have been identified. However, the proposed West of Devers portion of the project would travel through more developed areas of Southern California where residences occur adjacent to the proposed route and adjacent to other construction site activities associated with the project.

D.11.2 Applicable Regulations, Plans, and Standards

The Proposed Project would include construction activities and operation of the transmission line, which would involve small stationary emission sources (emergency engines) and annual inspection activities. Applicable air quality regulations generally focus on controlling stationary source emissions. Because few stationary sources would occur with the Proposed Project, there are very few direct air quality regulations that specifically regulate the project. Regulations that apply to construction or similar activities, such as fugitive dust regulations, tend to be general and allow multiple means of achieving compliance. A description of the regulations that apply to the Proposed Project is provided below. Additionally, a description of applicable air quality management and air quality-related land use plan policies is provided below.

D.11.2.1 Federal Regulations

Attainment Plans and Conformity. The U.S. EPA is responsible for establishing the NAAQS. Additional information regarding the NAAQS is provided Section D.11.1.2. The State and local air quality jurisdictions are the responsible agencies for providing attainment plans and ensuring attainment with these standards. The U.S. EPA reviews and approves these plans and regulations that are designed to attain and maintain attainment with the NAAQS.

The Proposed Project is subject to the General Conformity regulation (40 CFR Part 93 Subpart B). Per Section 176(c) of the Clean Air Act Amendments (CAAA) of 1990, this regulation ensures that federal actions conform to State and local plans for attainment. The BLM as federal lead agency must complete a conformity determination for the Proposed Project before it can be approved. General Conformity applies to projects with a federal nexus within nonattainment and maintenance areas. The General Conformity requirements specific to the Proposed Project are discussed further in Section D.11.3.

Other Federal Regulatory Programs. U.S. EPA has programs for permitting sources under the authority of the federal Clean Air Act [i.e., New Source Review (NSR), Prevention of Significant Deterioration (PSD), and Title V permitting programs, etc.]; however, none of these regulations would affect the Proposed Project because the project would have no major stationary emission sources. The U.S. EPA does have onroad and offroad engine emission reduction programs that indirectly affect the project's emissions through the phasing in of cleaner onroad and offroad equipment engines.

While the Proposed Project would cross federally controlled lands, the U.S. EPA is the only federal agency to have any specific air quality regulations or policies that apply to the project. The Proposed Project would also cross a portion of the Morongo Indian Reservation. These Tribal lands are within the air quality jurisdiction of U.S. EPA, and there are no other known specific air quality requirements that would apply to the Proposed Project within these Tribal lands.

D.11.2.2 State Regulations

Arizona. The Proposed Project would cross through La Paz County, which is within the jurisdiction of the ADEQ. This area is in attainment with all NAAQS; therefore, there are no relevant ADEQ air quality plans for La Paz County. There would be limited stationary source and operating emissions from the project. As such, most project sources would be exempt from ADEQ air quality permitting requirements. The ADEQ does have fugitive dust control rules, and a visible emission standard for offroad machinery that regulate the Proposed Project's construction activities. The specific applicable ADEQ regulations are as follows:

- ADEQ R18-2-604. Open Areas, Dry Washes, or Riverbeds
- ADEQ R18-2-605. Roadways and Streets
- ADEQ R18-2-606. Material Handling
- ADEQ R18-2-607. Storage Piles
- ADEQ R18-2-802. Off-road Machinery
- ADEQ R18-2-804. Roadway and Site Cleaning Machinery

In addition, if greater than 325 horsepower, the new emergency generator proposed for installation at Harquahala Mountain in La Paz County would require an air quality permit from ADEQ.

California. California Ambient Air Quality Standards include pollutants not covered under the NAAQS and are also more stringent than the NAAQS. Additional information regarding the CAAQS that are relevant to the Proposed Project is provided Section D.2.1.2.

The California Air Resources Board (CARB), like U.S. EPA, also has onroad and offroad engine emission reduction programs including fuel formulation programs that would indirectly affect the project's emissions through the phasing-in of cleaner onroad and offroad equipment engines. Additionally, CARB has a Portable Equipment Registration Program that allows owners or operators of portable engines and associated equipment to register their units under a statewide portable program to operate their equipment, which must meet specified program emission requirements, throughout California without having to obtain individual permits from local air districts.

D.11.2.3 Local Regulations

Arizona. The easternmost portion of the Proposed Project would cross into the jurisdiction of the MCAQD. The MCAQD like the other local jurisdictions has rules for fugitive dust control as follows:

- MCAQD Rule 300 – Visible Emissions
- MCAQD Rule 310 – Fugitive Dust
- MCAQD Rule 310.01 – Fugitive Dust From Open Areas, Vacant Lots, Unpaved Parking Lots, and Unpaved Roadways

Unlike the other local jurisdictions the MCAQD also requires dust control permits/plans for disturbed areas greater than 0.1 acres in size. The MCAQD also has a list of Best Available Control Measures (BACM) for fugitive dust control that must be addressed by the Applicant's fugitive dust control plan(s).

California. The Proposed Project would cross through two separate California local jurisdictions, the MDAQMD and the SCAQMD. Both agencies have regulations for visible emissions, nuisances, and fugitive dust with which the all project activities would need to comply. The specific regulations are as follows:

- MDAQMD Rule 401 – Visible Emissions
- MDAQMD Rule 402 – Nuisance
- MDAQMD Rule 403 – Fugitive Dust
- SCAQMD Rule 401 – Visible Emissions
- SCAQMD Rule 402 – Nuisance
- SCAQMD Rule 403 – Fugitive Dust
- SCAQMD Rule 403.1 – Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources

These rules limit the visible dust emissions from the project construction sites, prohibit emissions that can cause a public nuisance, and require the prevention and reduction of fugitive dust emissions. Additionally, depending on the location and size of the construction site(s) fugitive dust control plan(s) may be required to be submitted to SCAQMD for approval before initiating construction. The fugitive dust rules include measures that aim to reduce fugitive dust emissions from specific dust causing activities. These measures may include, adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities (such as during periods of high winds).

Additionally, the emergency generator proposed for the Midpoint Substation, if rated greater than 50 horsepower, would need to be permitted by the MDAQMD prior to its installation.

D.11.2.4 Air Quality Plans

Local air quality management districts are responsible for preparing and maintaining Air Quality Plans for each basin or area of nonattainment and maintenance pollutants. The Proposed Project crosses through four major jurisdictions. One of the alternatives crosses into the Phoenix-Mesa 8-hour nonattainment area in Maricopa County in the jurisdiction of MCAQD. In the MDAQMD, one State nonattainment area would be crossed. Additionally, the MDAQMD and ADEQ do not include any federal nonattainment or maintenance areas affected by the Proposed Project. In the SCAQMD jurisdiction, the Proposed Project crosses through federal nonattainment areas in two air basins and State nonattainment areas within three air basins. The relevant attainment plans for the MCAQD, MDAQMD, and SCAQMD jurisdictions are described below.

D.11.2.4.1 MCAQD Air Quality Plans

The Palo Verde Alternative would cross into the MCAQD 8-hour ozone nonattainment area. The 8-hour ozone standard is a relatively new standard, and the 8-hour nonattainment plan has not yet been developed by MCAQD. The MCAQD has no existing approved 1-hour ozone plan. Therefore, there are no relevant air quality plans for the Arizona portion of the Proposed Project route.

D.11.2.4.2 MDAQMD Air Quality Plans

The MDAQMD has prepared ozone and PM10 federal attainment plans (MDAQMD, 2006); however, these plans cover areas in San Bernardino County and do not cover the area of the Proposed Project route. The MDAQMD's 2004 ozone plan also covers State attainment planning, but this plan has no control measures that would be relevant to the Proposed Project. The MDAQMD has recently published a planning document for particulate matter reduction to meet State planning requirements. This particulate matter reduction planning document includes more stringent requirements to be potentially adopted into MDAQMD Rule 403. The Proposed Project would have to comply with any future revisions to MDAQMD Rule 403 at the time of project construction.

D.11.2.4.3 SCAQMD Air Quality Plans

The SSAB (Coachella Valley Portion) and SCAB are designated as nonattainment for both federal and State ozone and PM10 standards. One-hour ozone is classified under federal and State standards as extreme nonattainment. Eight-hour ozone is classified under federal standards as severe nonattainment. PM10 is designated as serious nonattainment and nonattainment under federal and State standards, respectively. The SCAB is designated as nonattainment of the federal CO standard. The SCAB is also designated as nonattainment of the federal and State PM2.5 standards. All other federal and State criteria pollutants are considered to be in attainment by the State, and unclassified/attainment by federal standards.

The SCAQMD is the lead agency for attaining timely compliance with federal standards within the Coachella Valley Portion of the SSAB and the SCAB. As such, SCAQMD is responsible for developing those portions of the State Implementation Plan (SIP), and the Air Quality Management Plan (AQMP), that deal with certain stationary and area source controls and, in cooperation with the transportation planning agencies, the development of transportation control measures (SCAQMD, 2006a).

SCAQMD Ozone Attainment Planning. The SCAQMD Governing Board adopted the 2003 Air Quality Management Plan on August 1, 2003. The 2003 AQMP updates the attainment demonstration for the federal 1-hour ozone standard. The initial 8-hour ozone attainment plan is not due until June 2007. The 2003 AQMP is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone SIP for the South Coast Air Basin for the attainment of the federal ozone air quality standard. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) from all sources, specifically mobile sources those under the jurisdiction of CARB and the U.S. EPA, which account for approximately 80 percent of the ozone precursor emissions in the SCAB.

