

Illustrated Catastrophes

By Joe Tedesco, NEC Columnist

As usual, never consider the following commentary associated with these photos as a formal interpretation of the National Electrical Code (NEC). Without criticizing anyone or any product, the following scenarios present us with serious safety questions.

SHODDY SIGN WIRING

An electrician secured an electrical permit to install a time clock for this new sign. The circuit leading up to the base of the sign was there prior to this installation and had been used to feed an older sign in the same location. Although the electrician had only contracted with the property owner to install the time clock, the permit still covered the entire circuit. The company that installed the new sign may have hooked it up in this manner, but the authority having jurisdiction (AHJ) figured the best way to resolve the situation was to fail the job. The installation violates the requirements of 600.5(C)(1), (C)(2), and (C)(3).



BARREL OF FUN

This empty bucket serves as a junction box for some wiring that feeds a sign and some light poles at a hospital. The installer needed power to supply a new emergency entrance sign, so he decided to notch the top of a 2-in. conduit and pull the wires out to feed the sign. This method isn't a recognized installation practice per the NEC and violates several rules, starting with 110.2 and 110.3.



PLUMBING FIXTURE?

This copper "water pipe" runs to a forming shell and encloses the cord used to supply an underwater luminaire in an East Windsor, Conn. hotel's permanently installed swimming pool. Whenever you install metal conduit on a job, you must follow the requirements of 680.23(B)(2), which call for brass or other approved corrosion-resistant metal. In addition, this "deck" box is also a violation because it isn't listed or labeled for the purpose. If it isn't equipped with threaded entries or hubs, it must be of a nonmetallic hub listed for the purpose. In addition, it must be made of copper, brass, suitable plastic, or another approved corrosion-resistant material, and be provided with electrical continuity between every connected metal conduit and the grounding terminals by means of copper, brass, or another approved corrosion-resistant metal integral with the box (680.24).



PAST ITS PRIME

It would be an understatement to say this meter socket enclosure is showing signs of old age. It seems inevitable that the meter, which was recently replaced, will eventually fall out, exposing live wires. What the installer of this unit forgot to note was the requirements of 312.2, which instruct you to use weather-proof meter socket enclosures in wet locations. In addition, 300.6 requires you to apply an approved system of organic coatings to boxes or cabinets, which must also be marked "Raintight," "Rainproof," or "Outdoor Type," when they'll be used in outdoor applications.

