DEPARTMENT OF LABOR AND INDUSTRY

Classifying fuel dispenser locations with containment systems or dikes

When bulk storage tank containment is encountered in conjunction with a motor fuel dispenser, National Electrical Code (NEC) Articles 501 (Class 1 Div. 1&2), 514 (Motor Fuel Dispensing Facilities) and 515 (Bulk Storage Plants) shall apply.

The rules for flammable liquid dispensers are found in NEC Article 514 and those requirements also apply to the dispensers associated with a bulk storage facility, per NEC Section 515.10.

The Minnesota Pollution Control Agency has mandated that above ground storage tanks of 1,100 gallons or more installed after Nov. 2, 1998, have secondary containment. Acceptable containment systems include:

- A minimum of 12 inches compacted clay
- A geo-synthetic clay liner
- Concrete
- A synthetic membrane
- The outer layer of a double-walled tank (fabricated steel or fiberglass)

The department has determined that the length of the dispenser hose needs to be considered when determining the extent of the hazardous (classified) area. The space outside of the containment wall is to be included in the classified area if the dispenser hose could be extended over the containment dike to dispense motor fuel. The horizontal hazardous (classified) area is the length of the extended hose (including dispenser handle) plus two feet and vertically from grade to a height of 18-inches, in all directions.

This determination of the extent of the classified area is consistent with other codes and standards, including:

- National Institute of Standards and Technology (NIST) Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices as adopted by the 96th National Conference on Weights and Measures 2011
- NFPA 497, Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas
- NFPA 30, Flammable and Combustible Liquids Code