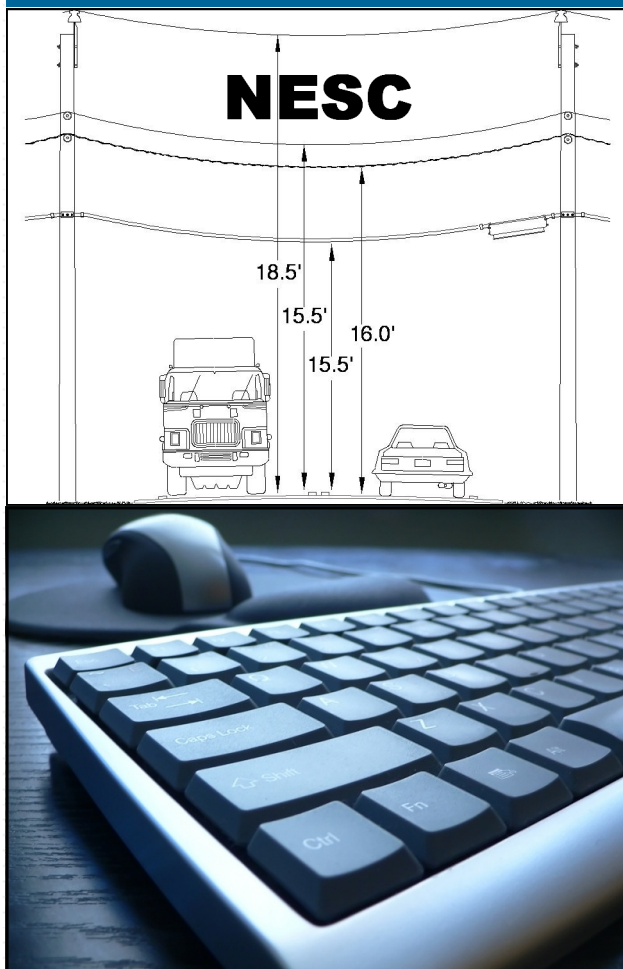




**Marne and Associates, Inc.**  
Experts in Electrical Code

## eLearning Solutions: Applying the NESC to Day-to-Day Utility Work



26 on-line eLearning Modules (10-15 minutes)

- ◆ Provides a general overview of each part of the NESC
- ◆ Designed for:
  - Engineers
  - Staking Technicians
  - Power Linemen
  - Communications Linemen
  - Safety Personnel
  - Inspectors
- ◆ Rich in graphics and practical applications

**Conforms to the 2012 National  
Electrical Safety Code<sup>®</sup> (NESC<sup>®</sup>)**

# eLearning Solutions: Applying the NESC to Day-to-Day Utility Work

26 on-line eLearning modules (10-15 minutes each)

## About the eLearning Course

Applying the National Electrical Safety Code (NESC) to Day-to-Day Utility Work is a self-guided class consisting of 26 modules and quizzes. Each module is 10-15 minutes long and is followed by a quiz consisting of 4 multiple choice questions regarding materials covered in the module. A printable certificate is available upon completion of the class. During this class you will learn a general overview of each part of the NESC:

- ◆ General Sections
- ◆ Substation Rules
- ◆ Overhead Line Rules
- ◆ Underground Line Rules
- ◆ Work Rules

## Who Should Attend

- ◆ Engineers
- ◆ Staking Technicians
- ◆ Power Linemen
- ◆ Communications Linemen
- ◆ Safety Personnel
- ◆ Inspectors
- ◆ Prior working knowledge of the NESC is not required

## Benefits of eLearning

- ◆ Classes are designed around the learner
- ◆ On-demand access means learning can happen precisely when needed
- ◆ Travel time and associated costs are reduced or eliminated
- ◆ Professional quality presentations
- ◆ Classes created and taught by industry experts
- ◆ Training can be tracked to determine each employee's training status

## Course Objectives

Upon successful completion of this course the learner will be able to:

1. Understand the organization, scope, purpose, and general application of the National Electrical Safety Code.
2. Apply the Code to common situations found on overhead and underground distribution, transmission, and communication lines, and in substations.
3. Recognize how the Code is integrated into design and construction standards and operating practices.
4. Identify and take action to correct Code violations and safety hazards.
5. Design and build facilities that comply with Code requirements.
6. Understand the actions needed to work safely.

