DEPARTMENT OF LABOR AND INDUSTRY

Fuel Dispensing: Installations, Retrofits and Replacements

The National Electrical Code (NEC) requires special disconnecting requirements at motor fuel dispensing facilities to ensure safety for personnel and station equipment during emergencies, maintenance and service activities. Generally, the purpose of the disconnecting requirements is to remove any possibility of remotely starting the fuel dispenser(s) which could accidentally release product, and to eliminate unintended electrical energy that could ignite any hazardous atmospheres. The NEC introduced the emergency disconnect requirement in the 1996 NEC, and the maintenance disconnect during the 1999 NEC cycle. However, in the 2011 NEC, the disconnect requirements were expanded to emphasize that in addition to the branch circuit supplying the dispenser, the low-voltage circuits must also be simultaneously disconnected. Fast forward to today; that same language is still found in sections 514.11 and 514.13 of the 2020 NEC.

For years, replacement of fuel dispensers has been a common practice in order to upgrade to current technologies (i.e. video monitoring, communication wiring and data circuits for point-of-sale card readers), and many concerns have been raised regarding the NEC enforcement of the aforementioned emergency or maintenance disconnect requirements found in section 514.11 and 514.13. To better articulate the NEC requirements, following are four common scenarios to clarify how the department will enforce the NEC regarding fuel dispensers. For other installations not addressed in this bulletin, the department should be consulted in advance.

Scenario #1: Brand new fuel station with new branch circuits and low-voltage circuits routed to dispensers.

NEC Compliance: Installer would be required to meet the most current (state adopted) NEC.

Scenario #2: Existing fuel station with existing dispensers. The existing dispensers will be replaced with updated dispensers, and new electrical wiring (branch circuits or low-voltage cabling) will be routed to the dispenser.

NEC Compliance: Installer would be required to meet the most current (state adopted) NEC.

Scenario #3: Existing fuel station with existing dispensers. The existing dispensers will be replaced with updated dispensers, and NO new electrical wiring (branch circuits or low-voltage cabling) will be routed to the dispenser.

NEC Compliance: If the installation only involves a dispenser replacement, and no new wiring will be extended to the dispenser(s), the current NEC disconnect requirement(s) would not be retroactively enforced. It would be assumed that the original installation of the dispenser met the NEC requirements that were in place at that time, and the installation was inspected. However, other code officials (i.e. Fire Marshal or Building Code) may have additional requirements for emergency disconnects; always consult with the authority having jurisdiction.

Scenario #4: Existing fuel station with existing dispensers. The existing dispensers will not be replaced and will simply receive updates installed (card readers, pump monitors, etc.) and NO new electrical wiring (branch circuits or low-voltage cabling) will be routed to the dispenser.

NEC Compliance: The current NEC disconnect requirement(s) would not be retroactively enforced.