3.5 AIR QUALITY

This section describes the existing air quality and the regulatory responsibilities for air quality in the project area, which lies within the boundaries of the San Joaquin Valley Unified Air Pollution Control District (San Joaquin Air District) and the Sacramento Metropolitan Air Quality Management District (Sacramento Air District). The section describes CPUC's analysis of potential air quality impacts from construction activities and from operation of the proposed project and project alternatives. Specifically, CPUC examined potential emissions of particulate matter (dust), carbon monoxide, nitrogen oxides, and reactive organic gases during construction. CPUC also examined potential emissions of toxic air pollutants, nitrogen oxides, and reactive organic gases from project operations.

3.5.1 ENVIRONMENTAL SETTING

Ambient air quality is affected by climatological conditions, topography, and the type and amount of pollutants emitted. The project area is affected by various topographic and climatic factors that result in high potential for regional and local pollutant accumulation. The following discussion describes relevant characteristics of the air basins and an overview of conditions that affect ambient air pollutant concentrations in San Joaquin and Sacramento Counties.

CLIMATE AND TOPOGRAPHY

The project area is located within the San Joaquin Valley Air Basin and the Sacramento Valley Air Basin. The mountain ranges that border these air basins (Coast Ranges to the west and Sierra Nevada to the east) influence wind directions and speeds and the formation of atmospheric inversion layers. These mountain ranges channel the winds, thus affecting both the climate and dispersion of air pollutants.

Because mountain ranges border the air basins, temperature inversions occur frequently. Inversions occur in summer when the upper air is warmer than the air beneath it, thereby trapping pollutant emissions near the Earth's surface without allowing them to disperse upward. Between late spring and early fall, a layer of warm air often overlies a layer of cool air from the Delta and San Francisco Bay, resulting in an inversion.

Typical winter inversions are formed when the sun heats the upper layers of air, trapping below air that has been cooled by contact with the colder surface of the Earth during the night. Although each inversion type predominates at certain times of the year, both types can occur at any time of the year. In the San Joaquin and Sacramento Valleys, inversions occur throughout the year, although they are more prevalent and of a greater magnitude in the late summer and fall. Local topography produces many variations that can affect the inversion base and thus influence local air quality.

AIR POLLUTANTS AND AMBIENT AIR QUALITY STANDARDS

The federal and state governments have established ambient air quality standards for six criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 10 microns or less in diameter (PM10), and lead. Ozone and PM10 are generally considered regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as CO, NO_2, SO_2, and lead are considered local pollutants that tend to accumulate in the air locally. PM10 is considered a local and regional pollutant. In the area where the proposed project is located, ozone and PM10 (and their precursors) are of particular concern.

Areas such as the San Joaquin and Sacramento Valleys are classified as either attainment or non-attainment areas with respect to state and federal ambient air quality standards. These classifications are determined by comparing actual monitored air pollutant concentrations to state and federal standards. The pollutants of greatest concern in these two valleys are ozone and inhalable particulate matter (PM10). The state and federal ambient air quality standards are summarized in Table 3.5-1. Table 3.5-2 summarizes the local air quality monitoring data taken from the monitors that are closest to the gas field and the location of the proposed transmission pipeline.

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Ozone is a severe eye, nose, and throat irritant. Ozone also attacks synthetic rubber, textiles, plants, and other materials; it causes extensive damage to plants, such as leaf discoloration and cell damage.

The primary crop in the proposed area is grapes. Certain species of grapes are susceptible to ozone exposure. The disorder known as grape stipple was the first major plant problem diagnosed as being caused by ozone. The syndrome includes leaf bronzing, yellowing, premature aging, and leaf fall. As the season progresses, the older leaves become bronzed and fall prematurely. Ozone exposure can reduce grape yields (U.S. Environmental Protection Agency, 1978).

State and federal standards for ozone have been set for a 1-hour averaging time. The state 1-hour ozone standard is 0.09 part per million, not to be exceeded. The federal 1-hour ozone standard is 0.12 part per million, not to be exceeded more than three times in any 3-year period. The U.S. Environmental Protection Agency recently replaced the 1-hour ozone standard with an 8-hour standard of 0.08 part per million. However, nonattainment areas for ozone must attain the 1-hour ozone standard. After an area has achieved attainment of the 1-hour standard, then the 1-hour standard is no longer applicable and the area must strive to meet the 8-hour ozone standard.

As shown in Table 3.5-2, the two closest monitoring stations to the project area (those on Hazelton Street in Stockton and in Elk Grove) have consistently exceeded the state 1-hour ozone standard during the 3 most recent years for which data are available.

Table 3.5-1
Ambient Air Quality Standards Applicable in California

			Standard, as parts per million		Standard, as micrograms per cubic meter		Violation Criteria	
Pollutant	**Symbol**	**Average Time**	**California**	**National**	**California**	**National**	**California**	**National**
Ozone	O_3	8 hours[a]	N/A	0.08	N/A	160	N/A	If 3-year average of annual third-highest daily 8-hour maximum exceeds standard
		1 hour	0.09	0.12	180	235	If exceeded	If exceeded on more than 3 days in 3 years
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
Nitrogen dioxide	NO_2	Annual average	N/A	0.053	N/A	100	N/A	If exceeded
		1 hour	0.25	N/A	470	N/A	If exceeded	N/A
Sulfur dioxide	SO_2	Annual average	N/A	0.03	N/A	80	N/A	If exceeded
		24 hours	0.04	0.14	105	365	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	N/A	655	N/A	N/A	N/A
Inhalable particulate matter	PM10	Annual geometric mean	N/A	N/A	30	N/A	If exceeded	N/A
		Annual arithmetic mean	N/A	N/A	N/A	50	N/A	If exceeded
		24 hours	N/A	N/A	50	150	N/A	If exceeded on more than 1 day per year
Inhalable particulate matter	PM2.5	Annual arithmetic mean[a]	N/A	N/A	N/A	15	N/A	If spatial average exceeded on more than 3 days in 3 years
		24 hours[a]	N/A	N/A	N/A	65	N/A	If exceeds 98th percentile of concentrations in a year

Notes: All standards are based on measurements at 25°C and 1 atmosphere pressure.
National standards shown are the primary (health effects) standards.
N/A = not applicable.