SCAQMD PM10 Attainment Planning

- **SSAB (Coachella Valley Portion).** The SCAQMD Governing Board adopted the 2002 Coachella Valley PM10 State Implementation Plan on June 21, 2003, and the 2003 Coachella Valley PM10 State Implementation Plan on August 1, 2003. These plans include several relevant fugitive dust control measures. These measures have been implemented through the adoption of SCAQMD Rule 403.1 and the enhancement of SCAQMD-approved local ordinances. Control measure CV BCM 1 (Further Control of Emissions from Construction/Earth-Movement Activities) requires the implementation of Best Available Control Measures and the submittal and approval of dust control plans for sites over 5,000 square feet requiring a building permit. Control measure CV BCM 2 (Disturbed Vacant Lands) requires owners of vacant lands with disturbed areas greater than 5,000 square feet to control fugitive dust through site control and maintaining a surface crust (i.e., stabilized surface). Control

measure CV BCM 3 (Unpaved Roads and Unpaved Parking Lots) requires the paving or treatment of unpaved roads with more than 150 daily trips and implementation of measures to reduce traffic speeds on roads with 20 to 150 daily trips. Owners of existing or new unpaved parking lots are required to stabilize and gravel or pave these lots. Control measure CV BCM 4 (Paved Road Dust) in part requires construction projects greater than five acres or with import/export greater than 100 cubic yards per day to install track-out control devices at the intersection of unpaved access roads and paved roads. The Proposed Project would be required to submit for approval dust control plans in compliance with Rule 403.1, which ensure that the proposed fugitive dust control measures would not conflict with the Coachella Valley PM10 attainment plan.

- **SCAB.** The 2003 AQMP updates the attainment demonstration for the federal PM10 standards. Two new control measures listed in the 2003 AQMP could be applicable to the construction of the Proposed Project: (1) BCM-07 Further PM_{10} Reductions from Fugitive Dust Sources (which may be reflected in the recent revision to District Rule 403); and (2) FSS-06 Further Emission Reductions from In-Use Off-Road Equipment and Vehicles. The Proposed Project's construction contractor would have to comply with the most recent version of the fugitive dust control Rule 403. However, the AQMP control measure for in-use offroad equipment and vehicles has not yet undergone rule-making, and additional regulatory requirements may be established as a result of the FSS-06 control measure.

SCAQMD Carbon Monoxide Attainment Planning. The 2003 AQMP updated the CO attainment demonstration provided in the 1997 AQMP, which had updated the attainment demonstration given in the 1994 AQMP. The CO attainment strategy is primarily focused on emission reductions from onroad mobile sources. While the entire non-desert portion of the SCAB is designated as a federal CO nonattainment area, the area of Proposed Project activity does not actually experience any exceedances of the federal CO standards, and the Proposed Project would be far from the sole remaining area of south central Los Angeles that has most recently exceeded the federal CO 8-hour standard (Lynwood in 2002).

SCAQMD PM2.5 Attainment Planning. The SCAQMD has not yet prepared its AQMP for PM2.5, which is due to EPA by February 2008. Rules and regulations may be modified by SCAQMD in the near future to comply with the control strategies developed as a result of the upcoming PM2.5 AQMP. The project would have to comply with any applicable rules developed as a result of the PM2.5 AQMP.

D.11.2.5 Air Quality–Related Land Use Plan Policies

The Proposed Project would cross areas that are the subject of at least three dozen separate planning documents. Roughly one-half of these planning documents have no air quality policies, and of the other half, most have only generic policies regarding reduction of fugitive dust or use of materials that would reduce emissions. These policies, shown in Appendix 2 (Policy Screening Report) provide no specific air quality related requirements not otherwise covered by the requirements of the local rules and regulations. However, there is one planning document with explicit air quality policies that are above the requirements of any federal, State, or local air quality rule or regulation.

City of Coachella Policies

The City of Coachella General Plan contains the two following policies that are more stringent than SCAQMD rules and regulations:

- During site preparation, the City shall require that grading operations be suspended during first and second stage ozone episodes or when winds exceed 30 mph.

- The City shall require any construction access roads to be paved and cleaned after each work day to reduce PM10 emissions.

These policies are more stringent than SCAQMD rules and regulations, which allow alternative dust control to be applied in lieu of suspension of grading activities, and SCAQMD requirements also do not require construction access roads to be paved. The City of Coachella recognizes the differences between various projects in its implementation of these policies. The City of Coachella Public Works Director has indicated that for a transmission line construction project being constructed adjacent to an existing transmission corridor the City would not require the access roads to be paved, and the City would require suspension of site preparation activities only if there were visible dust impacts, regardless of wind speed (Lee, 2006). First and second stage ozone episodes do not currently occur in the Coachella Valley.

D.11.3 Significance Criteria and Approach to Impact Assessment

This section explains how impacts are assessed including the presentation of the significance criteria in Section D.11.3.1 on which impact determinations are based. Section D.11.3.2 lists the Applicant Proposed Measures relevant to noise impacts, and Section D.11.3.3 lists all impacts identified for the Proposed Project and alternatives.

D.11.3.1 Significance Criteria

Air quality impacts are characterized using location-specific criteria. Each local air quality management or air pollution control district establishes the criteria to be used to assess impacts of a project on air quality. Air quality impacts of the Proposed Project would be considered significant if:

- The Proposed Project would be inconsistent with the current approved Air Quality Management Plan.
- The Proposed Project would exceed applicable federal General Conformity Rule (40 CFR Parts 6, 51, and 93) emission *de minimis* thresholds (see Table D.11-10).
- Activities associated with the Proposed Project would generate emissions of air pollutants that would exceed SCAQMD or MDAQMD air quality CEQA thresholds (see Tables D.11-11 and -12), or create annual emissions within an attainment area greater than the U.S. EPA basic Prevention of Significant Deterioration emission thresholds of 250 tons per year of any pollutant.
- Activities associated with the Proposed Project would cause or contribute to any new violation of NAAQS or CAAQS in the project area; or interfere with the maintenance or attainment of NAAQS or CAAQS; or increase the frequency or severity of any existing violations of NAAQS or CAAQS; or delay the timely attainment of any standard, interim emission reduction, or other air quality milestone promulgated by the U.S. EPA, CARB, or local air quality agency.
- The Proposed Project would expose a substantial number of people to objectionable odors.
- The Proposed Project would expose sensitive receptors to substantial pollutant concentrations.

Impact Characterization in Federal Nonattainment Areas. In federal nonattainment areas, the federal General Conformity Rule would provide additional significance criteria. The general conformity applicability thresholds for the nonattainment areas along the project route are given in Table D.11-10.

Table D.11-10. General Conformity Thresholds

Area	NOx and VOC	PM10	CO	PM2.5 and SO_2
Phoenix-Mesa Nonattainment Area	100 tons/year[1]	n/a	n/a	n/a
Salton Sea Air Basin	50 tons/year	70 tons/year	n/a	n/a
South Coast Air Basin	25 tons/year	70 tons/year	100 tons/year	100 tons/year

n/a – not applicable.
1 This applies only to the portion of the Palo Verde Alternative within the Phoenix-Mesa 8-hour ozone nonattainment area.

The General Conformity Rule *de minimis* emission thresholds shown in Table D.11-10 would apply to those areas in nonattainment of the NAAQS. Per Section 176(c) of the Clean Air Act Amendments (CAAA) of 1990, the BLM must make a determination of whether the Proposed Project (i.e., Proposed Action) "conforms" to the State Implementation Plan (SIP). However, if the total direct and indirect emissions from the proposed Project are below the General Conformity Rule *de minimis* emission thresholds, the proposed Project would be exempt from performing a comprehensive Air Quality Conformity Analysis, because it would be presumed to conform with the SIP within these nonattainment areas.

The final General Conformity determination will be made by the BLM prior to project approval. The estimated nonattainment area pollutant emissions and general findings with regards to the General Conformity *de minimis* levels and need for a full conformity analysis are included in this document. However, the conformity analysis will be provided by the BLM separately from the Draft EIR/EIS.

Impact Characterization in Arizona. The MCAQD and ADEQ have not published any specific significance criteria to be used in evaluating air quality impacts in NEPA documents. However, outside of nonattainment areas, the PSD regulation major source emission threshold (250 tons per year of any pollutant) may be used as a significance criterion for attainment areas. An unmitigated emission increase in any attainment area of greater than 250 tons per year is considered to cause a significant air quality impact

Impact Characterization in California. The MDAQMD and SCAQMD have established regional thresholds of significance for project construction activities and operations subject to CEQA as shown below in Table D.11-11.

Table D.11-11. Air Quality Regional Thresholds

	MDQAMD		SCAQMD	
	Construction or Operation		Construction	Operation
Criteria Pollutant	Tons/year	lbs/day	lbs/day	lbs/day
Carbon Monoxide (CO)	100	548	550	550
Oxides of Nitrogen (NOx)	25	137	100	100
Particulate Matter (PM10)	15	82	150	150
Oxides of Sulfur (SOx)	25	137	150	150
Volatile Organic Compounds (VOC)	25	137	75	55

Source: SCAQMD, 2006; and MDAQMD, 2002.

The MDAQMD and SCAQMD interpret these significance criteria differently. For MDAQMD, once the emission thresholds are triggered and all feasible mitigation is applied, then the MDAQMD considers the project to have less than significant impacts. However, this is not the case for SCAQMD, where if after the incorporation of all feasible mitigation, the emission thresholds are still exceeded the project is considered to have significant and unavoidable air quality impacts.

In addition to the thresholds provided in Table D.11-11, the SCAQMD provides additional localized significance thresholds (LSTs). The SCAQMD LSTs are shown in Table D.11-12.

Table D.11-12. Localized Significant Thresholds for the SCAQMD

Criteria Pollutant	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) Hazard Index ≥ 3.0 (facility-wide)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
	Ambient Air Quality for Criteria Pollutants[a]
NO2	Project is significant if it causes or contributes to an exceedance of the following attainment standards[1]:
1-Hour Average	0.25 ppm (State)
Annual Average	0.053 ppm (federal)
PM10	
24-Hour Average	10.4 μg/m^3 (recommended for construction) 2.5 μg/m^3 (operation)
CO	
1-Hour Average	20 ppm (State)
8-Hour Average	9.0 ppm (State/federal)

Source: SCAQMD, 2006.

Notes: lbs/day = pounds per day; ppm = parts per million; ug/m^3 = micrograms per cubic meter; ≥ greater than or equal to

1 Numeric daily emission thresholds for meeting these ambient air quality thresholds for 1, 2 and 5 acre sites are provided in Appendix C of the SCAQMD LST Methodology Guidelines for each of the defined Source Receptor Areas within SCAQMD jurisdiction.

