

## **Case Study 1**

### **Emission Reductions for the Fort Bragg Unified School District (FBUSD) Bus Fleet**

#### **Background**

FBUSD has the second largest School Bus fleet in Mendocino County, it is a district that serves both an urban population and a rural population. The Fleet manager of FBUSD has expressed a strong interest in Alternative Fuels and he has worked with CNG while employed at other districts. The District has 5 pre-1977 buses and many more 1987 and earlier buses. The Mendocino County Air Quality Management District (MCAQMD) has set aside \$90,000 of Motor Vehicle Fee (AB 2766) funding to help clean up school bus emissions. FBUSD has guaranteed access to \$25,000 of this funding and competitive access to \$30,000 more. MCAQMD also has \$90,000 in Carl Moyer Program funding.

#### **The problems -**

- 1.) Natural Gas is not available at the District's maintenance yard or in the entire City of Fort Bragg.
- 2.) LNG is expensive and will generate safety concerns about being placed next to school.
- 3.) LNG/CNG Distribution equipment will be very expensive per unit for such a small fleet.
- 4.) Electric school buses are suitable for the particular demands of the District.
- 5.) Despite the availability of CARB certified propane school buses, no HD-10 propane is available in Mendocino County.
- 6.) Carl Moyer Program funding cannot be used to fund newer low emission diesel buses.

#### **Conclusion**

Despite a large amount of available funding and interest from both the local Air District and FBUSD staff there is no legal way to get alternative-fueled buses for FBUSD at this time.

## **Case Study 2**

### **Emission increases from Mendocino County propane dealer**

#### **Background**

A local Mendocino County Propane dealer currently runs the majority of his equipment on propane. Since he exclusively sells fuel for heating, cooking and power generation, he does not carry HD-10 propane. He is not sure if he could even purchase HD-10 from his suppliers if he needed it.

#### **The problem**

The regulation requiring HD-10 has forced this alternative fuel user to convert his equipment back to gasoline and diesel fuel. This has greatly increased his operating expenses and will result in an increase in emissions of both toxic and criteria pollutants.

### Conclusion

The HD-10 regulation will probably result in a net *increase* in pollution because cleaner burning Propane engines are being replaced with Diesel.

### Case Study 3

#### Mendocino Unified School District (MUSD)

##### Background

MUSD is a small district serving a very large and remote section of the Mendocino County Coastline. Natural Gas service does not exist anywhere in the District's boundaries. The District has large diesel buses dating back to the 1960s and small gasoline powered vans and busses that date from the early 1970s,(no buses have catalytic converters). The District, from the highest levels, is very interested in transitioning to alternative fuels to reduce the exposure of passengers to toxic air contaminants. Many of the buses travel extremely long routes (200-300 mi.) in remote mountainous terrain with inadequate roads. MUSD has access to the same funding as FBUSD from the Air District. Propane is widely available in the area (it heats the schools and the district offices), it has the needed power and range and at least two CARB certified full size propane buses are available. Currently no certified small buses exist, but the manufacturer is willing to certify if a large order is made (5 busses or more).

##### The problem

Alternative fuels are not an option for a variety of factors -

- 1.) Natural gas is not available
- 2.) LNG is expensive will generate safety concerns about being placed next to school.
- 3.) Distribution equipment will be very expensive per unit for such a small fleet.
- 4.) Electric school buses are unsuitable to a rural school bus operator.
- 7.) Despite the availability of CARB certified propane school buses, no HD-10 propane is available in Mendocino County.
- 8.) Carl Moyer Program funding cannot be used to fund newer low emission diesel buses.

##### Conclusion

HD-10 regulation will likely result in older gasoline and diesel equipment remaining on the road, or being replaced with newer non-alternative fuel equipment. The prohibition against the use of commercial grade propane in CARB certified equipment takes the best alternative fuel option off the table for small rural air districts.