[a] New standards effective July 1997. Eight-hour ozone standard replaces 1-hour standard after compliance with the 1-hour standard has been attained.

Table 3.5-2
Summary of Air Quality Monitoring Data

Monitoring Station	Parameter	Federal Standard	California Standard	Year		
				1995	1996	1997
Ozone (ppm)	1-hour maximum	0.12 ppm	0.09 ppm	0.13	0.12	0.10
Stockton, Hazelton St.	Days above state standard			8	4	1
Ozone (ppm)	1-hour maximum	0.12 ppm	0.09 ppm	0.12	0.12	0.12
Elk Grove	Days above state standard			15	21	5
Carbon Monoxide	1-hour maximum	35 ppm	20 ppm	10	9	8
Stockton, Hazelton St.	Days above state standard			0	0	0
NO_2 (ppm)	1-hour maximum	N/A	0.25 ppm	0.12	0.09	0.09
Stockton, Hazelton St.	Days above state standard			0	0	0
NO_2 (ppm)	1-hour maximum	N/A	0.25 ppm	0.05	0.15	0.06
Elk Grove	Days above state standard			0	0	0
PM10 ($\mu g/m^3$)	Annual geometric mean	50 $\mu g/m^3$	30 $\mu g/m^3$	*23.8	23.7	26.8
Stockton, Hazelton St.	24-hours -2nd highest	150 $\mu g/m^3$	50 $\mu g/m^3$	93	61	72

_____

Notes: Days above standard means days with one or more exceedance of the 1-hour state standard.
N/A = not available
* Data presented are valid, but incomplete in that an insufficient number of valid data points were collected to meet EPA and/or ARB criteria for representativeness.

Source: California Air Resources Board, 1995-1997.

Ozone is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. Ozone precursors, including reactive organic gases (ROG) and nitrogen oxides (NOx), react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. The ozone precursors ROG and NOx are emitted by mobile sources and stationary combustion equipment.

Carbon Monoxide

Carbon monoxide (CO) is essentially inert to plants and materials but can have significant effects on human health. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches and nausea to death.

State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The state 1-hour standard is 20 parts per million and the federal 1-hour standard is 35 parts per million. Both state and federal standards for the 8-hour averaging period are 9 parts per million. The 3 most recent years of available CO monitoring data show no violations of the state or federal CO standard in the project area.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when light winds combine with the formation of ground-level temperature inversions (typically from evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Nitrogen Oxides

Nitrogen oxides (NOx) contribute to smog and can injure plants and animals and affect human health. NOx also contributes to acidic deposition and react with ROG in the presence of sunlight to form photochemical smog. NOx concentrations result in a brownish color because they absorb into the blue-green area of the visible spectrum, greatly affecting visibility.

The state NOx standard is 0.25 part per million on a 1-hour average. The federal NOx standard is 0.053 part per million on an annual average. The closest monitoring station to the project site shows no violations of the NO_2 standard during the 3 most recent years for which data are available (Table 3.5-2).

NOx is emitted primarily by combustion sources, including both mobile and stationary sources. NOx is also emitted by a variety of area sources, ranging from wildfires and prescribed fires to water-heating and space-heating systems powered by fossil fuels.

PM10

Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Particulate matter can damage human health and retard plant growth, as well as reduce visibility, soil buildings and other structures, and corrode materials.

The state PM10 standards are 50 micrograms per cubic meter as a 24-hour average and 30 micrograms per cubic meter as an annual geometric mean. The federal PM10 standards are 150 micrograms per cubic meter as a 24-hour average and 50 micrograms per cubic meter as an annual arithmetic mean.

The monitoring data shown in Table 3.5-2 show that PM10 concentrations have exceeded the state 24-hour PM10 standard (but not the annual PM10 standard) during the 3 most recent years for which data are available.

PM10 emissions are generated by a wide variety of sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere.

Sulfur Dioxide

The major health concerns associated with exposure to high concentrations of SO_2 include effects on breathing, respiratory illness, alterations in pulmonary defenses, and aggravation of existing cardiovascular disease. Children, the elderly, and people with asthma, cardiovascular disease, or chronic lung diseases, such as bronchitis or emphysema, are most susceptible to adverse health effects associated with exposure to SO_2. SO_2 is a precursor to sulfates, which are associated with acidification of lakes and streams, accelerated corrosion of buildings and monuments, reduced visibility, and additional adverse health effects.

The U.S. Environmental Protection Agency's health-based national air quality standard for SO_2 is 0.03 part per million measured as an annual arithmetic mean concentration, 0.14 part per million measured over a 24-hour period, and 0.5 part per million measured over a 3-hour average period. California's SO_2 standard is 0.04 part per million measured over a 24-hour average period. There are no sulfur dioxide monitoring stations in the project area.

Sulfur dioxide belongs to the family of gases called sulfur oxides (SOx). These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and also during metal smelting and other industrial processes.

3.5.2 REGULATORY SETTING

The project is located within the boundaries of the San Joaquin and Sacramento Air Districts. These local regulatory authorities administer air quality regulations developed at the federal, state, and local levels. The federal, state, and local air quality regulations applicable to the proposed project are described below.

FEDERAL

Federal air quality laws regulate air pollutants, primarily through industry-specific standards and planning requirements. The primary legislation that governs federal air quality regulations is the Clean Air Act Amendments of 1990.

Industrial pollution sources are required to obtain air quality permits and to adhere to performance standards. In this way, federal air quality laws regulate criteria, toxic, and nuisance air emissions from industrial sources. Criteria pollutants are substances for which the U.S. Environmental Protection Agency has established national ambient air quality standards. Criteria pollutants include CO, NO_2, SO_2, ozone, PM10, and lead. Non-criteria air pollutants, also known as toxic air contaminants, are airborne substances capable of causing adverse health effects as a result of short-term (acute) and/or long-term (chronic) exposure. Substances associated with acute, chronic, or carcinogenic adverse health effects are listed in the San Joaquin Air District air quality regulations. Nuisance pollutants are substances that can result in complaints from the population about adverse impacts on their quality of life. Those nuisance pollutants regulated by the San Joaquin Air District are odors and visible plumes (smoke). Generally, federal permitting requirements for industrial sources are enforced locally by the San Joaquin and Sacramento Air Districts.