Ozone and PM2.5 are not shown in Tables D.11-10 through D.11-12. Ozone is not directly emitted from stationary or mobile sources; rather it is formed as the result of chemical reactions in the atmosphere between directly emitted air pollutants, specifically NOx and VOCs. Therefore, it cannot be directly regulated. PM2.5 is not included as it is currently in the early stages of becoming regulated, and as such, separate significance thresholds have not yet been developed.

D.11.3.2 Applicant Proposed Measures

Applicant Proposed Measures (APMs) were identified by SCE in its application for a Certificate of Public Convenience and Necessity (CPCN), and in subsequent information request responses. Table D.11-13 presents the APMs that are relevant to the air quality analysis. Impact analysis assumes that all APMs would be implemented as defined in the table; additional mitigation measures are recommended in this section if it is determined that APMs would not fully mitigate the impacts for which they are presented.

Table D.11-13. Applicant Proposed Measures – Air Quality

APM No.	Description
APM A-1	Heavy duty off-road diesel engines would be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations. (SCE)
APM A-2	Water or chemical dust suppressants would be applied to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.
APM A-3	Water or water-based chemical additives would be used in such quantities to control dust on areas with extensive traffic including unpaved access roads; water, organic polymers, lignin compounds, or conifer resin compounds would be used depending on availability, cost, and soil type.
APM A-4	Surfaces permanently disturbed by construction activities would be covered or treated with a dust suppressant after completion of activities at each site of disturbance.
APM A-5	Vehicle speeds on unpaved roadways would be restricted to 15 miles per hour.
APM A-6	Vehicles hauling dirt would be covered with tarps or by other means.
APM A-7	Site construction workers would be staged offsite at or near paved intersections and workers would be shuttled in crew vehicles to construction sites. As part of the construction contract, SCE would require bidders to submit a construction transportation plan describing how workers would travel to the job site.
APM A-8	Emissions credits would be purchased to offset any emissions levels which are over the emissions thresholds.
APM A-9	Visible emission from all heavy duty off road diesel equipment shall not exceed 40 percent opacity for more than three minutes in any hour of operation;
APM A-10	A comprehensive inventory (i.e., make, model, year, emission rating) of all heavy-duty off road equipment (50 horsepower or greater) than will be used an aggregate of 40 hours per week or more during the duration of the construction project will be submitted to the Districts;

Source: SCE, 2005 (PEA), A-1 through A-8, Data Request Response Set 6 Question 4 (A-9 and A-10).

The Applicant Proposed Measures mirror many of the fugitive dust rule requirements of the various jurisdictions covered by the Proposed Project, and they include very little mitigation beyond what would occur through compliance with local rules. Additionally, some of these measures, such as APM A-10, provide only record-keeping without providing any possible air quality impact mitigation. These measures would not achieve mitigation to the extent feasible, so potentially significant air quality impacts would require the implementation of additional feasible emission reduction mitigation methods that are identified in the analysis below.

This analysis assumes that APM A-8 would provide emission reduction credits (or offsets) for only those emissions above the federal General Conformity applicability thresholds, and only as necessary to complete a positive federal conformity determination for NOx and VOC emissions only. The use of offsets to mitigate emissions levels above all other local air district thresholds would not be not feasible because there would be no way to acquire all of the necessary offsets especially for PM10. Such quantities of PM10 emission reduction credits do not exist, and buying or creating the amount of necessary emission reductions would be cost-prohibitive and would not be possible within the proposed development schedule of the project.

D.11.3.3 Impacts Identified

Table D.11-14 lists the impacts identified for the Proposed Project and alternatives, along with the significance of each impact. Detailed discussions of each impact and the specific locations where each is identified are presented in the following sections. Impacts are classified as Class I (significant, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (adverse, but less than significant), and Class IV (beneficial).

Table D.11-14. Impacts Identified – Air Quality

Impact No.	Description	Impact Significance
Proposed Project		
AQ-1	Construction would generate dust and exhaust emissions	
	MCAQD	Class III
	ADEQ	Class II
	MDAQMD	Class II
	SCAQMD (SCAB, SSAB, and MDAB)	Class I
AQ-2	Operation, maintenance, and inspections would generate dust and exhaust emissions	Class III
AQ-3	Power generated during transmission line operation would cause emissions from power plants	
	MCAQD and ADEQ	Class III
	MDAQMD	Class III
	SCAQMD	Class IV
SCE Harquahala-West Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	MCAQD	Class III
	ADEQ	Class II
SCE Palo Verde Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	MCAQD	Class III
Harquahala Junction Switchyard Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	MCAQD	Class III
Desert Southwest Transmission Project Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	MDAQMD	Class II
	SCAQMD (SSAB and MDAB)	Class I
Alligator Rock–North of Desert Center Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	SCAQMD (MDAB)	Class I
Alligator Rock–Blythe Energy Transmission Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	SCAQMD (MDAB)	Class I
Alligator Rock–South of I-10 Frontage Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	SCAQMD (MDAB)	Class I
Devers-Valley No. 2 Alternative		
AQ-1	Construction would generate dust and exhaust emissions	
	SCAQMD (SSAB and SCAB)	Class I

D.11.4 Environmental Impacts and Mitigation Measures for the Proposed Project

The analysis describes the impacts of the Proposed Project related to air quality, determines whether implementation of the Proposed Project would result in significant impacts, and identifies appropriate mitigation measures to mitigate significant impacts to the extent feasible.

Impact assessment requires that the emissions for the entire project be evaluated within each of the affected jurisdictions and/or air basins. Since the proposed Devers-Harquahala and West of Devers portions of the project each occur within the SCAQMD jurisdiction and within the Coachella Valley of the Salton Sea Air Basin, their respective emissions would be additive within these two areas; therefore, it is not possible to provide separate the air quality assessments for the Devers-Harquahala and West of Devers portions of the projects.

Construction Impacts

Construction emissions would result from onsite activities, such as surface clearing, excavation, foundation construction, steel construction, etc. and from offsite activities such as construction-related haul trips and construction worker commuting. Pollutant emissions would vary from day to day depending on the level of activity, the specific operations, and the prevailing weather. Pollutant emissions would also move along the project route as the construction activities are completed at each tower site.

Construction equipment would include machinery such as water trucks, compactors, dump trucks, graders, bulldozers, loaders, cranes, diggers, tension machines, and concrete pump trucks (SCE, 2005). A considerable number of the offsite truck trips would be associated with importing concrete and structural steel and exporting wastes from tower demolition.

Air emissions for the Proposed Project are calculated using a standard calculation methodology accepted by such agencies as the SCAQMD and incorporating the APMs of Table D.11-13 and project environmental commitments, such as the use of CARB approved soil binders and watering for fugitive dust control.

Emission calculations and detailed quantification of impacts are provided in Appendix 9 (Air Quality). For offroad and onroad vehicles, except helicopters, exhaust emission factors from SCAQMD for the year 2008 and 2009 were used (SCAQMD, 2006), and U.S. EPA spark ignition engine emission factors were used for small offroad gasoline engines (U.S. EPA, 2005b). Fugitive dust emissions are calculated using the U.S. EPA's AP-42 emission factors (U.S. EPA, 2003) and various SCAQMD CEQA Handbook guideline parameters (e.g., unpaved road silt load content) (SCAQMD, 1993). Helicopter emission factors are based on values from the Federal Aviation Administration (FAA) Aircraft Engine Emission Database (FAEED) database (FAA, 2001). Where appropriate, SCE-generated information regarding equipment activity and schedule is used; however, in lieu of receiving complete equipment activity and project schedule information from SCE, certain additional assumptions are made for both offroad and onroad emission sources.

The emissions of dust and equipment exhaust pollutants during construction of the Proposed Project are shown below and compared to the significance criteria for impact characterization, depending on geographical location. The impacts are characterized depending on the local air quality jurisdiction because of the separate jurisdictional significance criteria.

The Proposed Project would not involve any notable sources of odors or toxic air contaminants (TACs). Construction equipment and some construction activities, such as small areas of asphalt paving, could create mildly objectionable odors. These odors would be temporary and would not affect a substantial number of people. Therefore, no odor impacts would occur. The Proposed Project does not involve any major sources or TACs but would include diesel-fueled equipment. However, the diesel equipment emissions would not be significant in any one location but spread over a very long project route; therefore, no TAC impacts would occur at any location along the transmission line ROW.

Operational Impacts – Direct Emissions

The direct operating emissions would be limited to the emissions caused by additional inspection and maintenance operations and the regular testing of two new emergency generators. The maximum daily inspection and maintenance emissions do not actually increase as a result of the project as the types of inspection and maintenance operations do not change, only the annual amount of each type of inspection and maintenance operation change (see Section B.4). The daily and annual operating emissions within each jurisdiction and nonattainment area would be minimal. Table D.11-15 provides the estimate of maximum daily and annual operating emissions from the various operating activities and compares them to the most limiting daily and annual emission criteria.

Table D.11-15. Worst Case Daily and Annual Operational Emissions

		Emissions (daily – lbs/day, annual – tons/yr)					
		NOx	VOC	CO	PM10	PM2.5	SO_2
Daily	Stationary Source Daily Emissions	8.57	0.25	0.67	0.00	0.00	0.00
	Inspection Maximum Daily Emissions	3.11	0.42	1.75	79.25	12.20	0.00
	Maintenance Maximum Daily Emissions	14.04	1.61	9.33	59.23	9.73	0.01
	Most Stringent significance Threshold	100	75	548	82	—	137
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO
Annual	Maximum Annual Emissions	0.32	0.02	0.12	0.74	0.13	0.00
	Most Stringent significance Threshold	25	25	100	70	100	100
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.

Operational Impacts – Indirect Emissions

Indirect operational impacts could include potential emissions from power plants if the proposed transmission line would cause increased power plant emissions. Demand for electricity would not change as a result of the Proposed Project, and power generated in response to the demand would occur regardless of whether the Proposed Project is approved or disapproved. Although the project would not change the demand for power, the project would generally improve the efficiency of the generators delivering power by reducing constraints on the grid.

