Chapter 3
Thresholds of Significance

3.1 Overview

Discretionary projects that are subject to CEQA generally undergo a preliminary evaluation in an Initial Study. The Initial Study is used to determine if a project may have a significant effect on the environment. The Initial Study should evaluate the potential impact of a proposed project on air quality, using the criteria laid out in this Chapter.

The air quality impact of a project is determined by examining the types and levels of emissions generated by the project, the existing air quality conditions, and neighboring land uses. The Initial Study should analyze project construction and operation, as well as cumulative impacts. When considering a project's impact on air quality, a lead agency should provide substantial evidence that supports its conclusions in an explicit, quantitative analysis whenever possible. Lead Agencies are encouraged to use the methodologies provided in this document, or approved computer programs, to perform quantified screening-level air quality analyses. Lead Agencies can use the District as an additional resource in preparing the air quality analysis in an Initial Study.

Set forth below are two categories of significance criteria: qualitative and quantitative. Both categories of criteria should be applied to each project, and either category can result in a finding of significance.

3.2 Qualitative Significance Criteria

3.2.1 CEQA Guidelines Appendix G Environmental Checklist Criteria. The CEQA Guidelines[1] define a "significant effect on the environment" as "a substantial adverse change in the physical conditions that exist in the area affected by the proposed project." Appendix G to the Guidelines contains a checklist of qualitative criteria for determining whether a project will have a "potentially significant impact" on air quality, which is to be used at the Initial Study phase. According to the criteria, a project will have a "potentially significant impact" on air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute 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 nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose the public (especially schools, day care centers, hospitals, retirement homes, convalescent facilities, and residences) to substantial pollutant concentrations.

[1] CEQA Guidelines, §15002(g)

- Create objectionable odors affecting a substantial number of people.

The CEQA Guidelines' Appendix G criteria should be used as "screening" level criteria. A project that is "potentially" significant under these criteria may be shown not to have significant air quality impacts using the quantitative approaches in this Guide. However, if a quantitative analysis is not done, or if the analysis shows that the quantitative significance criteria (set forth in the following sections of this chapter) are exceeded, then a project that is "potentially" significant under the Appendix G criteria will be considered to have a significant impact on air quality.

3.2.2 Land Use Conflicts and Exposure of Sensitive Receptors. The location of a development project is a major factor in determining whether it will result in localized air quality impacts. The potential for adverse air quality impacts increases as the distance between the source of emissions and members of the public decreases. While impacts on all members of the population should be considered, impacts on sensitive receptors are of particular concern. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, and convalescent facilities are examples of sensitive receptors.

Localized impacts to sensitive receptors generally occur in one of two ways:

- A (new) source of air pollutants is proposed to be located close to existing sensitive receptors. For example, an industrial facility is proposed for a site near a school.
- A (new) sensitive receptor is proposed near an existing source of air pollutants. For example, a school is proposed near a wastewater treatment plant.

There are several types of land use conflicts that should be avoided:

- A sensitive receptor in close proximity to a congested intersection or roadway with high levels of emissions from motor vehicles. High concentrations of carbon monoxide or toxic air contaminants are the most common concerns.
- A sensitive receptor close to a source of toxic air contaminants or to a potential source of accidental releases of hazardous materials.
- A sensitive receptor close to a source of odorous emissions. Although odors generally do not pose a health risk, they can be quite unpleasant and often lead to citizen complaints to the District and to local governments.
- A sensitive receptor close to a source of high levels of nuisance dust emissions.

Lead agencies and project proponents should use these land use conflict criteria to identify issues that may require a project to be designated as having a potential significant air quality impact, but which can be rebutted or eliminated through quantitative analysis or mitigation. Early consultation between project proponents and Lead Agency staff can avoid or minimize localized impacts on sensitive receptors. Often, the provision of an adequate buffer zone between the source of emissions and the receptor(s) is sufficient to mitigate the problem. This underscores

the importance of addressing these potential land use conflicts during the preparation of the general plan and as early as possible in the development reviews for specific projects.