Federal clean air planning requirements specify that states must develop and adopt State Implementation Plans (air quality plans) showing how they will achieve or maintain air quality standards. In California, the California Air Resources Board has delegated authority to prepare these plans to individual air districts. The project is located within nonattainment areas with respect to federal ozone and PM10 standards. The San Joaquin Air District has adopted a Regional Attainment Plan that addresses PM10, ozone, NOx, and ROG. The State Implementation Plan specifies that regional air quality standards for ozone concentrations can be met through additional source controls and through trip reduction strategies. The Sacramento Air District, in coordination with other air districts in the Lower Sacramento Valley, has also prepared a Regional Attainment Plan that addresses the steps required to bring the area into attainment with federal ozone standards.

The federal Clean Air Act Amendments of 1990 provide for air toxics to be regulated at the federal level. Before the Clean Air Act Amendments of 1990 were enacted, air toxics were controlled at the federal level using the source-specific New Source Performance Standards.

STATE

The California Air Resources Board, which is part of the California Environmental Protection Agency, develops air quality regulations at the state level. The state regulations mirror federal regulations by establishing industry-specific pollution controls for criteria, toxic, and nuisance pollutants. California also requires areas to develop plans and strategies for attaining state ambient air quality standards as set forth in the California Clean Air Act of 1988.

State requirements specifically address air toxics issues through Assembly Bill 1807 (known as the Tanner Bill), which established the state air toxics program, and Assembly Bill 2588, the Air Toxics Hot Spots Information and Assessment Act. The air quality regulations developed from these bills have been recently modified to incorporate the federal regulations associated with the federal Clean Air Act Amendments of 1990.

Air Toxics

The Air Toxics Hot Spots Information and Assessment Act (Assembly Bill 2588, 1987, Connelly) was enacted in September 1987. Under this bill, stationary sources of emissions are required to report the types and quantities of certain substances that their facilities routinely release into the air. Emissions of interest are those that result from the routine operation of a facility or that are predictable, including but not limited to, continuous and intermittent releases and process upsets or leaks.

The goals of the Hot Spots act are to collect emissions data, identify facilities that have localized impacts, ascertain health risks, and notify nearby residents of significant risks. In September 1992, the Hot Spots act was amended by Senate Bill 1731 (Calderon) to address the reduction of significant risks. The bill requires that owners of significant-risk facilities reduce their risks below the level of significance. Owners of facilities found to pose significant risks by an air district must prepare and implement risk reduction audits and plans within 6 months of the determination.

The Hot Spots act requires the air resources board to compile and maintain a list of substances posing chronic or acute health threats when present in the air. The Hot Spots act currently identifies by reference more than 600 substances that are required to be subject to the program. The air resources board may remove substances from the list if criteria outlined in the law are met. A facility is subject to the act if it (1) manufactures, formulates, uses, or releases a substance subject to the act (or a substance that reacts to form such a substance) and emits 10 tons or more per year of total organic gases, particulate matter, nitrogen oxides, or sulfur oxides; (2) is listed in any air district's existing toxics use or toxics air emission survey, inventory, or report released or compiled by an air district; or (3) manufactures, formulates, uses, or releases a substance subject to the act (or a substance that reacts to form such a substance), emits less than 10 tons per year of criteria pollutants, and is subject to emission inventory requirements.

The Hot Spots act specifies that each local air district must prioritize the facilities under its jurisdiction. Those designated by an air district as "high priority" are required to submit a health risk assessment

within 150 days. In addition, an air district may require any facility to prepare and submit a risk assessment according to district priorities established for purposes of the Hot Spots act.

LOCAL

At the local level, air quality is managed through land use and development planning practices. These practices are implemented in San Joaquin and Sacramento Counties through the counties' general planning processes. The San Joaquin and Sacramento Air Districts are responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws.

Best Available Control Technology and Emission Offsets

Within the San Joaquin Valley, new or modified stationary air emission sources must obtain an Authority to Construct Permit and a Permit to Operate, as required by San Joaquin Air District Rule 2201 (New and Modified Stationary Source Review Rule). As part of this permitting process, applicants must identify and install best available control technology to minimize air emissions. Applicants must base their selection of best available control technology on the San Joaquin Air District's guidelines. Those guidelines contain, for a wide range of industrial emission sources, one or more applicable control technologies, sorted from most to least stringent.

Applicants must select the most stringent applicable technology from the air district's control technology guidelines unless they can justify through a cost analysis that the technology is not cost effective. For example, the San Joaquin Air District currently considers emission control technologies with a cost less than or equal to $9,700 (per ton of NOx controlled) as cost effective. Consequently, if the Applicant can demonstrate that the cost of an NOx control option exceeds $9,700 per ton of NOx controlled, then the Applicant can select a less stringent control technology. The use of cost effectiveness to justify a less stringent control technology can be used only for technologies that have not yet been installed in the San Joaquin Valley. The best available control technology guidelines contain technologies already in use within the San Joaquin Valley in addition to technologies not yet in use there. Even with the best available control technology, an emission source may have to obtain emission offsets if controlled emissions exceed certain levels.

Emission offsets are required by the San Joaquin Air District's New Source Review Rule 2201 (New and Modified Stationary Source Review Rule). Rule 2201 gives the San Joaquin Air District the authority to review proposed new and modified stationary sources of air pollution and provides mechanisms for reducing the impacts of such sources on ambient air quality, including the use of emission offsets.

New or modified stationary sources with an emission potential, after consideration of best available control technology, that exceeds the trigger levels of 150 pounds per day of SOx, 80 pounds per day of PM10, 10 tons per year of NOx or ROG, or 15 tons per year of CO are required to obtain emission offsets. A new or modified stationary source that is subject to the offset requirements of Rule 2201 must obtain emission reductions in accordance with the following offset ratios:

Location	Offset Ratio
Within the same source or from mobile source emission reduction credits	1 to 1
Within 15 miles of the same source	1.2 to 1
15 miles or more from the source	1.5 to 1

3.5.3 SIGNIFICANCE CRITERIA

The evaluation of project impacts is divided into temporary (construction-related) impacts and permanent (operational) impacts. Because construction emissions would be generated in two separate air basins, construction impacts for each basin were evaluated separately. Operational impacts were evaluated for the San Joaquin Valley Air Basin.