The California Independent System Operator (CAISO) forecasts that emissions from power plants would increase in Arizona and decrease in California with implementation of the Proposed Project (CAISO, 2005). This forecast is based on the dispatch of more modern and efficient facilities in Arizona displacing older and less efficient generating source in California. The CAISO forecasts that with DPV2, power plant NOx emissions in Arizona would increase by 200 tons/year, and NOx emissions in California would decrease by 590 tons/year, for a net decrease of 390 tons/year. These values represent small changes when considered that statewide they only amount to an increase of 0.05 percent of Arizona statewide 2001 NOx emissions, and a decrease of 0.05 percent of California 2004 NOx emissions.

The general findings of the CAISO forecast may somewhat overstate this effect of the project due to the fact that the forecast is based on 2008 only, and it is likely that DPV2 would not be in operation until late 2009 or early 2010. Additionally, CAISO did not provide future forecasts that would likely show how the incremental reduction in the emissions in California may diminish over time due to the planned retiring or eventual repowering of older less efficient facilities and the construction of additional newer more efficient facilities in California. The indirect changes in power plant emissions caused by the Proposed Project are discussed in further detail for each separate jurisdiction below.

D.11.4.1 Maricopa County Air Quality Department

The jurisdiction of the MCAQD includes the following project components:

- Construction of 96 new towers/poles and 27 miles of transmission line
- Construction of upgrades at the Harquahala Generating Station switchyard
- Access and spur road construction and repair

Construction Impacts

Impact AQ-1: Construction would generate dust and exhaust emissions (Class III)

The MCAQD jurisdiction includes all of Maricopa County. The emission estimates for construction activities during 2008 and 2009 are compared with the appropriate MCAQD regional significance criteria in Table D.11-16.

Table D.11-16. Worst Case Construction Emissions – MCAQD

		Emissions (annual – tons/yr)					
Jurisdiction		NOx	VOC	CO	PM10[1]	PM2.5[1]	SO_2
MCAQD	Annual Emissions (2008)	0.86	0.13	0.63	2.59	0.54	0.00
	Annual Emissions (2009)	11.04	1.50	9.72	45.38	8.14	0.02
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.
1 The PM10 and PM2.5 emission estimates include the implementation of MCAQD Best Available Control Measures and appropriate APMs.

The level of construction activity within Maricopa County would be relatively minor resulting in emissions well below the applicable thresholds. Additionally, the earthmoving permits required by the MCAQD would require BACM for construction dust control, which will assure that dust emissions will be controlled sufficiently to remain below the significance threshold. The regional emission impact for MCAQD is less than significant (Class III).

Operational Impacts

Impact AQ-2: Operation, maintenance, and inspections would generate dust and exhaust emissions (Class III)

The emissions caused directly by operation, maintenance, and inspection of the Proposed Project are shown above in Table D.11-15 to be below all applicable regional daily and annual emission thresholds. The emissions show that the Proposed Project would not result in significant direct operational emissions within any jurisdiction. Therefore, the operational impacts of the Proposed Project would not conflict with any air quality management plan, and the project's direct operations would have a less than significant impact (Class III) in all jurisdictions.

Impact AQ-3: Power generated during transmission line operation would cause emissions from power plants (Class III)

The CAISO forecasts that with DPV2, power plant NOx emissions in Arizona would increase by 200 tons/year. Similar changes in emissions of other criteria pollutants related to power generation would also occur. These emissions have been forecast to occur in 2008 at existing power plants that CAISO

determined to be underutilized in the absence of DPV2. The precise location and quantity of the emissions would be likely to change over time depending on the ultimate sources of power flowing into DPV2. These NOx emissions represent a small change when considered in a statewide context. They amount to an increase of 0.05 percent of Arizona statewide 2001 NOx emissions. These emissions from existing facilities would be within permitted emission levels that have been previously licensed by local air management agencies, with U.S. EPA oversight. The increase in power plant emissions in Arizona, therefore, is considered to be an adverse but less than significant impact for all areas of Arizona (Class III).

D.11.4.2 Air Quality Division of Arizona Department of Environmental Quality

The jurisdiction of the Air Quality Division of ADEQ includes all of La Paz County and the following project components:

- Construction of 248 new towers and 75 miles of transmission line
- Construction of a telecommunications facility with an emergency engine on Harquahala Mountain
- Access and spur road construction and repair

Construction Impacts

Impact AQ-1: Construction would generate dust and exhaust emissions (Class II)

A relatively large construction effort would occur in La Paz County at locations far from paved roads. The significance thresholds for ADEQ are compared with the construction emissions in Table D.11-17.

Table D.11-17. Worst Case Construction Emissions – ADEQ (La Paz County)

		Emissions (annual – tons/yr)					
Jurisdiction		NOx	VOC	CO	PM10[1]	PM2.5[1]	SO_2
ADEQ	Annual Emissions (2008)	3.68	0.51	2.83	12.19	2.36	0.01
	Annual Emissions (2009)	25.40	3.37	22.37	105.50	18.74	0.04
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.
1 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measure AQ-1a and appropriate APMs.

Unmitigated PM10 levels within the ADEQ in 2009 would exceed 550 tons. Wet dust suppression by watering the unpaved roads would reduce these emissions to levels over 350 tons, which would cause a potentially significant impact. The high levels of fugitive dust would occur due to the many miles of unpaved road in La Paz County that would be traveled during construction activities.

The Applicant proposed seven specific APMs for the control of fugitive dust. Three of these measures, APM-2 through APM-4, lack enough specificity to determine whether all potentially significant impacts would be mitigated. To allow clear enforcement of APM-2 through APM-4, additional mitigation is necessary.

Mitigation Measure AQ-1a replaces APM-2 through APM-4 in order to avoid a potentially significant PM10 impact and to ensure that dust control measures reduce PM10 emissions to levels assumed in the emission calculations. The maximum daily PM10 emissions would be dominated by the unpaved road dust emissions. As a result, use of CARB certified soil binders on unpaved roads would be necessary to reduce emissions to below the significance criteria of 250 tons per year of PM10. For the potentially signifi-

cant PM10 emissions within the ADEQ, the use of Mitigation Measure AQ-1a would reduce the construction impact to a less than significant level (Class II).

Mitigation Measures for Impact AQ-1: Construction would generate dust and exhaust emissions

AQ-1a **Develop and Implement a Fugitive Dust Emission Control Plan.** SCE shall develop and implement a Fugitive Dust Emission Control Plan (FDECP) for construction work. Measures to be incorporated into the plan include, but are not limited to the APMs (A-1 and A-5 through A-7) and the following, which also incorporate and revise the requirements of APMs A-2 through A-4 to make them definitive and enforceable:

- CARB certified non-toxic soil binders shall be applied to all active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction (as allowed by responsible agencies such as the USFWS) in amounts meeting manufacturer's recommendations to meet the CARB certification fugitive dust reduction efficiency of 84 percent.
- Water the disturbed areas of the active construction sites, where CARB certified soil binders have not been applied, at least three times per day.
- Enclose, cover, water three times daily, or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a five percent or greater silt content.
- Install wheel washers/cleaners or wash the wheels of trucks and other heavy equipment where vehicles exit the site or unpaved access roads and sweep paved streets daily with water sweepers if visible soil material from the construction sites or unpaved access roads are carried onto adjacent public streets.
- Establish a vegetative ground cover or allow natural revegetation to occur on temporarily disturbed areas following the completion of construction (in compliance with biological resources impact mitigation measures), or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.
- Increase the frequency of watering, or implement other additional fugitive dust mitigation measures, to all disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 miles per hour (mph).
- Travel route planning will be completed to identify required travel routes to minimize unpaved road travel to each construction site to the extent feasible.

D.11.4.3 Mojave Desert Air Quality Management District

The jurisdiction of the MDAQMD includes the following project components:

- Construction of 78 new towers and 23 miles of transmission line
- Construction of the Midpoint Substation
- Access and spur road construction and repair

Construction Impacts

Impact AQ-1: Construction would generate dust and exhaust emissions (Class II)

Figure D.11-2 shows the location of the California local air quality agency jurisdictions. Since the construction duration within the MDAQMD jurisdiction would be less than one year, the maximum daily significance criteria, rather than the annual criteria, are more stringent and are the significance criteria used in the characterization of the impact. The significance thresholds for MDAQMD are compared with the construction emissions in Table D.11-18.

Table D.11-18. Worst Case Construction Emissions – MDAQMD

		Emissions (daily – lbs/day)					
Jurisdiction		NOx	VOC[1]	CO[1]	PM10[2]	PM2.5[2]	SO_2
MDAQMD	Maximum Daily Emissions	406	54	352	595	131	1
	Significance Threshold	137	137	548	82	—	137
	Exceeds (YES/NO)	YES	NO	NO	YES	—	NO

Source: Appendix 9.
1 The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f).
2 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measure AQ-1a and appropriate APMs.

Daily construction emissions would be potentially significant for NOx and PM10 within the MDAQMD jurisdiction. Implementation of Mitigation Measures AQ-1a through AQ-1g would reduce construction impacts to air quality to the maximum degree feasible. As noted previously APMs A-1 and A-5 through A-7 are assumed to be implemented, and APMs A-2 through A-4 have been replaced with more specific and enforceable requirements in Mitigation Measure AQ-1a. Mitigation Measures AQ-1b through AQ-1g would be necessary to mitigate equipment exhaust emissions to the extent feasible. Although the emissions would remain above the MDAQMD daily significance threshold values, the MDAQMD recommends that the impact be considered less than significant after mitigation.

With the implementation of all feasible mitigation measures, in accordance with MDAQMD CEQA guidance, the regional construction impact for the MDAPCD would be reduced to a less than significant level after mitigation (Class II).

Mitigation Measures for Impact AQ-1: Construction would generate dust and exhaust emissions

Implement Mitigation Measure AQ-1a along with:

AQ-1b **Use ultra low-sulfur diesel fuel.** CARB-certified ultra low-sulfur diesel (ULSD) fuel containing 15 ppm sulfur or less shall be used in all diesel-powered construction equipment.

AQ-1c **Restrict engine idling.** Diesel engine idle time shall be restricted to no more than a 10 minutes duration.

AQ-1d **Use lower emitting offroad diesel-fueled equipment.** All offroad construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular

item of equipment. In the event a Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers that the use of such devices is not practical for specific engine types. Equipment properly registered under and in compliance with CARB's Statewide Portable Equipment Registration Program are considered to comply with this mitigation measure.

