

**Appendix C
Air Quality**

AIR QUALITY

CEQA Checklist Question IIIb) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? No. See the assessment of construction related emissions below.

CEQA Checklist Question IIIc) Would the project expose sensitive receptors to substantial pollutant concentrations? No. See the assessment of construction related emissions below.

SETTING

The North Auburn Highway 49 Transmission Main Project (Project) site is located at the western edge of Placer County in the Sacramento Valley Air Basin (SVAB). The Placer County Air Pollution Control District (PCAPCD) is responsible for implementing emissions standards and other requirements of federal and state laws in the project area. The PCAPCD and partner agencies recently (February 2006) published the Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan which demonstrates how existing control strategies and already approved control measure commitments will provide the necessary future emission reductions to meet the federal Clean Air Act requirements for reasonable further progress during 1990-1996 and 2002-2008.

The Air Quality Attainment Plans are incorporated into the State Implementation Plan, which is subsequently submitted to the U.S. Environmental Protection Agency (EPA), the federal agency that administrates the Federal Clean Air Act of 1970, as amended in 1990.

ESTABLISHED STANDARDS

Ambient air quality is described in terms of compliance with state and national standards, and the levels of air pollutant concentrations considered safe to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The EPA established national ambient air quality standards (NAAQS) in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. California developed and adopted its own set of standards in 1991. California ambient air quality standards (CAAQS) and NAAQS are listed in Table 1.

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Table 1 Ambient Air Quality Standards			
Air Pollutant	California Concentration	National Primary (>)	National Secondary (>)
Ozone	0.09 ppm, 1-hr avg 0.07 ppm, 8-hr avg	0.08 ppm, 8-hr avg	0.08 ppm, 8-hr avg
Carbon Monoxide	9 ppm, 8-hr avg 20 ppm, 1-hr avg	9 ppm, 8-hr avg 35 ppm, 1-hr avg	9 ppm, 8-hr avg 35 ppm, 1-hr avg
Nitrogen Dioxide	0.25 ppm, 1-hr avg	0.053 ppm, annual avg	0.053 ppm, annual avg
Sulfur Dioxide	0.04 ppm, 24-hr avg 0.25 ppm, 1-hr avg	0.03 ppm, annual avg 0.14 ppm, 24-hr avg	0.50 ppm, 3-hr avg
Suspended Particulate Matter (PM ₁₀)	30 µg/m ³ annual geometric mean 50 µg/m ³ 24-hr avg	50 µg/m ³ annual arithmetic mean 150 µg/m ³ 24-hr avg	50 µg/m ³ annual arithmetic mean 150 µg/m ³ 24-hr avg
Sulfates	25 µg/m ³ 24-hr avg		
Lead	1.5 µg/m ³ , 30-day avg	1.5 µg/m ³ , calendar quarter	1.5 µg/m ³ , calendar quarter
Hydrogen Sulfide	0.03 ppm, 1-hr avg		
Vinyl Chloride	0.010 ppm, 24-hr avg		
Visibility Reducing Particles	In sufficient amounts to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%.		

- a California standards for ozone, carbon monoxide, sulfur dioxide (1-hour), suspended particulate matter-PM₁₀ visibility reducing particles, are values that are not to be exceeded. The sulfur dioxide (24-hour), sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.
- b National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

Note: ppm = parts per million by volume
µg/m³ = micrograms per cubic meter

Source: California Air Resources Board, 2006

Table 2 summarizes the attainment status designations within the project area for the six air pollutant constituents with EPA established standards. The Sacramento region is designated as a serious ozone non-attainment area for the federal 8-hour ozone standard. Ozone, also known as smog, is a harmful pollutant when present at ground level. It is formed in the presence of sunlight typically on hot summer days and is composed of reactive organic gases (ROG) and nitrogen oxides (NOx). Both ROG and NOx are emitted from motor vehicles. ROG is also emitted from paints, solvents and other chemicals. The ozone non-attainment area consists of all of Sacramento and Yolo counties and parts of Placer, El Dorado, Solano and Sutter counties. This area is required to attain the ozone standard by 2013.

With off-road equipment (typically used for construction) contributing to approximately 16% and on-road vehicles contributing to approximately 60% of the Sacramento region’s NOx and ROG emissions, mitigation efforts to reduce emissions from construction projects and the build out of land development projects are essential in order for the Sacramento region to reach the ozone standard.

In addition to not attaining the ozone standard, Placer County does not attain the state particulate matter standards (PM10 and PM2.5, particles less than 10 microns and 2.5 microns in diameter). Reduction of particulate matter by all feasible means is necessary to attain the state’s particulate matter standards.

The EPA reclassified the SVAB as an attainment area for carbon monoxide in 1998.

