

# National Electrical Safety Code

## 1993 Edition

*Correction Sheet*

*February 26, 1993*

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## Errata

**page 194:** In Rule 354D3c, the reference to Rule 96A3 should be changed to 96C.

**page 212:** In Table 441-1, the fifth and sixth rows should be deleted (the rows beginning with "50 V to 1.0" and "1.1 to 15.0").

**page 251:** A section of the Index was inadvertently omitted. It should be added as follows:

**Underground conduit systems, Sec. 32; 178**

Bridges and tunnels, 320A4; 178

Crossing railroad tracks, 320A5; 178

Ducts and joints, 322; 179

    General, 322A; 179

    Installation, 322B; 180

Excavation and backfill, 321; 179

    General, 320A1; 178

    Highways and streets, 320A3; 178

    Location, 320; 178

    Natural hazards, 320A2; 178

    Routing, 320A; 178

    Separation from other underground installations, 320B; 179

    Submarine crossing, 320A6; 178

# Tentative Interim Amendments 93-1, 93-2, and Errata

## to the National Electrical Safety Code ANSI C2-1993

March 8, 1994

In accordance with Section 13 of its Procedures, the National Electrical Safety Code Committee has issued the following Tentative Interim Amendments (TIA) to Accredited Standards Committee C2, National Electrical Safety Code, 1993 Edition. TIA 93-1 was issued by the Secretariat on September 23, 1993, as a result of a proposal submitted by a member of the NESC Main Committee. TIA 93-2 was issued by the Secretariat on February 7, 1994, as a result of a proposal submitted by a member of Technical Subcommittee 8 on Work Rules.

A Tentative Interim Amendment is tentative because it has not been processed through the entire standards-making procedure. It is interim because it is effective only between editions of the code. A TIA automatically becomes a Proposal of the proponent for the next edition of the code; as such, it is then subject to all the procedures of the standards-making process.

### Tentative Interim Amendment 93-1

**Rule 350G, third paragraph, should read as follows:**

This rule shall become effective for cable installed on or after January 1, 1996.

**Rule 016, EXCEPTION, should read as follows:**

Rule 350G shall become effective not later than January 1, 1996.

### Tentative Interim Amendment 93-2

**Rule 441A5a, third sentence, should read as follows:**

Because the original rod gap data for voltages from 1.1 to 72 kV is measured in metric units, the values in Table 441-1 are derived from metric and converted to feet and inches. The following processes are used:

**Rule 441A5a(3) should read as follows:**

(3) Minimum Approach Distances calculated under this rule for 0.301 to 0.750 kV contain the electric component plus 1.0 ft (0.31 m) for inadvertent movement. Voltages 0.751 to 72.5 kV contain the electric component plus 2.0 ft (0.61 m) for inadvertent movement. Above 72.5 kV, the inadvertent movement distance is 1.0 ft (0.31 m).

**Table 441-1 should read as follows. The boxed numbers signify a change.**

Voltage in kilovolts phase to phase	Distance to employee			
	Phase to ground		Phase to phase	
	(ft-in)	(m)	(ft-in)	(m)
0 to 0.050*	not specified		not specified	
0.051 to 0.300*	avoid contact		avoid contact	
0.301 to 0.750	1 - 0	0.31	1 - 0	0.31
0.751 to 15.0	2 - 2	0.65	2 - 3	0.67
15.1 to 36.0	2 - 7	0.77	2 - 10	0.86
36.1 to 46.0	2 - 9	0.84	3 - 2	0.96
46.1 to 72.5	3 - 3	1.00	3 - 11	1.20
72.6 to 121	3 - 2	0.95	4 - 3	1.29
138 to 145	3 - 7	1.09	4 - 11	1.50
161 to 169	4 - 0	1.22	5 - 8	1.71
230 to 242	5 - 3	1.59	7 - 6	2.27
345 to 362	8 - 6	2.59	12 - 6	3.80
500 to 550	11 - 3	3.42	18 - 1	5.50
765 to 800	14 - 11	4.53	26 - 0	7.91

\* For single-phase systems, use the voltage to ground.

Table 441-2 (M) should read as follows:

Maximum anticipated per-unit transient overvoltage	Distance to employee in meters, <u>phase to ground</u>						
	Air, bare-hand, and clear live-line tool						
	Maximum phase-to-phase voltage in kilovolts						
	121	145	169	242	362	550	800
1.5						1.82	2.95
1.6						1.97	3.23
1.7						2.13	3.54
1.8						2.29	3.86
1.9						2.47	4.19
2.0	0.74	0.83	0.92	1.16	1.59	2.65	4.53
2.1	0.76	0.85	0.95	1.21	1.65	2.83	
2.2	0.78	0.88	0.98	1.25	1.74	3.01	
2.3	0.80	0.91	1.01	1.29	1.84	3.20	
2.4	0.82	0.93	1.04	1.33	1.94	3.42	
2.5	0.84	0.96	1.07	1.38	2.04		
2.6	0.86	0.98	1.10	1.42	2.14		
2.7	0.88	1.01	1.13	1.45	2.25		
2.8	0.91	1.03	1.16	1.50	2.36		
2.9	0.93	1.06	1.19	1.54	2.47		
3.0	0.95	1.09	1.22	1.59	2.59		