AQ-1e **Use onroad vehicles that meet California onroad standards**. All onroad construction vehicles working within California shall meet all applicable California onroad emission standards and shall be licensed in the State of California. This does not apply to construction worker personal vehicles.

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

AQ-1g **Reduce helicopter use during construction.** Helicopter use shall be limited to that necessary for conductor installation, using helicopters of the smallest practical size. Helicopters shall not be used for delivering supplies or personnel within any federal or State criteria pollutant nonattainment areas except as otherwise specified by the CPUC or BLM.

Operational Impacts

Impact AQ-3: Power generated during transmission line operation would cause emissions from power plants (Class III)

The CAISO forecasts that with DPV2, power plant NOx emissions in Arizona would increase by 200 tons/year, and NOx emissions in California would decrease by 590 tons/year, for a net decrease of 390 tons/year. Similar changes in emissions of other criteria pollutants related to power generation would also occur. The CAISO forecasts also include an increase in the operation of the existing Blythe Energy Power Plant Phase I, which for electrical planning purposes was considered by CAISO to occur in Arizona. The precise location and quantity of the forecasted emissions would change over time depending on the ultimate sources of power flowing into DPV2. These emissions would be within permitted emission levels that have been previously mitigated (offset) through MDAQMD permitting with U.S. EPA oversight and the licensing requirements of the California Energy Commission. As such, the increase in power plant emissions at the Blythe Energy Power Plant Phase I is considered to be an adverse but less than significant impact (Class III) because.

D.11.4.4 South Coast Air Quality Management District

The jurisdiction of the SCAQMD includes the following project components inside the SCAQMD boundary, east of the Devers Substation:

- Construction of 349 new towers and 105 miles of transmission line
- Construction of upgrades at the Devers Substation
- Access and spur road construction and repair

Additionally, all of the following components related to the West of Devers upgrades would be within the SCAQMD:

- Construction of 173 new towers and 40 miles of transmission line
- Reconductoring of over 50 miles of existing towers
- Construction of upgrades at several substations
- Wreckout of 40 miles of existing transmission towers and lines
- Access and spur road construction and repair

Construction Impacts

Impact AQ-1: Construction would generate dust and exhaust emissions (Class I)

There are three separate emission-based significance criteria considered under this impact in SCAQMD. Two are based on regional emissions, and one is based on localized emissions. The regional significance criteria and the federal General Conformity thresholds are compared with the construction emissions in Table D.11-19. The localized emissions are addressed in a separate following discussion.

Table D.11-19. Worst Case Construction Emissions – SCAQMD

		Emissions (daily – lbs/day, annual – tons/yr)					
Jurisdiction		NOx	VOC[1]	CO[1]	PM10[2]	PM2.5[2]	SO_2
MDAB	Annual Emissions (2008)	16.61	2.23	14.19	21.99	5.05	0.02
	Annual Emissions (2009)	9.98	1.30	7.88	15.08	3.56	0.02
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO
SSAB	Annual Emissions (2008)	29.00	3.92	24.13	40.33	4.59	0.04
	Annual Emissions (2009)	8.01	1.09	6.53	10.31	2.48	0.01
	Significance Threshold	—	—	250	—	250	250
	Exceeds (YES/NO)	NO	—	NO	—	NO	NO
	General Conformity Thresholds	50	50	—	70	—	—
	Exceeds (YES/NO)	NO	NO	—	NO	—	—
SCAB	Annual Emissions (2008)	33.43	3.96	22.91	17.89	5.14	0.05
	Annual Emissions (2009)	14.74	1.84	10.19	9.46	2.60	0.02
	General Conformity Thresholds	25	25	100	70	100	100
	Exceeds (YES/NO)	YES	NO	NO	NO	NO	NO
Entire SCAQMD	Maximum Daily Emissions	590	84	490	730	167	1
	Significance Threshold	100	75	550	150	—	150
	Exceeds (YES/NO)	YES	YES	NO	YES	—	NO

Source: Appendix 9.

1 The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f).

2 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measures AQ-1a and appropriate APMs.

Daily construction emissions would be potentially significant for NOx, VOC, and PM10 within the SCAQMD jurisdiction. The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f), and without assuming some level of control for the portable gasoline-fueled equipment both the CO and VOC emissions would also exceed the SCAQMD daily regional significance criteria.

The proposed construction activities in the SCAQMD would occur in an urban context that experiences more severe baseline air quality nonattainment than other jurisdictions affected by the Proposed Project. The urban context provides additional mitigation opportunity because project construction emissions could be reduced by scheduling certain activities to avoid "rush hours," which would be accomplished with Mitigation Measure AQ-1h. Mitigation Measure AQ-1i would ensure that APM A-8 is made enforceable, with the specific requirement to obtain emission reduction credits (offsets) for NOx emissions that would otherwise be above the relatively stringent federal General Conformity *de minimis* threshold for the South Coast Air Basin.

Implementation of Mitigation Measures AQ-1a through AQ-1i would reduce construction impacts to air quality in the SCAQMD to the maximum degree feasible but would not eliminate all potentially significant impacts. The Proposed Project's NOx and PM10 emissions, even after implementation of these feasible mitigation measures, would remain above the SCAQMD daily significance threshold values. Therefore, the daily emissions from the Proposed Project would cause significant and unavoidable impacts in the SCAQMD (Class I).

SCAQMD Localized Impacts. Most of the construction route through the SCAQMD jurisdiction is in remote areas that would not affect sensitive receptors. However, the western part of the route is in more highly developed areas, where development has encroached near the transmission corridor. Table D.11-20 shows the maximum single construction site emissions in comparison with the appropriate worst case SCAQMD significant emission thresholds.

Table D.11-20. Localized Construction Impacts

	CO	NOx	PM10[1]
Tower Construction Worst Case Daily Emissions	46.05 lbs/day	69.14 lbs/day	10.37 lbs/day
Localized significance Thresholds (25 meters)[1]	407 lbs/day	144 lbs/day	4 lbs/day
Exceeds (YES/NO)	NO	NO	YES
Staging Area Worst Case Daily Emissions	21.28 lbs/day	25.35 lbs/day	4.17 lbs/day
Localized significance Thresholds (25 meters)	1,155 lbs/day	438 lbs/day	14 lbs/day
Exceeds (YES/NO)	NO	NO	NO

Source: Appendix 9.

1 To assess the localized impact of the several hundred separate construction sites within SCAQMD that may be near sensitive receptors, a generic receptor is assumed to occur within 25 meters of one of the construction sites, such as a transmission tower construction site, a construction staging area, or a substation construction site. The construction route traverses portions of SCAQMD Source Receptor Areas (SRAs) 24, 28, 29, 30, 31, 34, and 35. Additional the project would require ancillary upgrades to substations located in SRAs 17, 24, and 30, and a marshalling yard in SRA 34. To be conservative the most stringent of these SRA LST lookup values from the SCAQMD LST methodology handbook (Appendix C) were used to determine significance. These lookup values correspond to the criteria pollutant LSTs provided in Table D.11-12. Tower site construction emissions are compared to the one-acre LST threshold values for SRA No. 24 (NOx and PM10) and No. 34 (CO) and the marshalling yard emissions will be compared to the five-acre LST threshold values for SRA 34. These locations also correspond to the more highly populated western portion of the route.

The emission estimates, per SCAQMD's local significance threshold (LST) methodology, are limited to the onsite emission sources only. They do not include the unpaved road travel needed to get to personnel and materials to the tower sites or the emissions from access road construction which do not occur at a single site but rather over a long stretch of road. Tower construction would have the potential to cause significant localized PM10 emission impacts for sensitive receptors located near the tower sites. The significant impacts, based on the SCAQMD LST lookup table, would extend to sensitive receptors within and just over 50 meters of the tower sites. Fugitive dust mitigation measures are assumed to be implemented in these emission estimates; therefore, the Proposed Project would cause significant and unavoidable (Class I) localized PM10 impacts for nearby sensitive receptors within SCAQMD jurisdiction, and all feasible fugitive dust mitigation measures need to be applied within this jurisdiction.

Mitigation Measures for Impact AQ-1

Implement Mitigation Measures AQ-1a through AQ-1g along with:

AQ-1h **Schedule deliveries outside of peak hours.** For marshalling and construction yards west of the eastern border of the City of Indio, all material deliveries to the yards and from the yards to the construction sites shall 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 shall be minimized to the extent feasible.

AQ-1i **Obtain NOx emission offsets.** SCE shall obtain NOx emission reduction credits or offsets in sufficient quantities to offset construction emissions of NOx that exceed the South Coast Air Basin ozone nonattainment area federal General Conformity Rule applicability threshold as determined in the General Conformity analysis for the project. The emission offset method shall comply with SCAQMD rules and regulations, and offsets shall be obtained by SCE prior to construction.

These mitigation measures would reduce NOx and PM10 emissions and provide mitigation as assumed in the emission calculations to assure that the CO emissions would remain below the daily emission significance criteria. The requirement within Mitigation Measure AQ-1a for use of CARB approved soil binders on all active unpaved roadways is particularly critical as it would reduce the unpaved road dust emissions by 84 percent, while watering alone would not reduce the PM10 emissions below the General Conformity threshold for the SSAB because it would provide only 38 percent efficiency based on watering twice a day. Watering the active portions of these long unpaved access roads two or three times daily would have limited effectiveness due to the generally arid conditions and would also use large quantities of water.

The incorporation of the proposed Mitigation Measures AQ-1d through AQ-1h would meet the intent of the SCAQMD PM10 attainment plan control measure FSS-06. Therefore, the Proposed Project would not conflict with the SCAQMD PM10 attainment plan.

The CO emissions from the proposed construction would not be concentrated and would occur over a large area, so the Proposed Project's CO emission will not have the potential to cause a significant localized CO hot spot. The Proposed Project will not conflict or obstruct the implementation of the 1994, 1997, or 2003 SCAQMD AQMPs for CO.

Operational Impacts

Impact AQ-3: Power generated during transmission line operation would cause emissions from power plants (Class IV)

The CAISO forecasts that with DPV2, power plant NOx emissions in California would decrease by 590 tons/year. Similar changes in emissions of other criteria pollutants related to power generation would also occur. The precise location and quantity of the forecasted emissions reductions would change over time depending on the ultimate customers of power flowing from DPV2. The decrease in California power plant emissions is considered to be a beneficial impact of the Proposed Project (Class IV).