Table 2 Ambient Air Quality Attainment Status for the Sacramento Valley Air Basin – State and Federal Standards			
Air Pollutant	Attainment	Non-Attainment¹	Unclassified²
Ozone		Serious - Federal 8-hour Std Serious - State 1& 8-hour Std	
Carbon Monoxide	X		
Nitrogen Dioxide	X		
PM ₁₀		Moderate – Federal Std Non-Attainment - State Std	
PM _{2.5}	Attainment/ Unclassified – Federal Std	Non-Attainment – State Std	
Sulfur Dioxide	X		
Lead	X		

1 Does not meet primary standards.

2 Cannot be classified or better than national standards.

Source: Air Resources Board , 2006

EXISTING AIR QUALITY

The project area’s air quality monitoring network provides information on ambient concentrations of air pollutants in the SVAB. PCAPCD operates an ozone monitoring station in Auburn at Dewitt and C Avenue and a PM10 monitoring station in Roseville on N. Sunrise Boulevard. Table 3 compares a five-year summary (2001 to 2005) of the highest annual criteria air pollutant emissions, collected at these monitoring stations, with applicable CAAQS, which are more stringent than the corresponding NAAQS. O₃ and PM₁₀ are expected to be fairly representative of the project site, due to the regional nature of these pollutants. The monitoring

data is not a good representation of expected carbon monoxide levels for the project area, as this pollutant is rapidly dispersed and primarily a local concern.

As indicated in Table 3, O₃ and PM₁₀ have exceeded standards between 2001 and 2005 (the most recent 5 years of data available) at both monitoring stations.

Table 3 Summary of Annual Air Quality Data for Project Area Placer County Air Quality Monitoring Stations					
Pollutant	2001	2002	2003	2004	2005
Ozone (O₃) (ppm)					
Auburn:Dewitt-C Avenue: 1-hour peak concentration	<u>0.118</u>	<u>0.136</u>	<u>0.123</u>	<u>0.118</u>	<u>0.12</u>
Days State 1-hr Standard Exceeded	22	16	14	14	11
Auburn:Dewitt-C Avenue: 8-hour peak concentration	<u>0.107</u>	<u>0.115</u>	<u>0.111</u>	<u>0.101</u>	<u>0.107</u>
Days State 8-hr Standard Exceeded	21	15	11	12	10
Suspended Particulates (PM₁₀) (µg/m³)					
Roseville:N Sunrise Blvd: Maximum 24-hr Concentration	<u>62</u>	<u>61</u>	<u>59</u>	43	<u>58</u>
Days Exceeding State Standards	24	6	6	0	6

Notes: Underlined Values in excess of applicable standard
ppm = parts per million
µg/m³ = micrograms per cubic meter

Sources: California Air Resources Board web site, 2006. <http://www.arb.ca.gov/adam/>

SENSITIVE RECEPTORS

Sensitive receptors are typically described as schools, hospitals, senior centers and locations where people with poor health may be located. There are a group of residences in the vicinity of Reach 1 at the northern end of the project area.

SIGNIFICANCE CRITERIA

The PCAPCD uses the Sacramento Metropolitan Air Quality Management District’s published thresholds of significance for new projects (SMAQMD, 2003), which are used to determine whether the potential air quality impacts of a Proposed Project are significant. The following emission levels have been established as the significance thresholds for those air quality impacts quantitatively assessed:

Reactive Organic Gases:	construction:	none
	operation:	65 pounds per day (lbs/day)
Oxides of Nitrogen:	construction:	85 lbs/day
	operation:	65 lbs/day
Respirable Particulate Matter:	construction:	50 µg/m ³ /day
	operation:	65 lbs/day

CONSTRUCTION-PERIOD EMISSIONS

The construction of the Proposed Project would entail construction over a period of up to 20 weeks. It is assumed that the equipment would be operating up to 10 hours per day and 5 days per week. The exception would be the roadway crossings that would occur at night. All of the material excavated would be stored on-site and reused with some mix of imported fill.

The SMAQMD’s Guide to Air Quality Assessment (2004) manual methodology was applied to the proposed project construction equipment: 2 backhoes, 1 loader, 4 dump trucks and 1 water truck. The maximum daily area disturbed for the proposed pipeline project is approximately 500 linear feet and 465 cubic yards. Based on the disturbed acres per day and conservative equipment estimates during construction, maximum daily emission estimates from construction impacts as presented in Table 4, are 14.61 pounds per day (ppd) of ROG, 44.44 ppd of NO_x and 1.41 ppd of PM₁₀.

Table 4 Emission Estimates for Construction Impacts (pounds per day)			
Emission Source	ROG	NO_x	PM₁₀
Construction Equipment	6.69	43.74	1.41
Construction Vehicles	0.96	0.70	0.01
Maximum Emissions	14.61	44.44	1.41
Significance Thresholds	None	85.00	275.00⁽²⁾

Notes:

NA – Not applicable

(1) As the project description includes watering trucks as a dust suppression measure, that benefit was included in the construction-level emission estimates.

Source: Valerie Rosenkrantz, Consulting 2006

The Proposed Project does not exceed significance thresholds and no further mitigation is required. In consultation with the PCAPCD staff, all construction projects are required to comply with the District’s Rule 228, Fugitive Dust. Compliance with dust control requirements are part of the project description.