3.2.3 Compliance with District Rules and Regulations. The District considers any proposed project that does not demonstrate compliance with all applicable District rules and regulations, and its permitting requirements in particular, as one that has a significant impact on air quality. Satisfaction of this requirement is straightforward, and can be achieved through identification of and compliance with the applicable rules and regulations. See Figure 1-1 in Chapter 1 for a listing of typical facilities subject to or exempt from District permit requirements. Because the CEQA process must be completed prior to the issuance of District permits, the District will consider this requirement met as long as the project proposal demonstrates that the project design and operation will meet the applicable rules and regulations.

In general, larger sources of air pollutant emissions complying with District new source review permitting rules and regulations will have to offset any emission increases and, therefore, will not be considered to have a significant air quality impact.[2] Likewise, stationary sources that are exempt from District permit requirements because they fall below emission thresholds for permitting will generally not be considered to have a significant air quality impact. However, permitted or exempt facilities can still be considered not significant under CEQA operations. Consideration must be given to construction activities (if any), to pollutants allowed under a permit, to any unregulated pollutants, and to other criteria not directly addressed in the rule or regulation, including effects on sensitive receptors, toxic air contaminants, conformity, and cumulative impacts. Permitted facilities should be evaluated against these other criteria, just as any other project. Similarly, cumulative impacts are not accounted for in the permitting process, but must be considered under CEQA; for example, a permitted facility may not be significant on a stand-alone basis, but may have a significant impact when its emissions are combined with other projects in a cumulative impacts analysis. Likewise, a permitted facility that meets applicable permit limitations on emissions of reactive organic gas (ROG) compounds must also be evaluated under Chapter 7 if any of the ROG components are listed as toxic air contaminants.

3.2.4 Compliance with U.S. EPA Conformity Regulations. The U.S. EPA has adopted regulations requiring transportation and other types of projects funded by federal agencies, or subject to approval by federal agencies or state/local agencies that are federally funded, to demonstrate compliance with the State Implementation Plan (SIP) for achieving and maintaining federal ambient air quality standards. If a project is not in compliance with the EPA conformity regulations, it will be considered as having a significant environmental impact. See Chapter 9 for more details regarding conformity determinations.

3.2.5 Odors. A qualitative assessment should be made as to whether a project has the potential to generate odorous emissions of a type or quantity that could meet the statutory definition for nuisance, i.e., odors

> "which cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or

[2] CEQA Guidelines, §15064(h)

> safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property. " [3]

While offensive odors usually do not cause any physical harm, they can be unpleasant enough to lead to considerable distress among the public and generate citizen complaints to local governments and the District. Any project with the potential to expose members of the public to objectionable odors in a manner that meets the statutory definition of nuisance will be deemed to have a potential significant effect. Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc., warrant the closest scrutiny, but consideration should be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

For projects locating near a source of odors where there is currently no nearby development and for odor sources locating near existing receptors, the determination of significance should be based on the distance and frequency at which odor complaints from the public have occurred in the vicinity of a similar facility.

Table 3.1, below, includes common types of facilities that have been known to produce odors. The Lead Agency should recognize that this list of facilities is not meant to be all-inclusive. If a proposed project is determined to be a potentially significant source of odors, mitigation measures should be required. For some projects, operational changes, add-on controls or process changes, such as carbon absorption, relocation of stack/vents, can reduce odorous emissions. In many cases, however, the most effective mitigation strategy is to provide a sufficient distance, or buffer zone, between the source and the receptor(s).