D.11.4.5 Conformity with Clean Air Act Amendments

The Proposed Project would exceed the federal General Conformity *de minimis* thresholds, assuming the current project schedule and activity forecasts. Table D-11.19 shows that the Proposed Project would exceed the SCAB NOx threshold for General Conformity in 2008. Therefore, a General Conformity

analysis would need to be completed by the BLM separately prior to the final decision for the activities of the Proposed Project within the SCAB. Implementation of the proposed Mitigation Measures AQ-1a through AQ-1h would bring other nonattainment pollutant annual emissions to levels below their respective General Conformity *de minimis* thresholds. Specifically, the soil binder requirement of Mitigation Measure AQ-1a must be implemented. If it is not, then the PM10 emissions within the SSAB would also exceed the General Conformity *de minimis* threshold of 70 tons per year. The General Conformity analysis would be the first step in implementation of Mitigation Measure AQ-1i (Obtain NOx emission offsets).

Completing a General Conformity analysis allows implementation of Mitigation Measure AQ-1i. This measure provides mitigation for the quantity of NOx emissions found by the General Conformity analysis to be above the SCAB General Conformity *de minimis* thresholds. This measure requires that NOx emissions be offset during years that project emissions are forecast to exceed the SCAB General Conformity *de minimis* threshold.

D.11.5 Alternatives for Devers-Harquahala

The alternatives are described in detail in EIR/EIS Appendix 1 (Alternatives Screening Report). A summary of the each alternative's parameters related to air quality are provided below, along with an estimate of the emissions for each alternative and an assessment of impacts for each alternative. None of the alternatives would cause a significant change to the operating emissions determined for the Proposed Project, so only the construction emissions and resulting impacts are assessed for the alternatives. Impact conclusions are made based on the assessment of total project impacts, after incorporation of the alternative segment or component.

Impact AQ-2 (Operation, maintenance, and inspections would generate dust and exhaust emissions) would remain less than significant for all alternatives (Class III). Under all the alternatives, Impact AQ-3 (Power generated during transmission line operation would cause emissions from power plants) would remain either less than significant (Class III) or beneficial (Class IV) depending on location, as shown in Table D.11-14 above.

D.11.5.1 SCE Harquahala-West Alternative

Environmental Setting

This alternative route crosses over a few miles of Maricopa County (MCAQD jurisdiction) and a few miles of La Paz County (ADEQ Jurisdiction) completely within NAAQS attainment areas. If this alternative were implemented, the actual project route mileage within Maricopa County would decrease by 14 miles but it would not change substantially within La Paz County as compared with the Proposed Project. This alternative route would not be aligned along an existing transmission line right of way, so additional access road construction would be required within each of these two counties.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class II/Class III)

This alternative would cause construction activities similar to those of the Proposed Project, except it would:

- Decrease the number of new towers by 47
- Eliminate the need for the 23 new tubular steel poles
- Require 13 miles of new access or spur road construction
- Shorten the overall Devers-Harquahala route length by 14 miles

The annual emissions during the year of construction in this section of the route, assumed to be 2009, are impacted by this alternative. The revised annual emissions for the ADEQ and MCAQD are shown in Table D.11-21.

Table D.11-21. Harquahala-West Alternative – Construction Emissions

		Emissions (tons/yr)					
Jurisdiction		NOx	VOC	CO	PM10[1]	PM2.5[1]	SO_2
MCAQD	Alternative Emissions Change	–7.31	–0.97	–6.53	–32.10	–5.62	–0.01
	Alternative 2009 Emissions	3.73	0.53	3.20	13.28	2.51	0.01
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO
ADEQ	Alternative Emissions Change	+0.24	+0.03	+0.15	+0.55	+0.11	+0.00
	Alternative 2009 Emissions	25.64	3.40	22.52	106.04	18.85	0.04
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.
1 The PM10 and PM2.5 emission estimates include the implementation of appropriate APMs with MCAQD Best Available Control Measures within Maricopa County and Mitigation Measure AQ-1a within La Paz County.

This alternative would cause a slight increase over the Proposed Project's construction emissions within ADEQ jurisdiction and a fairly large decrease in construction emissions within the MCAQD jurisdiction, with an overall reduction in construction emissions. The impact would be classified as less than significant in MCAQD (Class III), but as with the Proposed Project, mitigation would be required in the ADEQ to reduce this impact to a less than significant level (Class II). Mitigation Measure AQ-1a is required for construction of this alternative within ADEQ as it is with the Proposed Project.

D.11.5.2 SCE Palo Verde Alternative

Environmental Setting

This alternative route crosses over a few miles of Maricopa County (MCAQD jurisdiction) and crosses into the Phoenix-Mesa 8-hour nonattainment area.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class III)

This alternative would cause construction activities similar to those of the Proposed Project, except for the following:

- Increases the number of new towers by 50
- Eliminates the need for the 23 new tubular steel poles
- Requires 1 mile of new spur road construction
- Requires upgrading of the PVNGS substation.

The annual emissions during the year of construction in this section of the route, assumed to be 2009, are impacted by this alternative. The revised annual emissions for the MCAQD are shown in Table D.11-22.

Table D.11-22. Palo Verde Alternative – Construction Emissions

Jurisdiction		Emissions (annual – tons/yr)					
		NOx	VOC	CO	PM10[1]	PM2.5[1]	SO_2
MCAQD	Alternative Emissions Change	+3.38	+0.50	+2.96	+13.04	+2.32	+0.01
	Alternative 2009 Emissions	14.41	2.00	12.68	58.42	10.45	0.02
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO
	General Conformity Thresholds	100	100	—	—	—	—
	Exceeds (YES/NO)	NO	NO	—	—	—	—

Source: Appendix 9.
1 The PM10 and PM2.5 emission estimates include the implementation of MCAQD Best Available Control Measures and appropriate APMs.

This alternative would not cause any new or significantly increased impacts. No mitigation measures are required within MCAQD jurisdiction under this alternative. Conservatively, the entire MCAQD emission increase is compared to the General Conformity *de minimis* thresholds, and this shows that there is no potential for this alternative to exceed the General Conformity *de minimis* thresholds. This alternative would cause an increase of the Proposed Project's construction emissions within MCAQD jurisdiction, and the impact would remain less than significant (Class III).

D.11.5.3 Harquahala Junction Switchyard Alternative

Environmental Setting

This alternative is wholly located inside of Maricopa County within the jurisdiction of the MCAQD. This alternative reduces transmission line construction somewhat while requiring new construction to complete the switchyard. From an air quality perspective this alternative does not significantly impact the overall scope of the project.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class III)

This alternative would cause construction activities similar to those of the Proposed Project, except it would:

- Eliminate the need for the 23 new tubular steel poles
- Require the construction of the switchyard

The annual emissions during the year of construction in this section of the route, assumed to be 2009, are impacted by this alternative. The revised annual emissions for the MCAQD are shown in Table D.11-23.

Table D.11-23. Harquahala Junction Switchyard Alternative – Construction Emissions

Jurisdiction		Emissions (annual – tons/yr)					
		NOx	VOC	CO	PM10[1]	PM2.5[1]	SO_2
MCAQD	Alternative Emissions Change	–0.44	0.04	–0.17	–3.96	–0.65	0.00
	Alternative 2009 Emissions	10.60	1.54	9.55	41.42	7.48	0.02
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.
1 The PM10 and PM2.5 emission estimates include the implementation of MCAQD Best Available Control Measures and appropriate APMs.

This alternative would not cause any new or significantly increased impacts. No mitigation measures are required within MCAQD jurisdiction under this alternative. This alternative would cause a slight decrease in the Proposed Project's construction emissions within MCAQD jurisdiction, and the impact would remain less than significant (Class III).

D.11.5.4 Desert Southwest Transmission Project Alternative

Environmental Setting

This alternative would be located within the MDAB (MDAQMD and SCAQMD jurisdiction), and the SSAB (SCAQMD jurisdiction). This alternative includes additional construction activities in both air basins and both jurisdictions. The air quality impacts of this alternative are determined based on the scope of these additional construction requirements. This alternative does not impact the worst case daily construction phasing/emissions estimates and so does not impact the findings based on regional or localized worst case daily emissions.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class I/II)

This alternative would cause construction activities similar to those of the Proposed Project, except it would:

- Require the construction of an additional 32 towers, 30 near Blythe and 2 near Alligator Rock in the MDAB
- Increase the total project length by 9.37 miles, with 8.8 miles being near Blythe and 0.57 miles being near Alligator Rock in the MDAB.
- Require the construction of 13 miles of new roads/spurs.
- Require the construction to two additional substations, one in the MDAB and one in the SSAB.

The annual emissions during the year of construction in this section of the route, assumed to be 2008 for tower construction and 2009 for substation construction, are impacted by this alternative. The revised annual emissions for the MDAB and SSAB are shown in Table D.11-24.

Table D.11-24. Desert Southwest Transmission Project Alternative – Construction Emissions

Jurisdiction		Emissions (annual – tons/yr) NOx	VOC[1]	CO[1]	PM10[2]	PM2.5[2]	SO_2
MDAB (2008)	Alternative Emissions Change	+3.93	+0.53	+3.33	+5.52	+1.21	+0.01
	Alternative 2008 Emissions	20.53	2.76	17.52	27.51	6.26	0.03
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO
MDAB (2009)	Alternative Emissions Change	+2.60	+0.32	+1.71	+1.74	+0.49	+0.00
	Alternative 2009 Emissions	12.58	1.62	9.59	16.82	4.06	0.02
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO
SSAB (2009)	Alternative Emissions Change	+2.60	+0.32	+1.71	+1.81	+0.51	+0.00
	Alternative 2009 Emissions	10.61	1.41	8.24	12.12	2.99	0.02
	Significance Threshold	250	—	—	—	—	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.
1 The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f).
2 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measure AQ-1a and appropriate APMs.

