EXHIBIT 500.2 A coal-handling operation classified as both a Class I and a Class II location. *(Courtesy of Noel Williams)*

EXHIBIT 500.3 A CNG filling station, which is a Class I location.

area that is likely to become hazardous and in determining those portions of the premises to be classified Division 1 or Division 2.

If different types of material — such as a flammable gas and a combustible dust — simultaneously exist in a process or location, the area must be classified as both a Class I and a Class II location, and protection must be provided for both hazards. Equipment that is identified for use in a Class I location may or may not be suitable for use in a Class II location and vice versa. Exhibit 500.2 shows a coal-handling operation classified as both a Class I (methane) and Class II (coal dust) location.

(B) Class I Locations. Class I locations are those in which flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors are or may be present in the air in quantities sufficient to produce explosive or ignitible mixtures. Class I locations shall include those specified in 500.5(B)(1) and (B)(2).

For a given vapor, the vapor-in-air ratio must be within the flammable limits to be deemed a hazard. Many chemicals reach the lower limit within a few percentage points of the vapor-to-air ratio, and some are within less than 1 percentage point. The flammable range may be very narrow or very wide (such as for acetylene, which has a flammable range of 2.5 percent to nearly 100 percent).

Exhibit 500.3 shows a Class I location that dispenses compressed natural gas (CNG).

Δ **(1) Class I, Division 1.** A Class I, Division 1 location is a location:

(1) In which ignitible concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors can exist under normal operating conditions, or

(2) In which ignitible concentrations of such flammable gases, flammable liquid–produced vapors, or combustible liquids above their flash points might exist frequently because of repair or maintenance operations or because of leakage, or

(3) In which breakdown or faulty operation of equipment or processes might release ignitible concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors and might also cause simultaneous failure of electrical equipment in such a way as to directly cause the electrical equipment to become a source of ignition

Informational Note: This classification usually includes the following locations:

(1) Where volatile flammable liquids or liquefied flammable gases are transferred from one container to another
(2) Interiors of spray booths and areas in the vicinity of spraying and painting operations where volatile flammable solvents are used
(3) Locations containing open tanks or vats of volatile flammable liquids
(4) Drying rooms or compartments for the evaporation of flammable solvents
(5) Locations containing fat- and oil-extraction equipment using volatile flammable solvents
(6) Portions of cleaning and dyeing plants where flammable liquids are used
(7) Gas generator rooms and other portions of gas manufacturing plants where flammable gas might escape
(8) Inadequately ventilated pump rooms for flammable gas or for volatile flammable liquids
(9) Interiors of refrigerators and freezers in which volatile flammable materials are stored in open, lightly stoppered, or easily ruptured containers
(10) Inside of inadequately vented enclosures containing instruments normally venting flammable gases or vapors to the interior of the enclosure
(11) Inside of vented tanks containing volatile flammable liquids
(12) Area between inner and outer roof sections of floating roof tanks containing volatile flammable fluids