SIGNIFICANCE THRESHOLDS

Criteria for determining the significance of air quality impacts were developed based on questions contained in the environmental checklist form in Appendix G of the State CEQA Guidelines. Based on the checklist questions, a project may have a significant effect on the environment if it would:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- expose sensitive receptors to substantial pollutant concentrations;
- result in substantial air emissions or deterioration of air quality;
- create objectionable odors; or
- result in a cumulatively considerable net increase in any criteria pollutant for which the project region is a nonattainment area with regard to an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

In addition to these criteria, many individual air districts have developed air quality thresholds of significance used to determine whether project-related air quality impacts need to be mitigated. Those thresholds vary by air district. Both the San Joaquin and Sacramento Air Districts have developed such significance criteria.

The Sacramento Air District significance thresholds for construction-related air quality impacts are as follows:

- 85 pounds per day of ROG or NOx or
- 275 pounds per day of PM10 (Sacramento Air District, 1994).

In the San Joaquin Valley, thresholds have not been established for construction emissions. Rather, the San Joaquin Air District's approach to California Environmental Quality Act analyses of construction impacts is to require implementation of effective and comprehensive control measures. Those control measures are defined in San Joaquin Air District Regulation VIII (Fugitive Dust Prohibitions) and Section 6 of the *Guide for Assessing Air Quality Impacts* published by the San Joaquin Air District.

The San Joaquin Air District has established operational thresholds for the San Joaquin Valley with regard to both criteria pollutants and toxic air pollutants. The thresholds for criteria pollutants are 10 tons per year for ROG or NOx (San Joaquin Air District, 1998). Estimated CO concentrations exceeding the California ambient air quality standard of 9 parts per million averaged over an 8-hour period and 20 parts per million for a 1-hour period are also considered a significant impact.

The San Joaquin Air District's thresholds of significance for toxic air contaminants are as follows:

- the probability of contracting cancer for the maximally exposed individual exceeds 10 in 1,000,000; or

- ground-level concentrations of non-carcinogenic toxic air contaminants would result in a hazard index greater than 1 for the maximally exposed individual.

3.5.4 IMPACTS OF THE PROPOSED PROJECT AND MITIGATION MEASURES

METHODOLOGY

Construction Emissions

The methodology used to calculate the total construction emissions is presented in Appendix C. For each alternative, the proportion of pipeline in each county was calculated. For each alternative, the proportion of pipeline in each county was calculated. It is assumed that emissions in each county would be equivalent to the proportion of pipeline to be constructed in each county under each alternative. Unless otherwise noted, the methodology is the same for the analysis of the alternatives.

The anticipated rate of pipeline construction is expected to vary from 0.25 mile per day in difficult areas, including road rights-of-way, to about 1 mile per day in rural or agricultural areas. A slower rate of progress is expected on days when stream or road crossings are being constructed. Construction of approximately 33 miles of proposed pipeline is anticipated to take approximately 4 months.

Operational Emissions

Operational emissions were estimated using equipment vendor estimates when available. When equipment and vendor estimates were not available, emission factors were estimated using Compilation of Air Pollutant Emission Factors (U.S. Environmental Protection Agency, 1998). U.S. Environmental Protection Agency emission factors were used to estimate emissions of toxic air pollutants. Unless otherwise noted, the methodology is the same for the analysis of alternatives.

IMPACTS

Impact 3.5-1: Construction-Related PM10 Emissions in San Joaquin County

Estimated construction-related emissions in San Joaquin County are shown in Table 3.5-3. There are no construction-related significance thresholds for the San Joaquin Valley; all emissions are considered significant. However, the San Joaquin Air District requires contractors to implement effective and comprehensive control measures for their projects. Implementation of Mitigation Measures 3.5-1a and 3.5-1b would reduce construction-related impacts in San Joaquin County to a less-than-significant level.

Mitigation Measure 3.5-1a: Comply with the San Joaquin Air District's Regulation VIII (Fugitive Dust Prohibitions)

The Applicant shall include in all relevant construction specifications the following measures to minimize the generation of fugitive dust:

- All disturbed areas, including storage piles, that are not being actively used for construction purposes shall be effectively stabilized using water, chemical stabilizer/suppressant, or vegetative groundcover.

- All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized using water or chemical stabilizer/suppressant.

- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled using water or by presoaking to control dust emissions.

- When materials are transported off site, all material shall be either covered or wetted to limit visible dust emissions.

- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.

Table 3.5-3
CONSTRUCTION EMISSION SUMMARY FOR PROPOSED PROJECT

	Total Emissions (tons)				
Construction Activities	**CO**	**ROG**	**NOx**	**SOx**	**PM10**
Well Pad Sites					
Equipment Exhaust Emissions	0.71	0.19	1.51	0.14	0.08
PM10 Dust Emissions					0.11
Asphalt Paving ROG Emissions		7.57			
Separation Facility					
Equipment Exhaust Emissions	0.52	0.14	1.09	0.10	0.06
PM10 Dust Emissions					0.13
Compressor Facility					
Equipment Exhaust Emissions	1.03	0.28	2.19	0.20	0.11
PM10 Dust Emissions					0.65
Field Pipelines					
Equipment Exhaust Emissions	241.67	11.40	14.61	1.33	1.06
PM10 Dust Emissions					2.37
Transmission Pipeline					
Equipment Exhaust Emissions	698.16	32.94	42.21	3.84	3.06
PM10 Dust Emissions					32.95
Off-Site Vehicle Emissions	2.94	0.21	0.61		0.03
Totals					
Sacramento County total[1] (tons)	226.10	10.69	13.81	1.24	11.62
Sacramento County (lbs/day)[2]	12,561.4	593.9	767.3	68.8	645.7
San Joaquin County total (tons)	718.93	42.05	48.42	4.37	28.99
San Joaquin County (lbs/day)[3]	27,475.9	3839.6	1833.2	165.9	972.2

1 Only transmission pipeline and off-site vehicle emissions are included. Sacramento County accounts for 32.25 percent of the total length.

2 36 work days are assumed to be needed to complete the Sacramento portion of transmission pipeline.

3 Worst case estimate of daily emissions during concurrent construction of all project facilities, including well pad sites, separation facility, compressor/dehydration facility, field pipeline, transmission pipeline, and off-site vehicle emissions. Normally, not all construction will occur at the same time.

