

3.3.8 Air Quality

Introduction

The Air Quality section addresses the impacts of the project on ambient air quality and the exposure of people, especially sensitive individuals, to hazardous pollutant concentrations. The pollutants of concern include both criteria pollutants and toxic air contaminants. The criteria pollutants are those regulated by federal and State laws since the 1970s: e.g., ozone, carbon monoxide (CO), suspended particulate matter (PM₁₀ and/or, possibly, PM_{2.5}), oxides of nitrogen (NO_x), and sulfur dioxide (SO₂). Toxic air contaminants are identified by State regulation: e.g., particulate matter from diesel-fueled engines, asbestos, chlorinated organic compounds, metals, radon and iodine gas, and other contaminants.

Air emissions commonly associated with campus projects include: exhaust from motor vehicle traffic; emissions from boilers and cogeneration plants used for heating; fume hoods and exhaust; and emissions from construction activities. The EIR must address each of these, as applicable.

Responsible Agencies

Air quality management in California is coordinated by the Air Resources Board with the assistance of local air districts. The Air Resources Board has authority to define emission standards for motor vehicles and other sources of statewide concern and manage the statewide air toxics program (<http://www.arb.ca.gov/>).

Local air districts regulate stationary sources of air pollutants through permitting programs and implementation of the air toxics program. The local air district would serve as the Responsible Agency for all projects requiring air quality permits. The major air districts are identified below:

- *Bay Area Air Quality Management District*
(<http://www.baaqmd.gov>)
- *Monterey Bay Unified Air Pollution Control District*
(<http://www.mbuapcd.org>)
- *Sacramento Metro Air Quality Management District*
(<http://www.airquality.org>)
- *San Diego County Air Pollution Control District*
(<http://www.sdapcd.co.san-diego.ca.us>)
- *San Joaquin Valley Air Pollution Control District*
(<http://www.valleyair.org>)
- *Santa Barbara County Air Pollution Control District*
(<http://www.sbcapcd.org>)
- *South Coast Air Quality Management District*

(<http://www.aqmd.gov/>)

- *Yolo-Solano Air Quality Management District*

(<http://www.ysaqmd.org>)

Regulatory information and additional information on the local air districts can be obtained from the *Air Resources Board* (<http://www.arb.ca.gov>).

LRDP EIR

The air quality impact analysis should focus on the potential for development to:

- Conflict with or obstruct applicable air quality planning efforts,
- Cause or contribute to a violation of any air quality standard, or
- Expose receptors to substantial concentrations of air toxics or odors.

The impact analysis would be based on emissions and changes in air quality that would be caused by development, occupation, or growth of campus facilities and activities. Analysis of construction-related emissions should include the effects of equipment and worker-trip vehicle exhaust as well as fugitive dust. Mitigation of these effects should then be identified in the LRDP EIR. Limitations on use of asbestos-containing serpentine rock can be found in the statewide Airborne Toxic Control Measure (<http://www.arb.ca.gov/regact/asbestos/asbestos.htm>). Regulations for control of asbestos during construction or demolition are published by each local air district.

Potential LRDP mitigation methods include implementing dust control programs, programs designed to reduce motor vehicle trips, and installation of abatement devices to minimize emissions from stationary sources, such as boilers and laboratory fume hoods. Local air districts should be consulted to ensure that campus-related emissions are included in the emissions inventories for the region-wide air quality plan.

Project EIR

To the extent not analyzed in an LRDP EIR, the Air Quality section of a Project EIR or IS should analyze the type and quantity of project-related emissions that were not anticipated by or evaluated by the LRDP EIR. It should also take into account changes in air quality conditions, air quality standards, surrounding land uses, or impact assessment methodologies relative to the current LRDP EIR. Localized effects that would potentially be associated with construction activities, fume hoods, accidental releases to the atmosphere, operation and maintenance of the project, or project-related motor vehicle trips should also be analyzed.

Standards of Significance

Appendix G of the CEQA Guidelines contains the following standards of significance for the evaluation of air quality effects. Would the project:

- Conflict with or obstruct implementation of the applicable air quality plan?

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
- Expose sensitive receptors to substantial pollution concentrations?
- Create objectionable odors affecting a substantial number of people?
- Exceed the probability of 10 in one million of a maximally exposed individual contracting cancer?
- Have ground level concentrations of non-carcinogenic toxic air contaminants which would result in a Hazard Index greater than one for the maximally exposed individual?
- Exceed an applicable LRDP or program EIR Standard of Significance? (this is used in situations where the campus may have identified an air quality standard that is different from or exceeds the state standards.)

Where available, the significance criteria established by the applicable air district may be used to make these determinations.

Analytical Methods

Setting

- Describe the regulatory setting including local attainment status, air quality trends, and air quality plans.
- Identify transportation-related plans or programs which may influence air quality.
- Identify relevant standards and control technology requirements for any new or expanded stationary sources, and review engineering estimates for emissions and the efficiencies of abatement devices or new equipment, if any.
- Identify locations where existing or project-related land uses could be exposed to sources of air contaminants.
- Identify existing potential odor sources.

Impacts

Air quality impacts should be analyzed using the current guidelines or procedures specified by the local air district or the Air Resources Board.

- Characterize air quality effects of construction-related emissions. Analysis of construction-related emissions should include the effects of equipment and worker-trip vehicle exhaust as well as fugitive dust. Other potential sources of construction emissions include building materials, asphalt, and architectural coatings. A recommended analysis methodology is normally available from the local air district.
- Review the transportation impact analysis, and analyze emissions associated with project-induced motor vehicle trips. Consider using campus-specific emission factors where appropriate.
- Review the transportation impact analysis, and identify locations where heavy traffic could cause elevated carbon monoxide concentrations, e.g., intersections, roadway segments, or parking areas. If necessary, use an appropriate dispersion model to determine whether ambient air quality standards would be exceeded.
- Prepare an inventory of existing and expected emissions of toxic air contaminants
- If exposure to toxic air contaminant emissions would be substantial, perform a risk assessment to evaluate cancer risks or health hazards.
- Identify whether sensitive receptors would be exposed to objectionable odors.
- Identify potential cumulative impacts.

Generally Feasible Mitigation Measures

For all air quality effects:

- Comply with all applicable air quality laws and regulations, and demonstrate consistency with applicable air quality plans.
- For construction-related air quality effects:
 - Apply water or dust suppressants to exposed earth surfaces to control dust emissions.
 - Revegetate exposed earth surfaces following construction.
 - Avoid unnecessary idling of construction vehicles and equipment.
 - Provide proper maintenance and upkeep for construction equipment, or specify use of low-NOx emitting, low-particulate emitting, or alternatively fueled construction equipment.

- Reduce construction-worker trips with ride-sharing or alternative modes of transportation.

For transportation-related air quality effects:

- To reduce emissions related to motor vehicle trips, develop a Transportation System Management (TSM) program, including shuttle buses, car pooling, bicycle paths, and other methods to discourage automobile use.
- Provide high-density academic core areas to encourage pedestrian or bicycle travel.
- Provide pedestrian facilities and improvements.
- Provide electric vehicle charging facilities, and/or alternative fuel fueling stations.
- Provide preferential parking for carpools/vanpools.

For air quality effects due to stationary sources:

- Plan for appropriate abatement devices on stationary sources, such as carbon adsorption systems and filters on organic chemistry laboratory fume hood exhaust stacks.
- Design combustion sources to include low-NO_x emissions technology.