

## STATE BUILDING CODE INTERPRETATION NO. I-15-04

September 23, 2004

The following is offered in response to your September 9, 2004 letter to me in which you seek a formal interpretation of the provisions of Sections E3802 and E3703.4 of the 2003 International Residential Code portion of the 1999 State Building Code.

**Question 1a:** When replacing an electrical panel in a single-family residence does Section E3802.11 of the referenced code require that bedroom outlets be protected by an arc-fault circuit interrupter?

**Answer 1a:** No, assuming that arc-fault protection was not required by the code in effect at the time of application for the permit to install the electrical wiring supplying the bedroom outlets. The intent of the code is that the electrical panel equipment be compliant with code requirements in effect at the time of application for the permit to replace the panel. It is not, however, the intent of the code to extend other code requirements to portions of the electrical system that are in compliance with the code that governed their installation.

**Question 1b:** Consider the same scenario with regard to GFCI protection.

**Answer 1b:** The intent of the code is the same as in Question 1a. If the GFCI protection was not required by the code in effect at the time of permit application for the wiring, replacement of the electrical panel would not trigger a requirement for new GFCI protection.

**Question 2:** Considering the requirements of Section E3703.4, when underground service cable comes out of the ground adjacent to a foundation, is that wire in a location subject to physical damage?

**Answer 2:** That is a determination to be made by the local building official based on site specific conditions. The referenced code, at Section E3703.4 includes a prescriptive requirement to protect all buried conductors and cable by enclosures or raceways extending from the minimum cover distance below ground to a point at least 8 feet above finished grade. The same section then goes on to state that where the enclosure or raceway is subject to physical damage, the enclosure shall be rigid metal conduit, intermediate metal conduit, Schedule 80 rigid nonmetallic conduit or the equivalent. Physical damage is not a defined term, but would include areas such as underground cable emerging from the ground adjacent to driveways, where contact by an automobile or other motor vehicle might likely damage the enclosure. It would not, however, be appropriate to apply the "subject to physical damage" restrictions to underground cable coming up adjacent to a foundation in lawn or planting bed areas, since the prescriptive enclosure requirement would be sufficient to protect the cables from damage that normal gardening equipment might inflict.