- Following the addition or removal of materials from the surface of outdoor storage piles, these piles shall be effectively stabilized from creating fugitive dust emissions using water or chemical stabilizers/suppressants.
- Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

- Where appropriate (e.g., grassland and pasture areas), vegetation in disturbed areas shall be replanted as quickly as possible. In determining the timing of replanting, vegetation type and season will be taken into consideration.

Monitoring Action ¾ LGS will provide final bid specifications to CPUC for review and approval to ensure that these measures are properly incorporated into construction specifications. LGS shall also provide to CPUC a copy of Regulation VIII (Fugitive Dust Prohibitions).

Responsibility ¾ CPUC

Timing ¾ Bid specifications will be provided to CPUC prior to release for bid. CPUC will provide comments within 2 weeks following receipt of the specifications.

Mitigation Measure 3.5-1b: Comply with the San Joaquin Air District's recommendation for construction equipment mitigation measures

The Applicant shall include in all relevant construction specifications the following measures to reduce exhaust emissions from construction equipment:

- Vehicle idling time at all construction sites shall be limited to 10 minutes or less.

- During all Episode Action State 2 (warning) events, which represent periods of high ambient pollutant concentrations, construction shall be curtailed. This may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

Monitoring Action ¾ LGS will provide final bid specifications to CPUC for review and approval to ensure that these measures are properly incorporated into construction specifications. LGS shall also provide CPUC with a copy of San Joaquin Air District's recommendations for construction equipment.

Responsibility ¾ CPUC

Timing ¾ Bid specifications will be provided to CPUC prior to release for bid. CPUC will provide comments within 2 weeks following receipt of the specifications.

Impact 3.5-2: Construction-Related PM10 Emissions in Sacramento County

Estimated construction-related emissions of 646 pounds per day in Sacramento County would be significant because they exceed the Sacramento Air District's significance threshold of 275 pounds per day (Table 3.5-3). As summarized in Table 3.5-3, the dust generated during transmission pipeline installation is the main source of PM10 emissions in Sacramento County. Implementation of Mitigation Measure 3.5-2 would reduce this impact to a less-than-significant level.

Mitigation Measure 3.5-2: Water the construction site with adequate frequency to keep soil moist at all times

The Applicant shall include this requirement in all relevant bid specifications. This mitigation measure will control 75 percent of fugitive dust-related PM10 emissions. This will reduce PM10 emissions to 162 pounds per day, which is below the threshold of significance.

Monitoring Action ¾ LGS will provide final bid specifications to CPUC for review and approval to ensure that these measures are properly incorporated into construction specifications.

Responsibility ¾ CPUC

Timing ¾ Bid specifications will be provided to CPUC prior to release for bid. CPUC will provide comments within 2 weeks following receipt of the specifications.

Impact 3.5-3: Construction-Related ROG and NOx Emissions in Sacramento County

Construction-related ROG emissions of 594 pounds per day and NOx emissions of 767 pounds per day in Sacramento County (Table 3.5-3) would be significant because they exceed the Sacramento Air District's significance threshold of 85 pounds per day. The equipment exhaust emissions contribute to the ROG and NOx emissions. Although short term, based on Sacramento Air District's significance threshold, this impact is significant and unavoidable.

Mitigation Measures

No mitigation is available to reduce this impact to a less-than-significant level. However, as a best management practice, CPUC will require implementation of Mitigation Measure 3.5-1b for construction activities within Sacramento County.

Impact 3.5-4: Controlled Emissions of NOx and ROG during Project Operation That Exceed Emission Offset Trigger Thresholds

Controlled operational emissions of NOx, ROG, CO, SO_2, and PM10 are summarized in Table 3.5-4. Those emissions reflect the Applicant's proposed best available control technology (BACT) for the project. Before obtaining an Authority to Construct Permit and a Permit to Operate, the Applicant must obtain the agreement of the San Joaquin Air District as to what technologies constitute BACT. If controlled emissions (after installation of BACT) exceed specific trigger levels, then emission offsets or credits must be obtained for the project.

Emission offset trigger levels are listed in the San Joaquin Air District's Rule 2201 and in Table 3.5-4. As Table 3.5-4 shows, controlled NOx (34.9 tons per year) and ROG (12.2 tons per year) emissions exceed applicable offset trigger levels of 10 tons per year. As required by Rule 2201, the Applicant must obtain emission offsets for all NOx and ROG emission increases, thereby reducing the project's net emissions increase for these two pollutants to zero. Offsets are not required for CO, SO_2, or PM10 because their controlled emissions are less than applicable trigger levels.

NOx and ROG emissions represent approximately 4 percent of total stationary source combustion emissions in San Joaquin County, which are small relative to mobile sources (i.e., cars and trucks). These emissions are also equivalent to 31 percent of NOx and 22 percent of ROG emissions from vehicles traveling on the 1-mile section of Highway 99 between Jahant Road and Peltier Road. The emission of ozone precursors has the potential to further exacerbate high ozone concentrations in the San Joaquin Valley. Although not likely to affect vineyards in the immediate vicinity of the project because ozone precursors are not immediately transformed into ozone, high ozone levels can reduce grape yields. The project would contribute a minor amount of ozone to the region. Grapes are one of the most important crops in the region. This impact is significant. Implementation of Mitigation Measure 3.5-3 would reduce this impact to a less-than-significant level.

Mitigation Measure 3.5-3: Obtain emission offsets for NOx and ROG emission increases or install electric compressor facilities

The Applicant must obtain emission offsets in amounts equal to the net increase in NOx and ROG emissions shown in Table 3.5-4. The actual amount of emission offsets may differ from the NOx and ROG emissions shown in Table 3.5-4 based on the final agreement between the Applicant and the San Joaquin Air District as to what constitutes BACT. Offsets are obtained by reducing emissions from other existing sources. For example, the applicant may fund the installation of improved emission controls on an existing pollution source. According to Rule 2201, emission offsets must equal:

- 100 percent of total NOx and ROG emissions if obtained from mobile source emission reduction credits,

- 120 percent of total NOx and ROG emissions if the emission reduction credits are from stationary sources within 15 miles of the same source, or

- 150 percent of total NOx and ROG emissions if the emission reduction credits are from stationary sources 15 miles of more from the source.

