

### **Alternate-Fuel Vehicles**

Alternate-Fuel Vehicles are usually in metropolitan fleets and operate on such fuels as compressed natural gas (CNG), liquefied natural gas (LNG), or liquefied petroleum gas (LPG).

Fueling stations and maintenance facilities normally need to be upgraded when using alternate fueled vehicles. In the maintenance facilities the potential concern lies with the vehicles themselves, while at the fueling stations the dangers could be the vehicles or the storage/fueling equipment. Thus, at a maintenance facility it is usually necessary to place gas detectors in areas where the vehicles could be located such as work bays, paint shops, chassis wash, tire shop, fuel/dynamometer building, or the CNG compressor area.

In addition to the standard safety requirements established by the local fire department, most facilities require various agency approvals for the gas detection system placed in these areas. The gas sensors and control system normally need approval from FM, CSA, UL, or other NRTL approved agencies. The monitoring philosophy is to react to the hazardous gas leak by providing dispersion and dilute with ventilation.

They also require control and management of any ignition source near the location of the potential accidental discharge of gas.



### **Light Rail/Mass Transit**

Underground mass transit systems utilize long tunnels where combustible gases and toxic gases can build up either do to seepage from surrounding deposits in the ground or due to man-made circumstances. In such situations it is necessary to continuously monitor for presence of gases to make sure that the levels do not reach hazardous levels to protect the equipment and personnel.

**Sierra Monitor's Gas Alarms/Monitors** are used in many school systems to monitor for levels of combustible gas and carbon monoxide in school buses, both in the engine compartment and the passenger compartment.

The **Sentry Gas Detection System** is widely used in such facilities to monitor for hazardous conditions and provide the necessary information efficiently and in a comprehensive manner so that operators can quickly make decisions to protect the plant and personnel.



The Sierra Monitor **Industrial Flame Detector** is designed to detect the flames generated by the various combustible gases found in maintenance barns and refueling stations for alternate-fueled vehicles.

The **FieldServer Gateway** provides the interface necessary for safety devices, process equipment and facility controls so that these various individual systems and devices can communicate to the distributed control systems and building automation systems found in such plants operating on DH+, Profibus, Modbus, ControlNet or EtherNet/IP.