The significance of the construction impacts of this alternative would be the same as the Proposed Project. Therefore, all construction mitigation measures identified for the Proposed Project are appropriate for the MDAQMD (Mitigation Measures AQ-1a through AQ-1g) and SCAQMD (Mitigation Measures AQ-1a through AQ-1i) under this alternative. This alternative would cause a slight increase in the Proposed Project's construction annual emissions within the MDAB and SSAB (MDAQMD and SCAQMD). This evaluation does not consider the replacement/reduction of the construction emissions of the separate DSWTP project. The construction impact would be less than significant with the mitigation implemented in MDAQMD (Class II), and it would be significant and unavoidable in SCAQMD (Class I).

D.11.5.5 Alligator Rock–North of Desert Center Alternative

Environmental Setting

This alternative route would be located wholly within the MDAB (SCAQMD jurisdiction). As shown in Table D.11-3, the area is in attainment of all NAAQS and is in attainment of all CAAQS except PM10 and ozone. There are no changes in the construction methods required for this alternative, and for air quality purposes this alternative is essentially a minor route adjustment that does not significantly impact the overall scope of the project.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class I)

This alternative would cause construction activities similar to those of the Proposed Project, except it would:

- Add 1.2 miles of transmission line (4 additional towers)
- Add 6.8 miles of new road construction

Since no changes in the construction methods or the construction phasing are assumed to occur this alternative does not affect the maximum daily emissions calculated for the Proposed Project. Only the annual emissions during the year of construction in this section of the route, assumed to be during 2008, are impacted by this alternative. The revised annual emissions for the SCAQMD portion of the MDAB are shown in Table D.11-25.

Table D.11-25. Alligator Rock–North of Desert Center Alternative – Construction Emissions

		Emissions (annual – tons/yr)					
Jurisdiction		NOx	VOC[1]	CO[1]	PM10[2]	PM2.5[2]	SO_2
MDAB	Alternative Emissions Change	+0.58	+0.08	+0.47	+0.71	+0.16	+0.00
	Alternative 2008 Emissions	17.19	2.31	14.66	22.70	5.21	0.03
	Significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.
1 The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f).
2 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measures AQ-1a and appropriate APMs.

The significance of the construction impact for this alternative is the same as the Proposed Project. Therefore, all construction mitigation measures identified for the Proposed Project (Mitigation Measures AQ-1a through AQ-1g) are appropriate for the MDAB portion of the SCAQMD under this alternative. This alternative would cause a slight emission increase from the Proposed Project, and the construction impact would significant and unavoidable (Class I).

D.11.5.6 Alligator Rock–Blythe Energy Transmission Alternative

Environmental Setting

The air quality setting of this alternative is essentially the same as that described in Section D.11.5.5.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class I)

This alternative would cause construction activities similar to those of the Proposed Project, except it would add 0.65 miles of transmission line (2 additional towers).

Since no changes in the construction methods or the construction phasing are assumed to occur this alternative does not affect the maximum daily emissions calculated for the Proposed Project. Only the annual emissions during the year of construction in this section of the route, assumed to be during 2008, are impacted by this alternative. The revised annual emissions for the MDAB portion of the SCAQMD are shown in Table D.11-26.

Table D.11-26. Alligator Rock–Blythe Energy Transmission Alternative – Construction Emissions

		Emissions (annual – tons/yr)					
Jurisdiction		NOx	VOC[1]	CO[1]	PM10[2]	PM2.5[2]	SO_2
MDAB	Alternative Emissions Change	+0.24	+0.03	+0.20	+0.35	+0.08	+0.00
	Alternative 2008 Emissions	16.85	2.26	14.39	22.34	5.13	0.02
	NEPA significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.
1 The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f).
2 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measures AQ-1a and appropriate APMs.

The significance of the construction impact for this alternative is the same as the Proposed Project. Therefore, all construction mitigation measures identified for the Proposed Project (Mitigation Measures AQ-1a through AQ-1g) are appropriate for the MDAB portion of the SCAQMD under this alternative. This alternative does cause a slight emission increase from the Proposed Project, and the construction impact would be significant and unavoidable (Class I).

D.11.5.7 Alligator Rock–South of I-10 Frontage Alternative

Environmental Setting

The air quality setting of this alternative is essentially the same as that described in Section D.11.5.5.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class I)

This alternative would cause construction activities similar to those of the Proposed Project, except it would:

- Add 0.57 miles of transmission line (2 additional towers)
- Add 3.25 miles of new road construction

Since no changes in the construction methods or the construction phasing are assumed to occur this alternative does not affect the maximum daily emissions calculated for the Proposed Project, or the significance criteria based on the maximum daily emissions. Only the annual emissions during the year of construction in this section of the route, assumed to be during 2008, are impacted by this alternative. The revised annual emissions for the MDAB portion of the SCAQMD are shown in Table D.11-27.

Table D.11-27. Alligator Rock–South of I-10 Frontage – Construction Emissions

		Emissions (annual – tons/yr)					
Jurisdiction		NOx	VOC[1]	CO[1]	PM10[2]	PM2.5[2]	SO_2
MDAB	Alternative Emissions Change	+0.31	+0.04	+0.24	+0.36	+0.08	+0.00
	Alternative 2008 Emissions	16.92	2.27	14.44	22.35	5.14	0.02
	NEPA significance Threshold	250	250	250	250	250	250
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO

Source: Appendix 9.

1 The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f).
2 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measures AQ-1a and appropriate APMs.

The significance of the construction impact for this alternative is the same as the Proposed Project. Therefore, all construction mitigation measures identified for the Proposed Project (Mitigation Measures AQ-1a through AQ-1g) are appropriate for the MDAB portion of the SCAQMD under this alternative. This alternative does cause a slight emission increase from the Proposed Project, and the construction impact would be significant and unavoidable (Class I).

D.11.6 Alternatives for West of Devers

D.11.6.1 Devers-Valley No. 2 Alternative

Environmental Setting

This alternative route is located within the SCAB and SSAB (SCAQMD jurisdiction). As shown in Table D.11-3, the area is in nonattainment of the all NAAQS, except NO_2 and SO_2, and is in nonattainment of the PM10, PM2.5 and ozone CAAQS.

This alternative reduces the overall project construction requirement within the SCAB because it would not require removal of towers in the West of Devers segment. With the exception of 16 remote towers, there are no changes in the construction methods; however, the scheduling is somewhat different resulting in different worst-case daily regional emissions. For the 16 remote towers, construction will be done by helicopter, which increases the worst case single location and maximum daily emissions for NOx and CO. However, these locations are not located near sensitive receptors, so the localized impact findings are not impacted by this alternative.

Impacts and Mitigation Measures

Impact AQ-1: Construction would generate dust and exhaust emissions (Class I)

This alternative includes the following estimated physical changes from the Proposed Project WOD route:

- Reduces the number of new towers by 21
- Requires helicopter construction at 16 remote tower locations
- Does not change the total road/spur construction from that assumed for WOD
- Does not require the removal of 415 towers
- Still requires the other ancillary substation construction activities required by the WOD portion of the Proposed Project route

There are no assumed changes in the construction methods or the general construction phasing assumptions; however, as there are different activities required with this alternative the maximum daily emissions are different than those calculated for the WOD portion of the project. It is assumed that it is not necessary to complete this construction significantly before the completion of Devers-Harquahala; therefore, the construction all occurs in 2009. The revised maximum daily and 2009 annual emission for the SCAB and SSAB are shown in Table D.11-28.

Table D.11-28. Devers-Valley No. 2 Alternative – Construction Emissions

		Emissions (daily – lbs/day, annual – tons/yr)					
Jurisdiction		NOx	VOC[1]	CO[1]	PM10[2]	PM2.5[2]	SO_2
SSAB	Alternative 2009 Emissions	3.03	0.34	2.33	0.95	0.36	0.00
	General Conformity Thresholds	50	50	—	70	—	—
	Exceeds (YES/NO)	NO	NO	—	NO	—	—
SCAB	Alternative 2009 Emissions	11.48	1.21	8.99	8.15	2.27	0.02
	General Conformity Thresholds	25	25	100	70	100	100
	Exceeds (YES/NO)	NO	NO	NO	NO	NO	NO
SCAQMD	Maximum Daily Emissions	699	79	537	269	90	1
	Significance Threshold	100	75	550	150	—	150
	Exceeds (YES/NO)	YES	YES	NO	YES	—	NO

Source: Appendix 9.

1 The CO and VOC emissions estimates assume the use of U.S. EPA Phase 2 compliant gasoline-fueled portable construction equipment (see Mitigation Measure AQ-1f).

2 The PM10 and PM2.5 emission estimates include the implementation of Mitigation Measures AQ-1a and appropriate APMs.

This alternative, with its assumed aggressive schedule and use of large helicopters, increases the maximum daily NOx and CO emission potential within the SCAB. However, due to the reduced amount of total construction, and particularly demolition, this alternative causes a significant reduction in the annual SCAB emissions, and to a lesser extent the annual SSAB emissions. This alternative, in place of the proposed WOD, would reduce the annual NOx emission to below the General Conformity *de minimis* threshold. The significance of the construction impact for this alternative is the same as the Proposed Project. Therefore, all construction mitigation measures identified for the Proposed Project (Mitigation Measures AQ-1a through AQ-1i) are appropriate for the SCAQMD (SSAB and SCAB) under this alternative, and the construction impact would be significant and unavoidable (Class I).

D.11.7 Environmental Impacts of the No Project Alternative

The No Project Alternative is defined in Section C.6. The No Project Alternative includes the assumption that existing transmission lines and power plants would continue to operate. The effects that these facilities cause on the existing environment would not change, so no new impacts would occur from continuing operation of the existing transmission lines and power plants. Also, under the No Project Alternative, the proposed DPV2 project would not be constructed, so the impacts associated with construction and operation of the project would not occur. These impacts avoided would include the dust and exhaust emissions caused by construction activities and the changes in emissions from power plants that could be caused by operation of DPV2. The forecast net decrease in emissions from power plants in California and the smaller increase in emissions from power plants in Arizona (described in Impact AQ-3) would not occur with implementation of No Project Alternative (CAISO, 2005).