Alternatively, the San Joaquin Air District and/or the Applicant may elect to install electric compressor facilities. Such facilities would essentially eliminate local emissions and reduce this impact to a less-than-significant level. Refer to Chapter 2, "Project and Alternatives Description," for a preliminary analysis of electric compressors.

Monitoring Action **C** LGS will provide CPUC with evidence that it has complied with the requirements of the San Joaquin Air District. This evidence shall be in the form of a final permit from the air district.

Responsibility **C** CPUC

Timing **C** The final permit will be provided to CPUC prior to the beginning of construction of the compression facility.

Impact 3.5-5: Emission of Toxic Air Pollutants from Natural Gas-Fired Equipment

Estimated controlled toxic air pollutant emissions from the natural gas combustion turbines and the glycol reboilers are summarized in Table 3.5-5. These emissions have the potential to cause health impacts based on the San Joaquin Air District's thresholds of significance for toxic air compounds (see Section 3.5.3, "Significance Criteria"). Consequently, CPUC performed a screening level health risk assessment to determine whether the emission of pollutants in quantities shown in table 3.5-5 would exceed the Air District's thresholds of significance.

The screening level health risk assessment conducted for this analysis is based on the methodology recommended by the California Air Pollution Control Officers Association (1993). The SCREEN3 model, an extremely conservative air dispersion model, was used for this analysis. SCREEN3 assumes worst-case meteorological conditions and is used to calculate the worst-case 1-hour concentrations. The data used to conduct the SCREEN3 analysis are listed in the footnotes to Table 3.5-5. The maximum 1-hour concentrations produced by SCREEN3 were converted to annual concentrations by multiplying by 0.10, as recommended by CAPCOA.

The results of the SCREEN3 health risk assessment are shown in Table 3.5-6 (Appendix C, Table C-15, contains additional details on the calculation of health risks). The highest estimated cancer risk would result from exposure to formaldehyde emissions and equals a cancer risk of 3.4 per million, which is less than the San Joaquin Air District threshold of 10 per million. The cancer risk from benzene is much less than that from formaldehyde inhalation. The combined cancer risk from inhalation exposure to formaldehyde and benzene is also less than the San Joaquin Air District's threshold of 10 in 1 million. This estimate of cancer risk represents a worst case estimate using an extremely conservative SCREEN3 model. Actual risks are expected to be much lower. However, even this conservative analysis shows that cancer risk would not result in a significant air quality impact based on the San Joaquin Air District's Guidelines.

Table 3.5-4
Natural Gas Fired Equipment - Proposed BACT Emissions Case

Emission Source	NO_x Emissions			CO Emissions			SO_2 Emissions			ROG Emissions			PM10 Emissions		
	Emission Factor	lb/hr per Unit	ton/yr All Units	Emission Factor	lb/hr per Unit	ton/yr All Units	Emission Factor	lb/hr per Unit	ton/yr All Units	Emission Factor	lb/hr per Unit	ton/yr All Units	Emission Factor	lb/hr per Unit	ton/yr All Units
Engine-Driven Compressors 4 Units, 4,445 Nom. Bhp each *Includes Combustion Modif.*	0.5 g/bhp-hr[1]	4.9	34.3	0.55 g/bhp-hr[2]	5.38 2	37.7	0.6 lb/MMcf gas[3]	0.020	0.14	0.175 g/bhp-hr[2]	1.71	12.0	0.003 g/bhp-hr[4]	0.029	0.21
Glycol Dehydration Reboilers 2 Units, 3.0 MMBtu/hr each *Includes Low NOx Burners*	50 lb/MMcf gas[6]	0.16	0.57	21 lb/MMcf gas[5]	0.06 8	0.2	0.6 lb/MMcf gas[5]	0.001 9	0.007	5.28 lb/MMcf gas[5]	0.017	0.1	4.5 lb/MMcf gas[5]	0.015	0.05
Emergency Generator 1 Unit, 1,508 Max bhp 200 hour/yr Max. operation *Includes optimal engine tuning*	10 g/bhp-hr[7]	33.2	3.3	10 g/bhp-hr[7]	33.2 2	3.3	0.6 lb/MMcf gas[3]	0.011	0.001	0.25 g/bhp-hr[7]	0.83	0.1	0.003 g/bhp-hr[4]	0.010	0.001
Emission Totals			34.9			41.2			0.1			12.2			0.3
Emission Offset Trigger Level			(10 tons/year)			(550 #/day 100 tons/year)			(150 #/day 27 tons/year)			(10 tons/year)			(80#/day 14.6 tons/year)

Notes:

Plant Operating Time Factor 40%

[1] Vendor-estimated emission factors for Engine combustion modifications (Caterpillar, 1/25/99).
[2] Assumes 80% CO reduction and 65% ROG reduction using an oxidation catalyst as BACT.
[3] Emission factor for complete conversion of sulfur in pipeline quality natural gas to SO_2, from U.S. EPA Document AP-42 (5th Ed.) Table 1.4-2.
[4] Emission factor for 4-cycle rich burn engines, considered a worst case for lean burn engines, from U.S. EPA Document AP-42 (5th Ed.) Table 3.2-5.
[5] Emission factor for external combustion in commercial boilers (0.3 to 10 MMBtu/hr), from U.S. EPA Document AP-42 (5th Ed.) Tables 1.4-1 through 1.4-3.
[6] Overall 50% reduction in NO_x emissions to uncontrolled factor using lean burn, low-NO_x-emitting natural gas engines.
[7] Vendor estimated controlled emission factors for combination of optimal tuning (equal NO_x and CO emissions), detonation/timing controls, intercooler, and fuel/air controller (Waukesha, 3/97 data).

