

## PLANS REVIEW & INSPECTIONS BULLETIN 2022-5

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Purpose: To clarify City policy for Electrical Service Connection

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NEC 90.1(A) & (B) state: (A) Practical Safeguarding. The purpose of this Code is the practical safeguarding of persons and property from hazards arising from the use of electricity. (B) Adequacy. This Code contains provisions that are considered necessary for safety. Compliance therewith and proper maintenance result in an installation that is essentially free from hazard but not necessarily efficient, convenient, or adequate for good service or future expansion of electrical use.

Requirements for service connection are not clearly defined in the NEC or IRC. NEC 90.4 along with IRC R104.1 give the building official and the authority having jurisdiction the responsibility to make informed interpretations of the code. The codes apply a level of safety deemed to be in accordance with international standards.

**NEC 230.70 and IRC E3601.6.1** state that means shall be provided to disconnect all conductors in a building or other structure from the service entrance conductors.

**NEC 110.12. (B) and IRC E3404.7 Integrity of Electrical Equipment and Connections.** Internal parts of electrical equipment, including busbars, wiring terminals, insulators, and other surfaces, shall not be damaged or contaminated by foreign materials such as paint, plaster, cleaners, abrasives, or corrosive residues. There shall be no damaged parts that may adversely affect safe operation or mechanical strength of the equipment such as parts that are broken; bent; cut; or deteriorated by corrosion, chemical action, or overheating.

**NEC 110.27 (B) and IRC E3404.10 Prevent Physical Damage.** In locations where electrical equipment is likely to be exposed to physical damage, enclosures or guards shall be so arranged and of such strength as to prevent such damage.

**NEC 590.1 Scope.** The provisions of this article apply to temporary electric power and lighting installations.

The policy of the City of Knoxville Building Department for release of power to energize a service during construction is either of the two options but not a simultaneous use of both.

1. Temporary power for a construction site shall be provided per NEC Article 590 and local utility requirements
2. Service release may be provided at the discretion of the inspector upon verification of the following items:
  - a. All service entrance conductors may be disconnected per NEC 230.70 and IRC E3601.61.
  - b. All 125 volt, single phase, 15-, 20-, or 30-ampere receptacles to be installed for use during construction must be provided with GFCI protection.
  - c. The integrity of all electrical equipment and connections must be maintained and will be subject to inspection at any time.
  - d. All conductors connected to the busbar must terminate in a device, appliance, junction box, or other approved connection.

If any unsafe conditions are discovered during the inspection process the inspector reserves the right to contact the utility and have power removed.