

# 2007 NESC® CHANGES

## NEWSLETTER

Issue 1 of 8

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

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### 2007 NESC® Now Available

The 2007 *National Electrical Safety Code*® (NESC®) was published on August 1, 2006. Approximately 300 change proposals were submitted during the Code revision process, and approximately 226 of the 336 pages in the 2007 NESC® are affected by the accepted changes. A welcomed companion to the NESC®, *McGraw-Hill's National Electrical Safety Code*® (NESC®) 2007 Handbook, authored by David J. Marne, PE is scheduled to be published October 30, 2006. Both books are available at [www.codehandbook.com](http://www.codehandbook.com).

### Focus on Changes

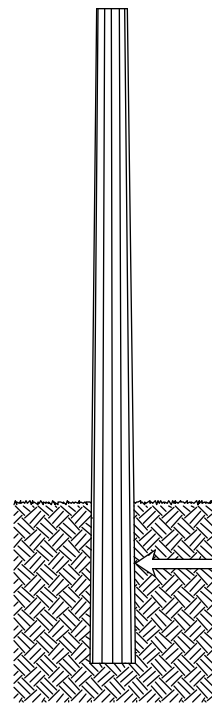
This month we are focusing on new Rule 018 titled Method of Calculation, new Rule 230A4 titled Rounding of Calculation Results, and new Rule 094B7 titled Directly Embedded Metal Poles.

#### Rounding

New Rules 018 and 230A4 are related. Rule 018 permits rounding "off" calculated results to the nearest significant digit unless otherwise specified in applicable rules. One rule where other rounding is specified otherwise is Rule 230A4 which requires rounding "up." Rule 230A4 has been added in Section 23 because Section 23 deals with overhead line clearances which are typically specified as "not less than" clearances. Rounding "off" follows the rules of traditional rounding learned in math class. An example of rounding "off" is rounding 20.02 down to 20.0 or rounding 20.66 up to 20.7. An example of rounding "up" for "not less than" clearance is rounding 20.02 to 20.1 because rounding "off" to 20.0 would not meet a clearance required to be "not less than" 20.02. Rule 230A4 states that number of decimal places for the final rounded value depends on the number of decimal places for the original starting value from the Code table or rule. For example, the clearance values in NESC Table 232-1 have one decimal place (e.g., 18.5 ft). Therefore, a calculated clearance for a voltage greater than 22kV per Rule 232C would be rounded "up" to the tenths place (e.g., 20.02 would be rounded up to 20.1).

#### Embedded Metal Poles

New Rule 094B7 permits using a directly embedded metal pole as a made electrode. In other words, a steel pole can now be used as a ground rod if certain conditions are met. See the figure below for and outline of new Rule 094B7.



#### Directly embedded metal poles:

- Backfill must be native earth, concrete, or conductive grout (not gravel).
- Not less than 5' of the embedded length must be exposed directly to the earth without a nonconductive covering.
- Pole diameter not less than 5 in.
- Metal thickness not less than 0.25 in.
- Aluminum is not acceptable and weathering steel may not be acceptable.
- Structural and corrosion concerns should be investigated.
- Exception: Other lengths or configurations may be used per a qualified engineering study.

**New Rule 094B7 - Made Electrodes - Directly Embedded Metal Poles**

### Training Options

During the months of October and November, Marne and Associates will be presenting a one-day seminar entitled *Major Changes and General Overview of the 2007 NESC®* at the following locations:

#### October Schedule

**Minneapolis** on October 24, 2006

Courtyard Bloomington/Mall of America

**Bismarck** on October 26, 2006

Radisson Hotel Bismarck

#### November Schedule

**Albuquerque** on November 1, 2006

Hilton Garden Inn Airport

**Dallas** on November 9, 2006

Marriott DFW Airport North

**Las Vegas** on November 30, 2006

Hilton Garden Inn

Marne and Associates, Inc has **23 more locations** scheduled across the United States, plus presentations for **NWPPA** and **RMEL**. In addition to our Public Seminars, we offer Live Web Seminars, Recorded On-Demand Seminars, and In-House Presentations. Visit [www.marneassociates.com](http://www.marneassociates.com) for your NESC training needs.

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