Table 3.5-5
Natural Gas Fired Equipment - Toxic Air Pollutants Emissions

	Formaldehyde Emissions			Benzene Emissions			Toluene Emissions			Ethylbenzene Emissions			Xylene Emissions		
Emission Source	**Emission Factor**	**lb/hr per Unit**	**ton/yr All Units**	**Emission Factor**	**lb/hr per Unit**	**ton/yr All Units**	**Emission Factor**	**lb/hr per Unit**	**ton/yr All Units**	**Emission Factor**	**lb/hr per Unit**	**ton/yr All Units**	**Emission Factor**	**lb/hr per Unit**	**ton/yr All Units**
Engine-Driven Compressors 4 Units, 4,445 Nom. Bhp each *Includes Combustion Modif.*	1.17E-3 lb/hp-hr[1]	5.20	36.5	1.45E-6 lb/hp-hr[1]	0.006	0.05	1.45E-6 lb/hp-hr[1]	0.006	0.05	7.24E-7 lb/hp-hr[1]	0.003	0.023	2.17E-6 lb/hp-hr[1]	0.010	0.068
Glycol Dehydration Processing [2]					3.23E-4	6.46E-4		3.472E-4	6.94E-4		2.16E-5	4.32E-5		1.1E10-4	2.2E-4
Emission Totals			36.5			0.051			0.051			0.023			0.068

Notes:

Plant Operating Time Factor 40%

[1] Emission factor for uncontrolled 2-cycle lean burn engines, from U.S. EPA Document AP-42 (5th Ed.) Table 3.2-6, reduced by 60% to account for emission reductions associated with the CO oxidation catalyst.
[2] Emissions from glycol reboilers based on fax from Ron Richards, Western Hub Properties (9/17/99).

Similarly, the chronic and acute health hazards indices shown in Table 3.5-6 indicate that the project would not pose a health risk to the maximally exposed individual because those indices, both individually and combined, are less than one. Therefore, the worst-case non-cancer health risks are also less than significance thresholds established by the San Joaquin Air District and consequently the project does not pose a significant non-cancer health risk. Although the San Joaquin Air District will likely conduct its own health risk assessment for this project, this screening analysis indicates that the District's modeling results would confirm that this project does not pose a significant health risk to nearby residents.

Mitigation Measures

None required.

Table 3.5-6
SCREENING HEALTH RISK ASSESSMENT MODELING RESULTS

	Formaldehyde	Benzene	Toluene	Xylene
Cancer Risk (Significant if > 10 per million)	3.4 per million	0.06 per million	Not Applicable	Not Applicable
Chronic HHI (Significant if > 1)	0.16	0.00003	0.00001	0.000005
Acute HHI (Significant if > 1)	0.04	Not Applicable	Not Applicable	2.38E-6

Notes: Emissions of ethylbenzene, shown in Table 3.5-5, are not shown here because neither unit risk factors nor health hazard indices used to calculated health risk have been established for this pollutant.
The SCREEN3 model was used to estimate emissions. Modeling was conducted for the four compressor engines assuming colocation, a stack height of 0.76 meters, a stack exit velocity of 66.6379 meters per second, a stack exit temperature of 721 degrees Kelvin, ambient air temperature of 293.0 degrees Kelvin, a receptor height of 2.0 meters, and using the rural option. Modeling was conducted for the two glycol regenerators assuming colocation, a stack height of 9.83 meters, a stack exit velocity of 1 meter per second, a stack exit temperature of 810 degrees Kelvin, ambient air temperature of 293.0 degrees Kelvin, and using the rural option. Cancer risk was calculated by multiplying the cancer unit risk factor by the maximum annual concentration. A cancer risk of less than 10 in 1 million is considered less than significant.
The chronic health hazard index (HHI) was calculated by dividing the maximum annual concentration by the chronic reference exposure level. The acute health hazard index was calculated by dividing the maximum hourly concentration by the acute reference exposure level. Chronic and acute HHIs are considered less than significant if less than one.

Source: CAPCOA, 1993. Air Toxics Hot Spots Program Revised 1992 Risk Assessment Guidelines. Sacramento, CA.

Impact 3.5-6: Potential for Objectionable Odors

The collection and processing of natural gas at the separation facility, compressor facility, and the injection/withdrawal wells have the potential to result in the release of small quantities of odorized natural gas. Odorized gas could be emitted from piping components such as valves and flanges (fugitive emissions). Although such leaks are unlikely, would be small, and would quickly be dissipated by even light winds, this impact is significant. Implementation of Mitigation Measure 3.5-4 below will reduce this impact to a less-than-significant level.

Mitigation Measure 3.5-4: Properly construct, inspect, and maintain facilities
Aboveground piping components will be maintained to minimize leakage of odorized gas. Piping connections will be welded to the extent practicable given design considerations. Valves, flanges, and other piping components will be subject to a quarterly inspection and maintenance program to identify and repair leaking components. An Inspection and Maintenance report will be submitted to the CPUC identifying all detected leaks and repair actions taken no more than 1 month following each quarterly inspection.

Monitoring Action ¾ LGS will promptly submit reports to CPUC for review.

Responsibility ¾ CPUC

Timing ¾ Reports will be submitted each quarter of each calendar year that the project is in operation. CPUC will promptly review the reports and identify any remedial actions necessary.

3.5.5 IMPACTS OF THE PUBLIC RIGHT-OF-WAY ROUTE ALTERNATIVE AND MITIGATION MEASURES

IMPACTS

The impacts of this alternative would be essentially identical to those of the proposed project. Average daily emissions during construction (Table 3.5-7) would be expected to be slightly higher than those for the proposed project because pipeline construction within public road rights-of-way would likely take approximately 2 months longer. Given the emissions and thresholds described above, these slightly increased emissions would exceed Sacramento Air District thresholds for construction emissions. As described previously, San Joaquin Air District has not established thresholds for construction emissions. Rather, the San Joaquin Air District requires implementation of comprehensive control measures. Implementation of these measures (Mitigation Measures 3.5-1) would be required for construction of this alternative. This impact is significant.

Similarly, operational emissions and the potential for odors from the compressor facility would be essentially identical to those of the proposed project. These impacts are significant.

