



Memorandum

Date: April 1st, 2017
To: Electrical Contractors, Property Owners and Electrical Inspectors
From: John Cosmo, Chief Building Official
Subject: Electrical Service Change and Repairs – Minimum Electrical Safety Standards

Minimum Electrical Safety Standards for Existing Buildings when an electrical service is upgraded, altered, relocated or repaired.

Authority: Florida Statute 553.775; Florida Building Code, Building – Chapter 27;
Florida Building Code, Residential – Chapter 34-43, Electrical;
The National Electrical Code – (NFPA 70).
Boca Raton Building Regulations – Section 19-57

Purpose: To establish minimum electrical safety guidelines for electrical contractors and property owners to protect life and property when electrical service equipment for an existing building or structure is upgraded, altered, relocated or repaired.

Definition of Service Repairs and Service Changes

Service Repairs: are defined as replacement of meterbase, load metering devices (current transformers and relays), meter lug or jaw, replacement of main service breaker (OCPD), or replacement of service equipment internal components, such as grounding buss or termination lugs, without an increase in size or relocation of meterbase or service equipment. Replacement of damaged, burned out, or corroded conductors of the same ampacity and conductor material type (i.e. copper or aluminum) or replacement of service raceways (i.e. riser or lateral conduit including weather heads) is also a service repair.

Service Changes – Upgrades, Alterations, Relocations: are defined as replacement or relocation of meterbase, service equipment, service disconnect/enclosure, service panelboard(s), sub-panelboard(s) service riser or service lateral conduits including any service conductors and feeder conduit and conductors or cables, when replaced or relocated or where the ampacity of the service equipment, service conductors or feeder conductors are being increased in size for new or future loads.

Electrical Requirements based on Scope of Work by Definition

Service Repairs must include upgrade to the grounding electrode system per current National Electrical Code standards, including installation of (2) – 8-ft. ground rods, properly sized grounding electrode conductor, cold water bonding, if metal water pipe is present in building/structure or bonding of structural steel if present in building/structure.

Service Changes – Upgrades, Alterations or Relocation must include upgrading the grounding electrode system to current NEC standards, including installation of (2) – 8 ft. ground rods, properly sized grounding electrode conductor, cold water bonding, if metal water pipe is present in building/structure or bonding of structural steel if present in building/structure and intersystem bond terminal installed to current National Electrical Code standards, including any Florida Power & Light electrical service equipment requirements. Replacement of any branch circuit overcurrent protective device(s) shall comply with current code for branch circuit(s) requiring Arc-Fault Circuit-Interrupter Protection (AFCI) or Ground-Fault Circuit-Interrupter Protection for Personnel (GFCI). All service equipment, service disconnect(s) and panelboards shall have branch circuit(s) and feeder(s) properly labeled and shall comply with all working clearances required by current codes.

Service Changes require all grounding and bonding to be installed as required for a new service installation, except for the concrete encased electrode which is not required to be bonded for existing buildings or structures where reinforcing steel or bars are not accessible without disturbing the concrete in footings or foundation in accordance with the exception provided for in the National Electrical Code.