

4.7 AIR QUALITY

4.7.1 Proposed Project

4.7.1.1 Affected Environment

The Mohave Desert Air Quality Management District (MDAQMD) has state air quality jurisdiction over the Proposed Project area. The MDAQMD has rules that apply to the Proposed Project, principally relating to fugitive dust control. Although adherence to these rules is required, there are no air quality-related permits required for the construction or operation of the Proposed Project.

While air quality throughout the Proposed Project area is typically good, there are times that the area does not meet ambient air quality standards due to locally generated and/or wind transported pollutants. Portions of the Proposed Project are located in areas currently classified as federal and state non-attainment areas for Ozone (O₃), particulate matter less than 10 microns (PM₁₀), and particulate matter less than 2.5 microns (PM_{2.5}) under the National and California Ambient Air Quality Standards (AAQS).

The majority of the Proposed Project route would not be located adjacent to any known sensitive receptors. However, existing residences (defined by the California Air Resources Board [CARB] and MDAQMD as sensitive receptors), are located along the Proposed Project alignment near Victorville (Segment 3). A single-family residential development consisting of approximately 20 homes is located along the Proposed Project alignment at the north end of Segment 3 for approximately 800 feet from the intersection of State Route 247 to Boulder Road. Additionally, the Proposed Project travels through the unincorporated town of Bell Mountain for approximately 3 miles. There are approximately 50 large rural homes in Bell Mountain located within 0.5 mile of the fiber optic cable line. Of the 50 homes, approximately 12 are located within 100 feet of the Proposed Project.

O₃ is not emitted directly, but is formed in the atmosphere through complex chemical reactions between nitrogen oxides (NO_x) and hydrocarbons in the presence of sunlight. Hydrocarbon is a general term that describes compounds composed of hydrogen and carbon atoms. Hydrocarbons are classified by how photochemically reactive they are: relatively reactive or relatively non-reactive. Relatively reactive hydrocarbons, also known as reactive organic gases (ROGs), are volatile organic compounds (VOCs) that react photochemically and contribute to the formation of O₃, as well as PM₁₀ and PM_{2.5}, and are the primary pollutant of concern. Motor vehicle emissions and evaporation of various VOCs (e.g., solvents usage, fuels, etc.) are major contributors to regional O₃ problems. Pesticide use, industrial process operations, and non-highway mobile sources (e.g., off-road vehicle use and aircraft operations) are other contributors to regional O₃ problems. PM₁₀ emissions originate from a broad range of sources, including on-road mobile sources (e.g., re-entrained road dust, direct emissions, and secondary emission effects) and natural windblown dust generated from occasional moderate to high-wind episodes over a large region that encompasses multiple districts and interstates (e.g., local and distant transport of PM₁₀) (County of San Bernardino General Plan, 2007, Section V).

The State Implementation Plan (SIP) identifies sources of PM₁₀ emissions and control measures to reduce emissions. The SIP emphasizes controls and management. At a minimum, the United States (U.S.) Environmental Protection Agency (EPA) requires the application of reasonable available control technology to stationary emission sources and reasonable available control measures to mobile sources and new source review and permitting.

In addition to criteria pollutants, construction of the Proposed Project would generate emissions of carbon dioxide (CO₂) and other greenhouse gases (GHG). GHGs are pollutants that trap heat in the earth's atmosphere. The U.S. Supreme Court has ruled that GHGs are air pollutants and are under regulatory authority of the U.S. EPA. The State of California has determined that increased concentrations of GHGs in the atmosphere are generated by anthropogenic (manmade) sources and result in global warming. Further, the State of California has determined that global warming is posing a serious environmental threat to state resources, including rising sea levels, decreased snow pack, decreased availability of potable water supplies, and increased incidence of flooding and wildfires. While a project's generation of

GHGs over its life alone may not result in global warming impacts, the project's incremental contribution of GHGs when combined with all other sources may cumulatively result in global warming impacts.

4.7.1.2 Significance Criteria

For purposes of meeting state requirements under the California Environmental Quality Act (CEQA), the MDAQMD has published thresholds of significance for air quality in their CEQA implementation document. The significance criteria, presented in Table 4.7-1: MDAQMD Significance Thresholds, are applied to projects where the MDAQMD is the lead agency and are recommended for use by other agencies when serving as the lead agency.

Table 4.7-1: MDAQMD Significance Thresholds

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO _x)	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SO _x)	25	137
Particulate Matter (PM ₁₀)	15	82

According to the CEQA, a project would have a significant air quality impact if it:

- conflicts with or obstructs implementation of the applicable air quality plan;
- violates any air quality standard or contributes substantially to an existing or projected air quality violation;
- results in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- exposes sensitive receptors to substantial pollutant concentrations; or
- creates objectionable odors affecting a substantial number of people.

