



South Coast Air Quality Management District

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Review of the Draft Environmental Assessment/Initial Study (Draft EA/IS-MND) for the Half Interchange (on-ramp) to the I-405 from Arbor Vitae Street

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document (including an extended review period). The following comments are meant as guidance for the lead agency and should be incorporated into either a Revised Draft or Final Environmental Assessment (Revised Draft or Final EA) as appropriate.

The air quality analysis presented in the Draft EA/IS-MND is inadequate. The lead agency failed to quantify criteria pollutant emissions during construction and operation, air toxics during operation, and greenhouse gas emissions. Without quantifying air quality impacts from the project, the lead agency is unable to support its conclusions. As an example, the project includes a substantial amount of construction activities for the build alternatives, and the Draft EA/IS-MND identifies dust from construction as an impact, however a determination of no impact is made for all air quality considerations without a quantified analysis. Therefore a fair argument could be made that the lead agency failed to present substantial evidence (consistent with CEQA Guidelines §15064) supported by facts that no air quality impacts are presented by this project. SCAQMD staff is concerned that by unnecessarily avoiding quantification of potential air quality impacts using readily available tools, the lead agency may be acting contrary to the intent of CEQA to disclose to the public potentially significant impacts of a project.

Beginning on page 104, the lead agency presents several arguments stating that an analysis of MSAT emissions is not possible due to “technical shortcomings or uncertain science”. Specifically, the following steps were found to present particular challenges to the lead agency; emissions modeling, dispersion modeling, exposure modeling, and

health impacts based on exposure. The detailed comments on the following pages provide the technical resources and rationale for conducting each of the aforementioned standard modeling approaches. Further, when determining the need to conduct quantitative analysis, the lead agency (a California state agency) relies heavily on guidance from the Federal Highway Administration for preparing NEPA studies. As this project is located entirely within the jurisdiction of California and the SCAQMD, staff recommends utilizing readily available guidance from local authorities who have previously conducted similar analyses for CEQA compliance. Therefore, SCAQMD staff requests that the lead agency quantify potentially significant adverse construction and operation air quality impacts in a revised CEQA document as appropriate, and recirculate the document for public review and comment. Staff invites the lead agency to discuss methods of quantification for air quality impacts with our agency to establish a mutually agreeable protocol for air quality analyses.

Please contact either myself, or Dan Garcia, Air Quality Specialist CEQA Section, at (909) 396-3244 and (909) 396-3304, respectively, if you have any questions regarding the enclosed comments.

Sincerely,



Ian MacMillan

Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

Attachment

IM:DG

LAC091219-04
Control Number

Air Quality Analysis and Mitigation Measures:

1. The lead agency did not quantify potentially significant adverse regional construction or operational air quality impacts from the proposed project. In lieu of conducting a quantitative analysis for construction related air quality impacts, the lead agency states that the project is not significant because of the short term nature of the construction emissions, the state-mandated control devices on the project's construction vehicles and equipment, compliance with SCAQMD Rule 402 and Rule 403, consistency with the State Implementation Plan and the AQMP, and the insignificance of additional construction worker trips. This analysis appears woefully inadequate given the likely need for heavy construction equipment on a project of this size. It is common that equipment of this size will present significant impacts during construction activities, especially given the close proximity of nearby residences.

With respect to operational emissions the lead agency qualitatively states that the project does not present air quality concerns because the project is not expected to have a significant number of diesel vehicles, and because the project would not result in any increase in the number of diesel trucks that would utilize the project.

However, determining consistency and compliance with local and state programs is only one of many measures needed to assess construction-related air quality impacts. Qualitative analyses are insufficient for analyzing regional operational air quality impacts given the availability of specific guidance to assess these impacts (see below). To adequately evaluate air quality impacts, it is necessary to quantify both construction and operational emissions and compare them to applicable significance thresholds. Since the lead agency failed to quantify construction and operational related air quality impacts they have not demonstrated that air quality impacts from the proposed project are less than significant.

SCAQMD staff requests that the lead agency identify all potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project in a Revised Draft EA or Final EA. Specifically, SCAQMD staff recommends the lead agency calculate air quality impacts from both construction (including demolition, if any) and operations where project-specific vehicular traffic is expected to increase. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings used for striping traffic lanes or any associated structures, off-road equipment and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the lead agency use this

Handbook as guidance when preparing its revised draft or final air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Additionally, the lead agency may be able to use the URBEMIS 2007 Model. Information regarding this model is available on the SCAQMD website at: www.aqmd.gov/ceqa/models.htm.

2. As part of the analysis recommended in comment #1 above, SCAQMD staff also recommends quantitatively analyzing PM_{2.5} emissions. The SCAQMD has developed a methodology for calculating PM_{2.5} emissions from construction and operational activities and processes. In connection with developing PM_{2.5} calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify PM_{2.5} emissions and compare the results to the recommended PM_{2.5} significance thresholds. These thresholds have been developed specifically for the air basin in which the project is located. Guidance for calculating PM_{2.5} emissions and PM_{2.5} significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.htm.
3. In addition to analyzing regional air quality impacts (see comments #1 and #2) the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LSTs can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. The lead agency qualitatively analyzed the project's localized impacts concluding that because the redistribution of traffic is minor and would occur near residential and commercial areas that have little truck traffic and only a marginal effect on truck movements the project will not result in an adverse local PM_{2.5} or PM₁₀ impact. This qualitative analysis completed by the lead agency is insufficient for evaluating localized air quality impacts, therefore, the SCAQMD staff requests that the lead agency quantify localized impacts by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: <http://www.aqmd.gov/ceqa/handbook/LST/LST.htm>.
4. In addition to the above recommended models, alternative guidance on a project's operational emissions (utilizing EMFAC2007) is available including: "*Estimating Mobile Source Air Toxics Emissions: A Step-by-Step Project Analysis Methodology*", 2006. UC Davis-Caltrans Air Quality Project Task Order No. 61. This guidance, prepared specifically for and with the lead agency, provides a method for developing credible emissions estimates for a project's operations.

