Southern California Edison
A.23-04-009 – TLRR EPL

DATA REQUEST SET E D - S C E - E P L - 0 0 2

To: Energy Division
Prepared by: Danielle Ferralez
Job Title: Environmental Project Manager
Received Date: 10/20/2023

Response Date: 11/17/2023

Question DR2-1:
Issue: Page 2 of the Draft HRA (dated October 6, 2023) memo states that the "CalEEMod output for Phase 02: Staging Areas indicates 0.09 pounds of exhaust PM10 per day from activities at staging yards. By assuming a weekly schedule of six days per week, the total annual DPM emissions from all staging yards is calculated as 28.08 pounds DPM/year. In order to determine DPM emissions from each individual staging yard, SCE assumed that staging yard activity is independent of staging yard size (square footage) and location along the project path. Thus, the total emissions were distributed evenly between staging yards by dividing the number of staging yards at a location by the total number of staging yards for the project and applying that percentage to the total DPM emissions." For example, there is one staging yard on SR-18 and Joshua Road (Bear Valley) near sensitive receptors, which equates to 1 out of 15 total staging areas, or 6.67 percent or 1.872 pounds DPM per year for the staging yard on SR-18 and Joshua Road (Bear Valley).
Review of the CalEEMod output (dated May 25, 2023) found values of 0.081 exhaust PM10 pounds per day during 2025, exhaust PM10 0.071 pounds per day during 2026, and 0.061 exhaust PM10 pounds per day during 2027 (i.e., off-road equipment and onsite truck activities). Although not duplicated, the reported value of 0.09 exhaust PM10 pounds per day would produce conservative resultant air concentrations and health impacts.
How to Address: The annual CALEEMOD output shows that the total annual DPM emissions associated with staging areas (labeled as Linear, Grading & Excavation) are 0.003104 tons per year or 6.21 pounds per year (2025), 0.011123 tons per year or 22.25 pounds per year (2026), and 0.006453 tons per year or 12.91 pounds per year (2027). It is suggested that these values are more appropriate for the HRA given that DPM health impacts are focused on long-term (i.e., annual) and not short-term exposure periods (less than 24-hour). The staging area activities occur from October 4, 2025 through September 3, 2027; a total of 600 days (or 3 months in 2025, 12 months in 2026, and 8 months in 2027; which is approximately two years of exposure duration). Therefore, the total DPM emissions are 0.02068 tons or 41.36 pounds (or an average of approximately 0.009926 tons per year or 19.85 pounds per year over each of the two years). Use of 28.08 pounds per year would produce conservative resultant health impacts. Please review, refer to the data requests below and revise the HRA accordingly.

Response to Question DR2-1:
SCE's current methodology is appropriate. Using the annual average emissions output from CalEEMod can potentially underestimate health risks when compared to annual emissions estimates that are calculated by scaling up maximum daily emissions. Therefore, the standard practice when completing health risk assessments for submittals to local Air Districts is to calculate the maximum annual emissions from the activity by using "worst-case" emission rates, thus maximizing the

estimated health risk impacts from a project.

Completing health risk assessments for submittals to local Air Districts involves using the most reasonably conservative assumptions to calculate health risk impacts. Usually, this results in the use of "worst-case" emission rates, project duration, proximity to receptors, modeling method, and other conservative assumptions that maximize the estimated health risk impacts from a project. Then, if the estimated impacts exceed allowable thresholds, the analysis is refined by reducing the degree of conservatism to lower the estimated health risks. Consistent with this approach, SCE calculated "worst-case" annual emissions by assigning the maximum daily emission rate calculated by CalEEMod to every operating day; i.e. 6 days a week for 52 weeks. This is a reasonable worst-case estimate of annual emissions from staging yards, as the operating schedule for any staging yard is anticipated to be less than 52 consecutive weeks.

SCE notes that the CPUC appears to have used the output from a previous CalEEMod run in evaluating the HRA, while the HRA uses the output from a different and more recent CalEEMod run dated July 31, 2023. However, when comparing the emission values in the July 31, 2023 CalEEMod Excel output file to the values displayed when viewing the results for that run in the CalEEMod tool, SCE noticed the values in the Excel output file were rounded to only one or two significant figures. Due to rounding, the Excel output file shows 0.08 pounds per day (winter 2026, off-road equipment) + 0.01 pounds per day (winter 2026, other mobile exhaust) = 0.09 pounds per day of exhaust DPM, whereas the values displayed in the results page of CalEEMod are 0.076 pounds per day (winter 2026, off-road equipment) + 0.006 pounds per day (winter 2026, other mobile exhaust) = 0.082 pounds per day of exhaust DPM. SCE has re-calculated the annual emissions using the maximum daily emission rate of 0.082 pounds per day of exhaust DPM. The resulting estimated health risk impacts are lower and remain well below applicable significance thresholds. The updated calculations are provided in the attached files contained in SCE response to Question DR2-4.

