

**Steps for Determining Emission Factors  
for Alternative Technology Switcher Purchase  
Carl Moyer Program**

Step 1: What are the baseline locomotive emission factors?

The baseline emission factors for gen set locomotive new purchase reflect the following emission rates:

- Class 1 and Passenger Railroads: Tier 0
- Class 3: Uncontrolled

The Tier 0 and uncontrolled emission factors are found in Guidelines Table B-18.

Step 2: Where can I find the U.S. EPA-certified emission rates for the project gen set locomotive?

- U.S. EPA-certified emission rates for the project locomotive are found on spreadsheets at [www.epa.gov/otaq/certdata.htm](http://www.epa.gov/otaq/certdata.htm). Each year that U.S. EPA approves a Certificate of Conformity is represented on a separate spreadsheet. Within each spreadsheet, the new locomotive engine family number identifies the project locomotive and emission rates. On the U.S. EPA spreadsheets, “L/H” refers to a line-haul locomotive, “SW” refers to a switcher, and “THC” refers to Total Hydrocarbons. The gen set locomotive emission rates may not exceed 3.0 g/bhp-hr for NO<sub>x</sub> and 0.14 g/bhp-hr for PM.

Step 3: How do I convert the federal emission rates to emission factors for the project cost-effectiveness calculation?

- THC must be converted to ROG by multiplying the THC emission rate from the U.S. EPA webpage by 1.053. To account for use of ultra-low sulfur diesel fuel, NO<sub>x</sub> and PM emission rates are multiplied by 0.94 and 0.86, respectively.