Health Risk Assessment

5. On pages 105 and 106 of the Draft EA/IS-MND the lead agency indicates that because of the shortcomings in current techniques for exposure assessment and risk analysis Caltrans cannot reach any meaningful conclusions about project specific health impacts. As Caltrans is aware, CARB identified PM from diesel-fueled engines as a toxic air contaminant (TAC) in 1998, following an exhaustive 10-year scientific

assessment process. In addition, as part of the identification process, the Office of Environmental Health Hazard Assessment (OEHHA) evaluated the potential for diesel exhaust to affect human health. OEHHA found that exposure to diesel PM resulted in an increased risk of cancer and an increase in chronic non-cancer health effects including a greater incidence of cough, labored breathing, chest tightness, wheezing, bronchitis, and asthma.

There are a number of studies that show a correlation of adverse health impacts of diesel PM and proximity to roadways. CARB recommends avoiding development of urban roads with 100,000 vehicles/day that are within 500 feet of sensitive land uses due to increased cancer risk from diesel PM¹. In order to be compliant with CEQA, substantial evidence (supported by facts) of potential health impacts caused by the project must be presented in the Draft EA/IS-MND.

The proposed half interchange will likely result in mobile source emissions occurring closer to sensitive receptors along the affected freeway segment, therefore, SCAQMD staff urges the lead agency to perform a mobile source health risk assessment (HRA) that includes air dispersion modeling, quantified health risk, and a significance determination in the Revised Draft EA or Final EA based on implementation of the proposed project. There are several guidance documents available for air dispersion modeling and HRAs. Below is a discussion to assist the lead agency in developing a HRA for the proposed project.

HRA Guidance

Quantitative health risk assessment guidance may not be readily at the federal level (as stated by the lead agency) however guidance is readily available from other lead agencies in the project area. For example, the SCAQMD has prepared the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis². Also, both Ports of Los Angeles and Long Beach have SCAQMD approved HRA protocols³, ARB has air dispersion guidance in Appendix 7 of the Diesel Risk Reduction Plan⁴, and HARP is available from CARB.⁵

If the SCAQMD's Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis is used, the health risk estimates should be completed according to OEHHA's cancer potency methodology. The SCAQMD's recommended threshold for cancer risk should not exceed 10 in one million at any receptor location, when compared to the pre-project risk.

¹ California Air Resources Board. April 2005. "Air Quality and Land Use Handbook: A Community Health Perspective." Accessed at <http://www.arb.ca.gov/ch/landuse.htm>

² Available here: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.htm

³ For example: <http://www.polb.com/civica/filebank/blobdload.asp?BlobID=5141>

⁴ Available here: <http://www.arb.ca.gov/diesel/documents/rpapp.htm>

⁵ Available here: <http://www.arb.ca.gov/toxics/harp/harp.htm>

Dispersion Modeling

CALINE3 and CAL3QHCR are the current EPA regulatory models for estimating maximum CO concentrations at roadways. As stated on page 105 of the Draft EA/IS-MND, these models are generally most appropriate for determining compliance with NAAQS, particularly for short term criteria (e.g., 1-hr or 8-hr) such as that required for CO. However, carcinogenic risk is estimated based on annual average concentrations over 70 years for residential and sensitive receptors and 40 years for worker receptors. Chronic non-carcinogenic risk is also estimated based on annual average concentrations. Additional regulatory models are available for these longer averaging times, including AERMOD and ISCST3⁶.

AERMOD and ISCST3 can be used to estimate carcinogenic health risk for both roadway and non-roadway sources. AERMOD is the current EPA approved model for general air dispersion modeling. For CEQA modeling, SCAQMD staff recommends use of any of these models (AERMOD, ISCST3, or CAL3QHCR) or HARP, which uses ISCST3.

6. On page 144 of the Draft EA/IS-MND the lead agency states that it is unable to provide a regulatory and/or scientific-based conclusion to determine if the project's contribution to climate change is cumulatively significant, because it is not currently possible to model and gauge the project-level impacts associated with an increase in greenhouse gas (GHG) emissions. SCAQMD staff strongly disagrees with this statement given that the Office of Planning and Research in its Technical Advisory (2008) specifically recommends analyzing climate change impacts from a project and making a determination of significance. Also, the California Attorney General's Office has entered into a number of lawsuits and settlements with lead agencies because they failed to analyze greenhouse gas emissions, failed to make a determination of significance (absence of a significance threshold does not relieve the lead agency of the obligation to make a significance determination) and/or failed to provide sufficient greenhouse gas mitigation measures. Therefore, SCAQMD staff requests that the lead agency revise the Draft EA or include in the Final EA a quantitative analysis of greenhouse gases, a determination of significance, and, if necessary, feasible mitigation measures.

Mitigation Measures

7. In the event that the lead agency's Revised Draft EA or Final EA requested in comment #1 demonstrates that any criteria pollutant emissions from the regional and/or localized construction emissions analysis create significant adverse impacts the SCAQMD recommends that the lead agency require mitigation pursuant to CEQA Guidelines §15370, which could minimize or eliminate significant adverse air quality impacts. To assist the lead agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. A list of mitigation measures can be

⁶ Available here: http://www.epa.gov/scram001/dispersion_prefrec.htm

found on the SCAQMD's CEQA webpage at the following internet address:
www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.htm

Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required.