TABLE 3.5-7
CONSTRUCTION EMISSION SUMMARY FOR
PUBLIC RIGHT-OF-WAY ROUTE ALTERNATIVE

Construction Activities	Total Emissions (tons) CO	ROG	NO_x	SO_x	PM10
Well Pad Sites					
Equipment Exhaust Emissions	0.71	0.19	1.51	0.14	0.08
PM10 Dust Emissions					0.11
Asphalt Paving ROG Emissions		7.57			
Separation Facility					
Equipment Exhaust Emissions	0.52	0.14	1.09	0.10	0.06
PM10 Dust Emissions					0.13
Compressor Facility					
Equipment Exhaust Emissions	1.03	0.28	2.19	0.20	0.11
PM10 Dust Emissions					0.65
Field Pipelines					
Equipment Exhaust Emissions	241.67	11.40	14.61	1.33	1.06
PM10 Dust Emissions					2.37
Transmission Pipeline					
Equipment Exhaust Emissions	1,047.24	49.42	63.32	5.76	4.59
PM10 Dust Emissions					49.42
Off-Site Vehicle Emissions	4.02	0.27	0.78		0.04
Total	1,295.19	69.28	83.49	7.53	58.62
Sacramento County Total (tons)[1]	289.41	13.68	17.64	1.59	14.88
Sacramento County (lbs/day)[2]	13,781.50	651.40	840.20	75.50	708.60
San Joaquin County Total (tons)	1,005.78	55.60	65.85	5.95	43.74
San Joaquin County (lbs/day)[3]	26,871.20	3,810.80	1,794.70	162.60	941.20

[1] Only transmission pipeline and off-site vehicle emissions are included. Sacramento County accounts for 37.86% of the total length.

[2] Construction of the transmission pipeline in Sacramento County would need 48 work days.

[3] Worst case estimate of daily emissions during concurrent construction of all project facilities including well pad sites, separation facility, compressor/dehydration facility, field pipeline, transmission pipeline and off-site vehicle emissions. Normally over the entire construction period not all activities would happen at the same time.

TABLE 3.5-8
CONSTRUCTION EMISSION SUMMARY FOR
EXISTING PIPELINE CORRIDOR ALTERNATIVE

Construction Activities	Total Emissions (tons)				
	CO	**ROG**	**NO_x**	**SO_x**	**PM10**
Well Pad Sites					
Equipment Exhaust Emissions	0.71	0.19	1.51	0.14	0.08
PM10 Dust Emissions					0.11
Asphalt Paving ROG Emissions		7.57			
Separation Facility					
Equipment Exhaust Emissions	0.52	0.14	1.09	0.10	0.06
PM10 Dust Emissions					0.13
Compressor Facility					
Equipment Exhaust Emissions	1.03	0.28	2.19	0.20	0.11
PM10 Dust Emissions					0.65
Field Pipelines					
Equipment Exhaust Emissions	241.67	11.40	14.61	1.33	1.06
PM10 Dust Emissions					2.37
Transmission Pipeline					
Equipment Exhaust Emissions	872.70	41.18	52.76	4.80	3.83
PM10 Dust Emissions					41.18
Off-Site Vehicle Emissions	3.48	0.24	0.69		0.04
Total	1,120.11	61.01	72.86	6.57	49.61
Sacramento County Total (tons)[1]	331.72	15.68	20.24	1.82	17.05
Sacramento County (lbs/day)[2]	13,821.70	653.40	843.30	75.70	710.60
San Joaquin County Total (tons)	788.39	45.33	52.62	4.75	32.56
San Joaquin County (lbs/day)[3]	26,784.90	3,806.80	1,790.00	162.10	936.70

[1] Only transmission pipeline and off-site vehicle emissions are included. Sacramento County accounts for 37.86% of the total length.

[2] Construction of the transmission pipeline in Sacramento County would need 48 work days.

[3] Worst case estimate of daily emissions during concurrent construction of all project facilities including well pad sites, separation facility, compressor/dehydration facility, field pipeline, transmission pipeline and off-site vehicle emissions. Normally over the entire construction period not all activities would happen at the same time.

Similar to the proposed project, construction-related emissions of ROG and NOx under the Public Right-of-Way Route Alternative would be significant and unavoidable within Sacramento County.

Mitigation Measures

Implementation of Mitigation Measures 3.5-1 through 3.5-4 would reduce air quality impacts of the Public Right-of-Way Route Alternative to less-than-significant levels, except for ROG and NOx emissions within Sacramento County.

3.5.6 IMPACTS OF THE EXISTING PIPELINE CORRIDOR ALTERNATIVE AND MITIGATION MEASURES

IMPACTS

The impacts of this alternative would be essentially identical to those of the proposed project. Average daily emissions during construction (Table 3.5-8) would be expected to be slightly higher than those for the proposed project because pipeline construction within public road rights-of-way would likely take approximately 1 month longer. Given the emissions and thresholds described above, these slightly increased emissions would exceed Sacramento Air District thresholds for construction emissions. As described previously, San Joaquin Air District has not established thresholds for construction emissions. Rather, the San Joaquin Air District requires implementation of comprehensive control measures. Implementation of these measures (Mitigation Measures 3.5-1) would be required for construction of this alternative. This impact is significant.

Similarly, operational emissions and the potential for odors from the compressor facility would be essentially identical to those of the proposed project. These impacts are significant.

Similar to the proposed project, construction-related emissions of ROG and NOx under the Existing Pipeline Corridor Alternative would be significant and unavoidable within Sacramento County.

Mitigation Measures

Implementation of Mitigation Measures 3.5-1 through 3.5-4 would reduce air quality impacts of the Existing Pipeline Corridor Alternative to less-than-significant levels, except for ROG and NOx emissions within Sacramento County.

3.5.7 IMPACTS OF THE COMPOSITE ROUTE ALTERNATIVE AND MITIGATION MEASURES

IMPACTS

The impacts of this alternative would be essentially identical to those of the proposed project. Average daily emissions during construction would be slightly higher than for the proposed project because

pipeline construction within public road rights-of-way would take approximately 1 month longer. Given the emissions and thresholds described above, these slightly increased emissions would exceed the Sacramento Air District's thresholds for construction emissions. As described previously, the San Joaquin Air District has not established thresholds for construction emissions. Rather, the district requires implementation of comprehensive control measures. Implementation of these measures (Mitigation Measures 3.5-1) would be required for construction of this alternative. This impact is significant.

Similarly, operational emissions and the potential for odors from the compressor facility would be essentially identical to those of the proposed project. These impacts are significant.

Similar to the proposed project, construction-related emissions of ROG and NOx under the Composite Route Alternative would be significant and unavoidable within Sacramento County.

Mitigation Measures

Implementation of Mitigation Measures 3.5-1 through 3.5-4 would reduce air quality impacts of the Composite Route Alternative to less-than-significant levels, except for ROG and NOx emissions within Sacramento County.

REFERENCES—AIR QUALITY

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