Table 3.1 Common Types of Facilities Known to Produce Odors

Wastewater Treatment Plant	Chemical Manufacturing
Sanitary Landfill	Fiberglass Manufacturing
Transfer Station	Painting/Coating Operations (e.g., auto body shop)
Composting Facility	Food Processing Plant
Petroleum Refinery	Rendering Plant
Asphalt Batch Plant	Coffee Roaster

3.3 Quantitative Significance Criteria

3.3.1 Introduction. The Lead Agency should determine whether the proposed project or plan would exceed any of the thresholds set forth in this section. If any of the thresholds are exceeded, then the project is deemed to have a significant air quality impact and an EIR should be prepared. The more comprehensive analysis of an EIR will provide a more detailed discussion of the project or plan impacts and will help identify the most appropriate and effective mitigation measures to minimize the impacts. Where no significant air quality impacts of a project or plan can be identified in the Initial Study (i.e., none of these significance thresholds

[3] Health & Safety Code § 41700

are exceeded), the District recommends that the Lead Agency prepare a Negative Declaration or, if an EIR is required because of non-air quality impacts, the Lead Agency should include a statement in the EIR explaining the reasons for concluding that air quality impacts are insignificant.

Tests of significance are not limited to the quantitative criteria listed below. The qualitative criteria in section 3.1 above must also be satisfied, although in many cases the quantitative analysis will have the effect of showing that some or all of the qualitative criteria have been met.

Chapter 4 covers the methods for calculation of construction emissions and comparison to the applicable significance criteria. Chapter 5 explains how to calculate daily mass emissions from project operation for ROG and NOx and the comparison of those emissions to the applicable mass emission significance criteria. Chapter 6 does the same for operation emissions of other pollutants, such as CO, PM_{10}, NO_2, and SO_2, which are to be compared against the applicable ambient air quality standards for determining significance. The methodologies provided are intended to assist the Lead Agency and project proponents in determining whether these quantitative thresholds have been exceeded.

3.3.2 Significance Criteria for Ozone. Since ozone is not directly emitted in significant amounts, and modeling impacts of individual projects on a region-wide pollutant like ozone is not feasible, it is necessary to focus on emission levels of the two directly emitted primary precursors of ozone, reactive organic gases (ROG) and oxides of nitrogen (NOx). As explained in § 2.5 of Chapter 2, the western portion of El Dorado County is in the federally designated Sacramento nonattainment region for ozone, and, along with the other counties in the region, is obligated to come into attainment by 2005. The District has determined that mass emissions in excess of the ROG and NOx levels shown in Table 3.2, below, from any project, could affect the District's commitment to attain the federal one-hour ozone standard in the Sacramento Region, and thus could have a significant adverse impact on air quality in the Sacramento Region.

Table 3.2 Ozone Precursor Significance Thresholds

Pollutant	Pounds Per Day
Reactive Organic Gases (ROG)	82
Oxides of Nitrogen (NOx)	82

These thresholds are based on the emissions offset thresholds that apply to new or modified stationary emission sources under District Rule 523. Rule 523, in turn, conforms with the "no net increase" policy adopted by the California Clean Air Act, which requires offsets for permitting of new or modified sources having the potential to emit 15 tons or more per year of any nonattainment pollutant or its precursors in a district, such as is the case in El Dorado for ozone, classified as having "serious" violations of a state ambient air quality standard.[4] Emissions from sources that are below these levels are considered small enough to be accepted as not requiring further mitigation. (Note that although these thresholds are based on criteria used for stationary sources, they are applied in these guidelines to the total emissions from

[4] See Health & Safety Code § 40919.

proposed projects, including stationary, area, and mobile source emissions.) Emissions below these thresholds are considered not significant for industrial sources under the state and federal air quality control programs. It is logical to extend these thresholds as significance criteria under CEQA.

