

## Truck Stop Electrification Facility: Emission Reduction Calculation

The DEQ calculates emissions and reductions for *vehicles*. However, there are situations where a *facility* provides emission reductions. Here is a method for estimating emission reductions from a Truck Stop Electrification facility using the DEQ.

### A. Create a New Project, select 'Onroad/Nonroad/Locomotive', then 'Add a Vehicle or Engine Group'

- 1) Onroad Vehicles = Long Haul Combination
- 2) Class/Equipment = Class 8 (this should be the default).
- 3) Quantity = Number of parking spaces.
- 4) Baseline Engine Model Year = The typical Engine Model Year of the trucks using the TSE.
- 5) Upgrade Year = The year the electrified parking spaces will begin being used.
- 6) Baseline Fuel Type = ULSD
- 7) Annual Fuel Volume (in gallons for group) =  $0.8 * \text{hoteling hours (see Step 10 for calculation of hoteling hours)} * \text{number of parking spaces}$ .
- 8) Annual Miles Traveled = 0.
- 9) Annual Idling Hours = 0.
- 10) Annual Hoteling Hours = Number of hours each parking space will be in use each year. For example, if a parking space is used 10 hours/day on average, and there are 365 days per year, then 3,650 hours.
- 11) Remaining Life = use 'Get Estimated Remaining Life'; this will be adjusted in Step 18.

### B. After saving the Group, add an Upgrade.

- 12) Idling Control Strategies = Electrified Parking Space
- 13) Annual Idling Hours Reduced = 0
- 14) Annual Hoteling Hours Reduced = the value that was entered for 'Annual Hoteling Hours.'
- 15) Enter 'Upgrade Cost' and 'Labor Cost' of each parking space if you would like to estimate cost effectiveness.
- 16) Save the Upgrade.

**C. Quantify.** The DEQ calculates lifetime reductions based the age of the *vehicle*, not the *facility*. Here's how to get the lifetime reductions based on the Electrified Parking Spaces/Truck Stop Electrification facility.

- 17) Determine the Expected Lifetime of the EPS/TSE facility. [CARB uses 10 years]
- 18) Remaining Life is Expected Lifetime minus the Age. For a new installation, the age is 0.
- 19) Multiply the Annual Reductions from DEQ by the Remaining Life of the EPS/TSE facility to get Lifetime Reductions.