At the present time, there are no regulations in place from the California Air Resources Board or any other resource agency defining a "significant" source of GHG emissions, nor are there specific GHG emission limits or caps. Assembly Bill 32 has defined goals for the reduction of in-state GHG emissions; however, there are no clear metrics to determine the significance of one project's contribution to these goals.

Pursuant to the National Environmental Policy Act (NEPA), consideration of significant impact on the human environment is conducted in accordance with Title 40 Code of Federal Regulations 1508.27 (specified in Section 1.2.1 Relationship to NEPA Guidelines). Following the public comment period, a finding regarding a significant impact will be prepared in accordance with this provision.

4.7.1.3 Impacts and Mitigation

The construction of the Proposed Project would contribute to an increase in air pollution as the operation of construction vehicles and equipment would lead to a temporary increase in fugitive dust and fossil fuel emissions. These emissions were estimated using data from the URBEMIS2007 and EMFAC2007 computer simulation models. The results of the simulations have been included in Table 4.7-2: Simulated Proposed Project Emissions.

Table 4.7-2: Simulated Proposed Project Emissions

Criteria Pollutant	Project Generated Emissions	MDAQMD Thresholds	Exceed Threshold?
Carbon Monoxide (CO)	2.57 tons/year 29 pounds (lbs)/day	100 tons/year 548 lbs/day	No
Oxides of Nitrogen (NO _x)	5.44 tons/year 33 lbs/day	25 tons/year 137 lbs/day	No
Volatile Organic Compounds (VOC)	0.57 tons/year 4 lbs/day	25 tons/year 137 lbs/day	No
Oxides of Sulfur (SO _x)	NG*	25 tons/year 137 lbs/day	No
Particulate Matter (PM ₁₀)	2.46 tons/year 22 lbs/day	15 tons/year 82 lbs/day	No

Source: CGI 2008

* NG = Negligible Emissions less than 1 lb/day or 0.1 ton per year

The simulated increases in air pollution as a result of the construction of the Proposed Project are all well below the thresholds of significance developed by the MDAQMD. Construction emissions would be short-term in nature and would be limited only to the time period when construction activity is taking place. In addition, the Proposed Project would involve minimal earth moving (e.g., trenching, grading, or plowing), and would, therefore, generate a limited amount of fugitive dust.

Due to the linear nature of the Proposed Project, construction would not occur in the same area for more than a few hours at a time. As a result, the Proposed Project would create some localized odors associated with construction activities and equipment; however, these odors would be temporary and would dissipate quickly.

Emissions from operation and maintenance activities would not change from preconstruction levels as a result of the Proposed Project; therefore, there would be no impact to air quality from these activities.

Standard Best Management Practices (BMPs), including dust-control measures as described in Section 2.4 Applicant-Proposed Measures would be employed during construction. These BMPs would include the following activities:

- applying water or a chemical wetting agent to all excavated surfaces, dirt roads, and material stockpiles to prevent excessive amounts of dust during grading and construction activities as needed;
- terminating all earth moving or excavation activities during windy periods;
- watering and securing all materials transported off-site to prevent excessive amounts of dust;
- limiting vehicle speeds on the right-of-way (ROW) and unpaved access roads; and
- maintaining all equipment according to manufacturer's specifications

The primary GHGs generated by the Proposed Project would be CO₂ generated from the combustion of fuel required for excavation and cable installation activities. For analysis purposes, it was assumed that excavation and cable installation would occur every workday (22 workdays per month) over a 6-month period and would utilize two crews, each operating a back-hoe, loader, off-road haul truck, water truck, and the vehicles associated with construction worker commutes. This is considered a worst-case scenario for emissions.

As described previously, CO₂ emissions from construction equipment and vehicles were simulated using computer simulation models. The CO₂ emissions for the Proposed Project were simulated to an

annualized rate of 525.44 tons per year for the duration of Project construction. These emissions would be temporary. Because of the temporary nature of the Proposed Project GHG emissions, coupled with the modest quantity of CO₂ emissions the Proposed Project's cumulative impacts to global warming due to the incremental contribution of GHGs is less than significant. The operation and maintenance of the Proposed Project would not change from preconstruction conditions; therefore, there would be no change in GHG emissions.

After implementation of the applicant-proposed measures, air quality impacts would be considered to be less than significant and no mitigation measures are required pursuant to CEQA.

As such, the Proposed Project would not contribute towards the violation of state or federal standards, and impacts from daily air emissions of the Proposed Project would be considered less than significant.

4.7.2 No Action Alternative

Selection of the No Action Alternative, as described in Section 2.5.1 No Action Alternative, would not result in implementation of the Proposed Project and potential effects to air quality as described in Section 4.7.1.3 Impacts and Mitigation would not occur.