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 * hoteling hours (see Step 10 for calculation of hoteling hours) * 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.