IEEE STANDARDS ASSOCIATION

2017 National Electrical Safety Code® (NESC)®

Your Authoritative Source for Electrical Engineering Safety Practices




NESC 100TH ANNIVERSARY EDITION

IEEE

2017 NATIONAL ELECTRICAL SAFETY CODE®

General Information

The National Electrical Safety Code® (NESC®) was introduced in 1914 — the product of a congressional mandate for the National Bureau of Standards (NBS) to investigate the hazards of electrical work, contemporary engineering theory and generally accepted good industry practice.

Over decades, the Code has emerged as a foundational element in the culture of safety that has grown up around the business of installing, operating and maintaining both underground and overhead electric supply and communication lines, as well as conductors and equipment in electric supply stations.

Utilities, their employees, contractors and manufacturers — as well as telephone companies, cable TV providers, railways and other organizations in the exercise of functioning as a utility — look to the NESC for practical safeguarding guidelines.

IEEE's National Electrical Safety Code (NESC) is also known as American National Standard C2. It is a consensus standard that has been prepared by the National Electrical Safety Code Committee under procedures approved by the American National Standards Institute (ANSI). The membership of the NESC Committee is composed of national organizations and is certified by ANSI as having an appropriate balance of the interests of members of the public, utility workers, regulatory agencies, and the various types of private and public utilities. Utility regulators in the US and more than 100 nations use the Code at least in part.

Published exclusively by IEEE, the NESC is revised every 5 years to keep the Code up to date and viable.

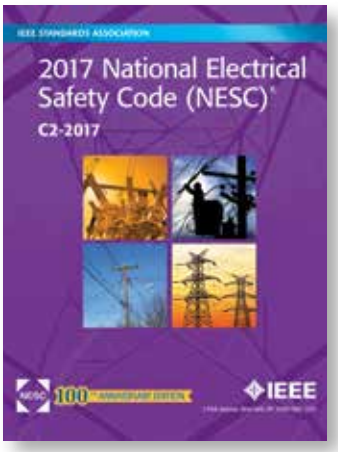
As secretariat for the National Electrical Safety Code, the IEEE also provides a comprehensive offering of resources to assist in obtaining and understanding the Code.

NESC Revisions from 2012 to 2017

The NESC has been continually adapted to reflect innovations in technology and new challenges confronted in the field. The major revisions for the 2017 Edition include:

- Revising the purpose rule to include only the safeguarding of persons and utility facilities and clarifying the application rules.
- Deleting unused definitions and adding definitions for communication and supply space.
- Revising the substation impenetrable fence requirements.
- Adding an exception to exempt underground cable grounding requirements from the 4 grounds in each mile rule under certain conditions.
- Revising and reorganizing the guy insulator placement rules along with eliminating the voltage transfer requirements associated with them.
- Requiring a 40″ vertical clearance from communication cables in the communication space if a luminaire is not effectively grounded.
- Deleting the conductance requirement for underground insulating jacketed grounded neutral supply cables and revising the grounding and bonding rules for supply and communication cables in random separation installations.
- Revising and reorganizing the Grades of Construction Table 242-1 that will now include service drops.
- Revising the strength rules to require that all conductors be considered for damage due to Aeolian vibration.
- Revising the rules in Part 4 to align with changes made to 29 CFR by the Occupational Safety and Health Administration (OSHA).

2017 National Electrical Safety Code



This Code covers basic provisions for safeguarding of persons from hazards arising from the installation, operation, or maintenance of (1) conductors and equipment in electric supply stations, and (2) overhead and underground electric supply and communication lines.

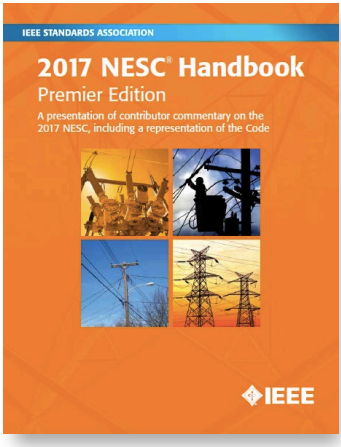
It also includes work rules for the construction, maintenance, and operation of electric supply and communication lines and equipment. The standard is applicable to the systems and equipment operated by utilities, or similar systems and equipment, of an industrial establishment or complex under the control of qualified persons.

This standard consists of the introduction, definitions, grounding rules, list of referenced and bibliographic documents, and Parts 1, 2, 3, and 4 of the 2017 Edition of the National Electrical Safety Code.

Learn more about the 2017 NESC and other related products at: www.standards.ieee.org/nesc/

For information on institutional and corporate subscription options, please visit: www.ieee.org/nesc-subscriptions

2017 NESC Handbook



The 2017 NESC Handbook, Premier Edition, represents a next-generation tool for the professional who needs to understand the NESC. It gives users insight into what lies behind the NESC's rules and how to apply them. Unlike earlier handbooks, this new edition includes a representation of the code, with interpretations and background interspersed and coincident with the actual portions of code being discussed and highlighted. The handbook was developed for use at many levels in the electric and communication industries, including those involved in system design, construction, maintenance, inspection, standards development, and worker training.

The handbook also discusses how the NESC Committee has developed the rules in the Code and responded to change proposals during the past 90 years. This allows users to understand how questions they may encounter were dealt with in the past.

The Premier Edition includes input from members of the NESC Subcommittees and from numerous experts, as well as Allen Clapp.

Learn more about the 2017 NESC Handbook at:
www.standards.ieee.org/nesc/