

## ATTACHMENT 3

The proposed language changes below are to facilitate discussion at the December public workshops regarding upcoming revisions to the Carl Moyer Program. The proposed language is shown below.

### **Method for Estimating Fuel Consumption of New Locomotive**

*Carl Moyer Program Guidelines - Supplemental Document*

If district staff would like to estimate the fuel consumption of a new alternative technology switcher locomotive for contract activity purposes, there are two reasonable and acceptable approaches. The simplest calculation is to assume a fuel consumption rate factor of 20 bhp-hr/gal for an alternative technology gen-set switcher. The other method is to start with the brake specific fuel consumption (typically BSFC on the engine specification sheet), in lbs/bhp-hr, divided by the density of diesel fuel to estimate the fuel consumption rate for the new locomotive engine(s). Fuel consumption for the new locomotive is then estimated by taking the estimate of total work for the baseline locomotive, in bhp-hr/yr, divided by the estimated fuel consumption rate, in bhp-hr/gal, of the new locomotive engine(s). Districts may propose an alternate method of estimating the fuel consumption of a new locomotive for case by case approval.

#### **Example:**

##### Data:

Baseline Engine Fuel Consumption: 45,000 gal/yr (from application)

Baseline Engine Fuel Consumption Factor: 15.2 bhp-hr/gal (from table B-25)

New Engine BSFC: 0.34 lb/hp-hr (from engine manufacturer's data sheet)

Fuel Density: 6.96 lb/gal

##### Calculations:

Engine Fuel Consumption Factor:  $(6.96 \text{ lb/gal}) / (0.34 \text{ lb/hp-hr}) = 20.5 \text{ bhp-hr/gal}$

Estimated Fuel Consumption of New Engine:

$(45,000 \text{ gal/yr} * 15.2 \text{ bhp-hr/gal}) / 20.5 \text{ bhp-hr/gal} = 33,400 \text{ gal/yr}$