The first component of the No Project Alternative is the continuation of ongoing demand-side actions, including energy conservation and distributed generation (DG). These actions would result in possible localized air quality impacts as a result of development of DG units by energy consumers. This would be the case if fossil-fuel fired or other combustion or thermal DG technologies become more widespread. For this type of development, local jurisdictions such as cities, counties, and air districts, would need to conduct environmental reviews and issue air quality permits for stationary sources related to these facilities. Increased conservation would not cause any air quality impacts.

The second component of the No Project Alternative is the continuation of supply-side actions, resulting in potentially increased generation within California or increased transmission into California to serve anticipated growth in electricity consumption. The impacts of new power plants and new transmission lines could add air pollutants contributing to existing nonattainment conditions or violations of ambient air quality standards, if they occur in areas of substantial existing pollution. Although construction and operation of new power plants and transmission lines may occur, their locations and development schedules cannot be predicted. New generation and construction activities would need to comply with local air quality management requirements and may require local air permit review. Stationary sources would be required to implement the Best Available Control Technology, and if occurring in nonattainment areas, new emissions would need to be offset with emission reductions from the control or shutdown of existing emission sources. These requirements are components of the New Source Review program and the emissions "cap and trade" program within SCAQMD which apply to any new major source of emissions. These requirements are effective at minimizing but not eliminating the air quality impacts of new stationary sources of power generation.

D.11.8 Mitigation Monitoring, Compliance, and Reporting Table

Table D.11-29 presents the mitigation monitoring table for Air Quality.

Table D.11-29. Mitigation Monitoring Program – Air Quality

IMPACT AQ-1	Construction would generate dust and exhaust emissions. (Class I / II / III)
MITIGATION MEASURE	AQ-1a: Develop and Implement a Fugitive Dust Emission Control Plan. SCE shall develop and implement a Fugitive Dust Emission Control Plan (FDECP) for construction work. Measures to be incorporated into the plan include, but are not limited to the APMs (A-1 and A-5 through A-7) and the following, which also incorporate and revise the requirements of APMs A-2 through A-4 to make them definitive and enforceable: • CARB certified non-toxic soil binders shall be applied to all active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction (as allowed by responsible agencies such as the Forest Service) in amounts meeting manufacturer's recommendations to meet the CARB certification fugitive dust reduction efficiency of 84 percent. • Water the disturbed areas of the active construction sites, where CARB certified soil binders have not been applied, at least three times per day. • Enclose, cover, water three times daily, or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a five percent or greater silt content. • Install wheel washers/cleaners or wash the wheels of trucks and other heavy equipment where vehicles exit the site or unpaved access roads and sweep paved streets daily with water sweepers if visible soil material from the construction sites or unpaved access roads are carried onto adjacent public streets. • Establish a vegetative ground cover or allow natural revegetation to occur on temporarily disturbed areas following the completion of construction (in compliance with biological resources impact mitigation measures), or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased. • Increase the frequency of watering, or implement other additional fugitive dust mitigation measures, to all disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 miles per hour (mph). • Travel route planning will be completed to identify required travel routes to minimize unpaved road travel to each construction site to the extent feasible.
Location	La Paz County (ADEQ Jurisdiction), Riverside County (MDAQMD and SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Review Fugitive Dust Emission Control Plan. Verify SCAQMD or local jurisdiction (within Coachella Valley) concurrence with the Plan. Inspect activities for dust control.
Effectiveness Criteria	PM10 emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measures.
Responsible Agency	BLM and ADEQ in Arizona; CPUC, MDAQMD, and SCAQMD in California. May also involve local city jurisdictions within the Coachella Valley that have received delegation of Rule 403.1 compliance from SCAQMD.
Timing	During construction
MITIGATION MEASURE	AQ-1b: Use ultra low-sulfur diesel fuel. CARB-certified ultra low-sulfur diesel (ULSD) fuel containing 15 ppm sulfur or less shall be used in all diesel-powered construction equipment.
Location	Riverside County (MDAQMD and SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Inspect fuel purchase records
Effectiveness Criteria	PM10 and PM10 precursor (SOx) emissions are reduced

Table D.11-29. Mitigation Monitoring Program – Air Quality

Responsible Agency	CPUC
Timing	During construction
MITIGATION MEASURE	AQ-1c: Restrict engine idling. Diesel engine idle time shall be restricted to no more than a 10 minutes duration.
Location	Riverside County (MDAQMD and SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Inspect activities for compliance with idle time restriction.
Effectiveness Criteria	Engine exhaust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measure.
Responsible Agency	CPUC
Timing	During construction
MITIGATION MEASURE	AQ-1d: Use lower emitting offroad diesel-fueled equipment. All offroad construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers that the use of such devices is not practical for specific engine types. Equipment properly registered under and in compliance with CARB's Statewide Portable Equipment Registration Program are considered to comply with this mitigation measure.
Location	Riverside County (MDAQMD and SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Inspect offroad equipment and offroad equipment records kept for APM-10.
Effectiveness Criteria	Engine exhaust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measure.
Responsible Agency	CPUC
Timing	During construction
MITIGATION MEASURE	AQ-1e: Use onroad vehicles that meet California onroad standards. All onroad construction vehicles working within California shall meet all applicable California onroad emission standards and shall be licensed in the State of California. This does not apply to construction worker personal vehicles.
Location	Riverside County (MDAQMD and SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Inspect onroad equipment
Effectiveness Criteria	Engine exhaust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measure.
Responsible Agency	CPUC
Timing	During construction
MITIGATION MEASURE	AQ-1f: Use lower emitting offroad gasoline-fueled equipment. All offroad stationary and portable gasoline powered equipment shall have EPA Phase 1/Phase 2 compliant engines, where the specific engine requirement shall be based on the new engine standard in effect two years prior to the initiating project construction.
Location	Riverside County (MDAQMD and SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Inspect offroad equipment

Table D.11-29. Mitigation Monitoring Program – Air Quality

Effectiveness Criteria	Engine exhaust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measure.
Responsible Agency	CPUC
Timing	During construction
MITIGATION MEASURE	AQ-1g: Reduce helicopter use during construction. Helicopter use shall be limited to that necessary for conductor installation, using helicopters of the smallest practical size. Helicopters shall not be used for delivering supplies or personnel within any federal or State criteria pollutant nonattainment areas except as otherwise specified by the CPUC or BLM.
Location	Riverside County (MDAQMD and SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Visual inspection of material delivery and conductor installation at construction sites
Effectiveness Criteria	Helicopter emissions, which are much higher than equivalent haul truck emissions for all pollutants except for fugitive dust, are reduced.
Responsible Agency	CPUC
Timing	During construction
MITIGATION MEASURE	AQ-1h: Schedule deliveries outside of peak hours. For marshalling and construction yards west of the eastern border of the City of Indio, all material deliveries to the yards and from the yards to the construction sites shall 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 shall be minimized to the extent feasible.
Location	Riverside County west of the eastern border of the City of Indio (SCAQMD Jurisdiction), and San Bernardino County (SCAQMD Jurisdiction)
Monitoring / Reporting Action	Inspect marshalling yard activities for delivery incoming and outgoing traffic.
Effectiveness Criteria	Engine exhaust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measure.
Responsible Agency	CPUC
Timing	During construction
MITIGATION MEASURE	AQ-1i: Obtain NOx emission offsets. SCE shall obtain NOx emission reduction credits or offsets in sufficient quantities to offset construction emissions of NOx that exceed the South Coast Air Basin ozone nonattainment area federal General Conformity Rule applicability threshold as determined in the General Conformity analysis for the project. The emission offset method shall comply with SCAQMD rules and regulations, and offsets shall be obtained by SCE prior to construction.
Location	South Coast Air Basin (SCAQMD Jurisdiction)
Monitoring / Reporting Action	As required in future General Conformity Final Analysis as Approved by BLM.
Effectiveness Criteria	NOx emissions fully offset
Responsible Agency	BLM
Timing	Prior to project approval

D.11.9 References

CAISO (California Independent System Operator). 2005. Economic Evaluation of the Palo Verde Devers Line No. 2 (PVD2). February 16.

CARB (California Air Resources Board). 2002. California Ambient Air Quality Data 1980-2001. Data CD Number: PTSD-02-017-CD. December.

CARB. 2005a. California Ambient Air Quality Data Statistics, Top 4 Summary. http://www.arb.ca.gov/adam/welcome.html. Accessed September 22-23.

CARB. 2005b. 2004 State Area Designations. http://www.arb.ca.gov/desig/adm/adm.htm. Accessed September 28.

FAA (Federal Aviation Agency). 2001. FAEED Database.

Lee. 2006. Record of Telephone Conversation, Eldon Lee Public Works Director City of Coachella and William Walters, Aspen Environmental Group. February.

MDAQMD. 2002. California Environmental Quality Act and Federal Conformity Guidelines. March.

MDAQMD. 2006. Air Quality Plans. http://www.mdaqmd.ca.gov/rules_plans/rules-plans.htm. Accessed January.

SCE (Southern California Edison). 2005. Proponent's Environmental Assessment Devers–Palo Verde No. 2 Transmission Line Project. April 11.

SCAQMD (South Coast Air Quality Management Handbook). 1993. CEQA Air Quality Handbook with January 2006 updates online. April.

SCAQMD. 2006. Air Quality Analysis Handbook. http://www.aqmd.gov/ceqa/hdbk.html. Accessed January.

SCAQMD. 2006a. Air Quality Plans. http://www.aqmd.gov/aqmp/AQMPintro.htm. Accessed January.

U.S. EPA (United States Environmental Protection Agency). 2003. AP 42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Section 13.

U.S. EPA. 2005. Green Book. "Nonattainment Areas for Criteria Pollutants." http://www.epa.gov/air/oaqps/greenbk/index.html. Accessed September 28.

U.S. EPA. 2005a. Air Data. "Monitor Values Report – Criteria Air Pollutants." http://www.epa.gov/air/data/monvals.html?st~AZ~Arizona. Accessed September 22.

U.S. EPA. 2005b. Exhaust Emission Factors for Nonroad Engine Modeling: Spark Ignition. EPA420-R-05-019. http://www.epa.gov/otaq/models/nonrdmdl/nonrdmdl2005/420r05019.pdf. December.

Weather Channel. 2005. Monthly Climatology by U.S. City. http://www.weather.com. Accessed September 28.