For the Lake Tahoe Air Basin portion of the District, the Tahoe Regional Planning Agency (TRPA) has designated an air quality "significance threshold" of 0.08 ppm over one hour for ozone, which is slightly more stringent than the state AAQS for ozone of 0.09 ppm for one hour. However, there is no reason to adopt a more stringent significance threshold for individual projects in the Tahoe region for CEQA purposes in light of the TRPA threshold; this is because there is no direct relationship between the TRPA threshold, which is expressed as an ozone concentration in ppm, and the CEQA ozone precursor significance thresholds designated above, which are expressed as mass emissions. Accordingly, the same criteria are considered appropriate for the Lake Tahoe Air Basin portion of the county as well as the Mountain Counties Air Basin portion. However, for any projects in the Tahoe region, project proponents and Lead Agencies are advised to check separately with TRPA for any special TRPA requirements imposed by that agency under CEQA for determining the significance of projects within the TRPA jurisdiction.

The method for determining whether a project will exceed these thresholds, along with applicable mitigation measures, is set forth in Chapter 4 for the construction phase and Chapter 5 for project operation.

3.3.3 Significance Criteria for Other Criteria Pollutants. For the other criteria pollutants, including CO, PM_{10}, SO_2, NO_2, sulfates, lead, and H_2S, a project is considered to have a significant impact on air quality if it will cause or contribute significantly to a violation of the applicable national or state ambient air quality standard(s). (See Appendix B for a list of the AAQS.) The determination of whether emissions of these pollutants from a project will cause or contribute to a violation of an applicable AAQS, with applicable mitigation measures, should be done in accordance with the methods laid out in Chapter 4 for construction activity impacts and Chapter 6 for project operation.

3.3.4 Significance Criteria for Visibility. A project in the Mountain Counties Air Basin portion of the county will be considered as having a significant impact on visibility if it will cause or contribute significantly to a violation of the state visibility standard, which is 10 miles (when relative humidity is less than 70%). The state standard in the Lake Tahoe Air Basin is 30 miles, but for evaluating the significance of proposed projects in the Lake Tahoe area, the District will apply the more stringent 100-mile visibility standard imposed by TRPA. For a project that has the potential for adversely affecting visibility under these criteria, the Lead Agency or project proponent should consult with District staff to determine the appropriate method to be used in applying the visibility criteria and the appropriate mitigation. If a project is not expected to result in a significant impact for ozone or PM_{10}, based on the criteria for those pollutants in paragraphs 3.3.2 and 3.3.3 above, it may be presumed that no significant visibility impacts will result. However, the District may determine that this presumption is not applicable if there are special factors, such as project size or location, indicating that a more detailed analysis of visibility impacts is needed.

3.3.5 Significance Criteria for Toxic Air Contaminants. For toxic air contaminants, or TACs, the District will apply the following two alternative significance criteria. Exceeding either of these criteria will lead to a conclusion that a project has a significant impact with respect to toxic air contaminants:

1. the lifetime probability of contracting cancer is greater than one in one million (ten in one million if T-BACT is applied); or
2. the ground-level concentration of non-carcinogenic toxic air contaminants would result in a Hazard Index of greater than 1.

Further details on TACs and the methodology for performing the required health risk assessment are provided in Chapter 7. In addition, Chapter 7 contains provisions for evaluating the significance of asbestos emissions, which can be of concern in El Dorado County for road or development projects.

3.3.6 Significance Criteria for Determining Cumulative Impacts. A proposed project is considered cumulatively significant if one or more of the following conditions is met:

1. The project requires a change in the existing land use designation (i.e., general plan amendment, rezone), and projected emissions (ROG, NOx, CO, or PM_{10}) are greater than the emissions anticipated for the site if developed under the existing land use designation;
2. The project would individually exceed any significance criteria in this Guide;
3. For impacts that are determined to be significant under this Guide, the lead agency for the project does not require the project to implement the emission reduction measures contained in and/or derived from the Air Quality Attainment Plan (AQAP; see Appendix E); or
4. The project is located in a jurisdiction that does not implement the emission reduction measures contained in and/or derived from the AQAP (See Appendix E).

Chapter 8, Cumulative Air quality Impacts, sets forth the method for assessing cumulative impacts.