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Question DR2-2:
Issue: Appendix B (Detailed HRA Calculations) uses the annual DPM emission rate of 1.872 pounds per year (as documented in bullet item 1). However, that rate is converted to pounds per hour assumes a total of 8,760 hours to calculate a value of 0.000213699 pounds per hour, which is then used in the calculation of the air concentration and health impacts. Yet, the staging area activities occur for 6 days per week and 10 hours per day (or a total of 3,120 hours). Therefore, the value may need to be 0.0006 pounds per hour. Thus, the annual DPM air concentrations may be approximately 2.8 times underestimated which also potentially underestimates the health impacts.

How to Address: Provide justification for the use of 8,760 hours instead of 3,120 hours (i.e., AERSCREEN does not allow the use of operational profiles as the more refined AERMOD) or adjust accordingly. If the use of 8,760 hours is justified, suggest adding note to calculation sheets to explain why 8,760 hours is used.

Response to Question DR2-2:

Using 8,760 hours is appropriate and is a standard practice for annualizing emissions per the Office of Environmental Health Hazard Assessment (OEHHA). The calculation that is referenced above converts the annual DPM emission rate in pounds per year to the equivalent grams per second emission rate, assuming the annual DPM emissions were evenly distributed over the entire year. Each AERSCREEN modeling run was setup using a unitized emission rate of 1 gram/second, which results in output maximum 1-hour concentrations in units of micrograms per cubic meter per gram per second [(µg/m3)/(g/s)]. The maximum 1-hour concentration is then multiplied by 0.1 to convert to the annual concentration. The converted value is then multiplied by the annualized emission rate in grams per second. The annualized emission rate evenly distributes the annual emissions throughout the year, and therefore using 8,760 hours in the calculation is correct. Additionally, the conversion factor for 1-hour concentration to annual concentration for screening results requires the use of an annualized emission rate.

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Question DR2-4:
Provide the electronic AERSCREEN input/output files and any other information (such as meteorological data) required to fully duplicate the modeling results.

Response to Question DR2-4:

The AERSCREEN input and output files are provided as attachments. The input files are provided as .txt files containing all the relevant parameters required to duplicate the modeling results. The modeling outputs are provided as Excel files. Although terrain data was imported in AERSCREEN for the map extents defined in each modeling run, AERSCREEN defaults to omitting terrain data for area sources, resulting in worst case dispersion conditions. Therefore, the downloaded terrain data is not included.

Please see attached AERSCREEN files:

- ED-SCE-EPL-002-HRA-AERSCREEN Input Lugo 1.txt
- ED-SCE-EPL-002-HRA-AERSCREEN Input Lugo 2.txt
- ED-SCE-EPL-002-HRA-AERSCREEN Input SR-18_Joshua Road.txt
- ED-SCE-EPL-002-HRA-Lugo 1 AERSCREEN Results v2.csv
- ED-SCE-EPL-002-HRA-Lugo 2 AERSCREEN Results.csv
- ED-SCE-EPL-002-HRA-SR-18 _Joshua Rd AERSCREEN Results v2.csv

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Question DR2-5:
Issue: Page 3 of the Draft HRA states that the "AERSCREEN model produces estimates of the "worst-case" 1-hour concentrations for a single source of emissions, without the need for hourly meteorological data. It also includes conversion factors to estimate "worst-case" 3-hour, 8-hour, 24-hour, and annual concentrations." It is our understanding that the conversion factor for 1-hour to annual concentration is 0.08 to 0.10.
Page 4 of the memo states that "representative meteorological parameters were selected in AERSCREEN for each staging yard. AERSCREEN does not use actual meteorological data files from nearby weather stations; instead, it uses a fully developed set of default meteorological conditions. Default parameters that can be adjusted include minimum and maximum temperatures, climate type, wind speeds, and surface friction."

How to Address: Suggest including an annual windrose for Barstow-Dagett Airport, which shows a predominate wind direction from the west while the sensitive receptors of concern are located to the southwest, northeast, and southeast of the staging areas; wind directions which occur less than 5 percent of the year. Thus, use of the default conversion factors of 8 to 10 percent result in conservative air concentrations and health impacts.

Response to Question DR2-5:

The conversion factor is not related to wind direction, or percent of the year that a receptor is located downwind. Therefore, use of the 0.10 conversion factor is appropriate.