The National Electrical Safety Code® (NESC®)

RULES TO LIVE BY

The NESC can be found everywhere in everyday life. Designed for the practical safeguarding of people and utility facilities during the installation, operation and maintenance of electric supply and communications facilities – it is the consensus standard under procedures approved by the American National Standards Institute (ANSI).

Grounding Methods for Electric Supply and Communications Facilities

- **Rule 096C: Multi-Grounded Systems**
  The neutral shall be connected to an electrode at each transformer location and at additional points along the line. Multi-grounding increases the likelihood of a fault being turned off the circuit if an unplanned event causes a line to fail.

- **Rule 099C: Bonding of Electrodes**
  Connecting separate communications and supply system grounds to a single point helps limit voltage differences within communications equipment served by both systems if a voltage surge (such as lightning) enters such equipment through either system.

Installation and Maintenance of Electric Supply Stations and Equipment

- **Rule 116A1: Safety Signs**
  For fenced or walled electric supply stations without roofs, a safety sign shall be displayed on each exterior side and at each entrance.

- **Figure 110-1:**
  Safety Clearance to Electric Supply Station Fences

Installation and Maintenance of Overhead Electric Supply

- **Rule 218B: Vegetation Management**
  Line crossings, railroad crossings, and limited access highway crossings should be kept free from overhanging or decaying trees or limbs.

- **Rule 256B: Combined Ice and Wind District Lighting**
  Four general degrees of district loading due to weather conditions are recognized as heavy, medium, light, and warm island loading.

- **Rule 274B: Climbing Space**
  Longitudinal runs on racks or cables on messenger are not considered as providing the climbing space if workers can climb past them.

Installation and Maintenance of Underground Lines

- **Rule 320A1: Location**
  Conduit systems should be subject to the best disturbance practice. Parallel systems should not be located directly over or under subsurface structures.

- **Rule 322A: Manholes, Handholes, and Vaults**
  These types of structures (manholes, handholes, and vaults) shall be designed to withstand all expected loads that may be imposed upon the structure.

- **Rule 351B: Direct-Buried Cable**
  If burial is required, runs shall be constructed with natural hazards cables shall be constructed and installed so to protect them from damage.

Operation of Electric Supply and Communications Lines and Equipment

- **Rule 416A1: Work on Energized Lines and Equipment**
  Employees working on energized lines shall be isolated from energized parts, and from ground and grounded structures.

- **Rule 416A2: Supply and Communications Systems**
  Employers shall provide training to all employees who work on or in the vicinity of exposed energized lines and parts.

- **Rule 411B: Protective Methods and Devices**
  Protective devices sufficient to enable employees to meet work requirements, and fire and electrical equipment, shall be readily accessible.

To learn more about the NESC, go to standards.ieee.org/about/nesc/