Table 441-3 (M) should read as follows:

Maximum anticipated per-unit transient overvoltage	Distance to employee in meters, <u>phase to ground</u>						
	Air, bare-hand, and clear live-line tool						
	Maximum phase-to-phase voltage in kilovolts						
	121	145	169	242	362	550	800
1.5						2.24	3.67
1.6						2.65	4.42
1.7						3.08	5.23
1.8						3.53	6.07
1.9						4.01	6.97
2.0	1.08	1.24	1.41	1.85	2.61	4.52	7.91
2.1	1.10	1.27	1.44	1.89	2.68	4.75	
2.2	1.12	1.29	1.47	1.93	2.78	4.98	
2.3	1.14	1.32	1.50	1.97	2.90	5.21	
2.4	1.16	1.35	1.53	2.01	3.02	5.50	
2.5	1.18	1.37	1.56	2.06	3.14		
2.6	1.21	1.40	1.59	2.10	3.27		
2.7	1.23	1.43	1.62	2.13	3.40		
2.8	1.25	1.45	1.65	2.19	3.53		
2.9	1.27	1.48	1.68	2.22	3.67		
3.0	1.29	1.50	1.71	2.27	3.80		

**Table 441-4 (M) should read as follows:**

Maximum anticipated per-unit transient overvoltage	Distanced to employee in meters, <u>conductor to ground</u>					
	Air, bare-hand, and clear live-line tool					
	Maximum conductor-to-ground voltage in kilovolts					
	<u>250</u>	<u>400</u>	<u>500</u>	<u>600</u>	<u>750</u>	
1.5 or lower	1.12	1.60	2.06	2.62	3.61	
1.6	1.17	1.69	2.24	2.86	3.98	
1.7	1.23	1.82	2.42	3.12	4.37	
1.8	1.28	1.95	2.62	3.39	4.79	

## Errata to the National Electrical Safety Code, 1993 Edition

**Page 6:** In the last sentence of the definition of "generating station," "producing" should be replaced with "producing."

**Page 11:** In the third definition of "voltage," "current" should be replaced with "circuit."

**Page 24:** In Rule 94B4a, the reference to Rule 96A3 should be replaced with 96C.

**Page 30:** In Rule 110A2, the reference number [30] in the note should be replaced with [74].

**Page 41:** In Rule 125B, the reference to Table 125-1 should be replaced with 124-1.

**Page 46:** In the note of Rule 127D, the indentation of the note should be changed so as to indicate applicability to only Rule 127D3.

**Page 48:** In the note of Rule 127F2, the reference number [36] should be replaced with [76].

**Page 86, 87:** In Figure 233-2 (FT) and (M), footnote 5 should be renumbered as 4. In the charts, the corresponding conductor temperature for E<sub>2</sub> should be changed to 32 °F and 0 °C.

**Page 88:** In Rule 233C2b, the reference to Rule 232C2a should be replaced with Rule 233C2a.

**Pages 96, 99, 100:** In Rules 234B1, 234C1b, and 234D1b, the 1.5 m metric equivalent clearance for 4.5 ft should be replaced with 1.4 m.

**Page 178:** In Rule 320A1a, the reference to Rule 230B should be replaced with 320B.

## Schedule for the 1997 NESC

The National Electrical Safety Code Committee approved extending the revision cycle for the next edition of the NESC from three years to four years at its meeting held November 19, 1993, in Washington, DC.

A motion was approved to adopt a revised schedule as prepared by the Revision Cycle Task Group and amended during Technical Subcommittee meetings held November 1-18, 1993. The 1997 Code will be published August 1, 1996. In addition, the NESC Main Committee will meet on or about May 15, 1996, to consider the appropriateness of changing the revision cycle to five years.

The schedule for the 1997 NESC is as follows:

<b>November 1, 1993 to March 18, 1994</b>	NESC Subcommittees consider proposals for changes to the NESC and prepare their recommendations.
<b>August 19, 1994</b>	Preprint of Proposed Amendments for incorporation into the 1997 Edition of the NESC published for distribution to the NESC Committee and other interested parties.
<b>August 19, 1994 to May 30, 1995</b>	Period of study for proposed amendments and submittal by interested parties of recommendations concerning the proposed amendments. Submit recommendations to the Secretary, NESC Committee.
<b>May 30, 1995 to November 18, 1995</b>	Period for NESC Subcommittee Working Groups and NESC Subcommittees to reconsider all recommendations concerning the proposed amendments and prepare final report.
<b>February 1, 1996</b>	Proposed revision of the NESC, Accredited Standards Committee C2, submitted to NESC Committee for letter ballot and to the American National Standards Institute for concurrent public review.
<b>May 15, 1996</b>	NESC Committee approved revisions of the NESC submitted to the American National Standards Institute for recognition as an ANSI standard.
<b>August 1, 1996</b>	Publication of the 1997 Edition of the National Electrical Safety Code

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