Background

In 2005, Sections 312.5 and 314.17 of the 2002 National Electrical Code (NEC) and sections E3807.7 and E3806.1.1 of the 2003 International Residential Code (IRC) addressed cabinets, boxes and conduit bodies and the entry of said cabinets, boxes and conduit bodies by cables and conduit (NOTE: the current code sections are 312.5 and 314.17 of the 2011 NEC and E3907.7 and E3906.1.1 of the 2012 IRC). These sections required the enclosure of openings through which cables enter a cabinet, box or conduit body, required that nonmetallic cables be permitted to enter the top of a surface-mounted enclosure only and that the nonmetallic cable be protected at points of entry into a cabinet, box or conduit body from damage and abrasion, where cables are used, each cable be secured to the cabinet, cutout box or meter socket enclosure. At the time of original review by the Committee, these requirements had been largely ignored by installers and enforcers in the State of Arizona.

A code change proposal was submitted to the Code Making Panel of National Fire Protection Association (NFPA) to validate the method of installation traditionally occurring in this region. That code change proposal, 9-12 Log #463, was rejected by the Code Making Panel.

The Committee believed that the immediate and strict adherence to and enforcement of in their entirety these sections would pose a change in standard practice in this region and both industry and the enforcement community would benefit from a “phase-in” or transition period.

The Committee recommended that the abovementioned sections be enforced in their entirety so that each cable would be secured to the cabinet, cutout box or meter socket enclosure where it enters. This recommendation had an effective date of December 1, 2005.

Exhibit A

Reference the 2011 National Electrical Code and replace the first paragraph with the following (The remainder of Section 312.5 to remain the same)
312.5 Cabinets, Cutout Boxes, and Meter Socket Enclosures. Conductors entering enclosures within the scope of this article shall be protected from abrasion and shall comply with 312.5(A) through (C).

Exception: For one- and two-family dwellings, cables with entirely nonmetallic sheaths shall be permitted to enter the back of a surface-mounted enclosure through one or more nonflexible raceways not more than 75 mm (3 in.) in diameter, and not less than 75 mm (3 in.) and not more than 600 mm (24 in.) in length, provided all of the following conditions are met:

- A. Each cable is fastened within 200 mm (8 in.), measured along the sheath of the outer end of the raceway.
- B. The raceway extends directly into an enclosed wall space.
- C. A fitting is provided on each end of the raceway to protect the cable(s) from abrasion.
- D. The raceway is sealed or plugged using approved means so as to prevent access to the enclosure through the raceway.
- E. The cable sheath is continuous through the raceway and extends into the enclosure beyond the fitting not less than 50 mm (2 in.).
- F. The raceway, if greater than 305 mm (12 in.) is fastened at its outer end in accordance with the applicable article.
- G. The raceway shall be permitted to be filled to 60 percent of its total cross sectional area, and 310.15(B)3 adjustment factors need not apply to this condition.