## Class Format/ Learning Methods

- ◆ On-line, self-paced study
- ◆ Recorded narrated presentation slides rich in graphics and practical applications
- ◆ Moodle (learning management system) keeps track of progress throughout the training
- ◆ Ability to email questions to the instructor

## Enrollment/Pricing/Cancellation

- ◆ The Applying the NESC to Day-to-Day Utility Work eLearning class costs \$275.00 per eLearner for a 1 year subscription.
- ◆ eLearners register through Marne and Associates, Inc. website [www.marneassociates.com](http://www.marneassociates.com). Once registered, login instructions will be emailed to the enrollee to access the online class.
- ◆ Marne and Associates, Inc. does not offer a refund for eLearning classes at this time. It is the eLearner's responsibility to make sure he/she has reviewed the class contents and system requirements prior to purchasing the class.

## About the Instructor

**David J. Marne, P.E.**, is a registered professional electrical engineer. Mr. Marne is the author of McGraw-Hill's National Electrical Safety Code® (NESC®) Handbook and is a nationally recognized speaker on the NESC. He serves on NESC Subcommittee 4 Overhead Lines Clearances, Subcommittee 7 Underground Lines, Subcommittee 3 Electric Supply Stations, and the Interpretations Subcommittee. He is company president and senior electrical engineer for Marne and Associates, Inc. in Missoula, MT where he specializes in National Electrical Safety Code (NESC) training, OSHA training for power and communication workers, engineering design training, and expert witness services related to the NESC, the OSHA Standards for Power and Communication workers, and California's General Orders GO95, GO128, and GO165. Mr. Marne has over 30 years of experience in the utility industry engineering and managing transmission and distribution line projects, substation projects, electrical system planning studies, joint use (power and communication) projects, and providing training and expert witness services.



**David J. Marne, P.E.**

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## Class Topics

### NESC General Sections

#### Section 01

- ◆ Introduction
- ◆ Purpose
- ◆ Scope
- ◆ NESC v. NEC

#### Section 02, 03

- ◆ Definitions
- ◆ References

#### Section 09

- ◆ Grounding methods for substations, power lines, and communication lines

### NESC Part 1 - Substation Rules for:

- ◆ Fences
- ◆ Signs
- ◆ Storage
- ◆ Clearances
- ◆ Guards
- ◆ Conductors and supports

### NESC Part 2 - Overhead Line Rules for:

- ◆ Inspections
- ◆ Climbing
- ◆ Vegetation Management
- ◆ Relative Levels
- ◆ Joint Use
- ◆ Clearances above Roads
- ◆ Clearances to Buildings
- ◆ Clearances between Wires
- ◆ Communication Worker Safety Zone
- ◆ Grades of Construction
- ◆ Wind and Ice Loads
- ◆ Load Factors
- ◆ Strength Factors
- ◆ Structure Strength
- ◆ Guying
- ◆ Insulators

## Class Topics (continued)

### NESC Part 3 - Underground Line Rules for:

- ◆ Locating
- ◆ Working Space
- ◆ Conduit Systems
- ◆ Manholes
- ◆ Handholes
- ◆ Vaults
- ◆ Supply Cables
- ◆ Communication Cables
- ◆ Pulling Tensions
- ◆ Side Wall Pressure
- ◆ Burial Depths
- ◆ Separations
- ◆ Joint Use
- ◆ Risers
- ◆ Terminations
- ◆ Equipment
- ◆ Bonding

### NESC Part 4 - Work Rules for:

- ◆ Employers
- ◆ Supply Workers
- ◆ Communication Workers
- ◆ Arc Flash
- ◆ Approach Distances
- ◆ Equivalent OSHA Requirement

## Continuing Education Units

This course provides 0.8 Continuing Education Units (CEUs) or 8 Professional Development Hours (PDHs). Please note that the CEU/PDH for this class have been approved by New York State\* and the State of Alaska.

\*For any course where multiple versions of the course are taken within the same three-year license registration period, NYS will recognize only one course.

## Trademarks

National Electrical Safety Code® and NESC® are registered trademarks of the Institute of Electrical and Electronics Engineers (IEEE). OSHA (Occupational Safety & Health Administration) is a branch of the U.S. Department of Labor.

## Comments by Past Participants...

Enjoyed the course.  
Well done!

Very helpful and  
informative.  
Very appreciated.

Good presentation.  
Keep up the good  
work.

## Class Materials

- ◆ There are not hard copy materials for the eLearning class. The presentation is viewable on line anytime during the 1 year subscription period.

- ◆ Attendees are encouraged (but not required) to have a copy of the NESC Codebook and McGraw-Hill's NESC Handbook. These books are available for purchase on

[www.codehandbook.com](http://www.codehandbook.com).

