



Oregon

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Regarding AR 528 Public Comment Hearing.

At the hearing today, both Portland General Electric and PUC Staff referenced the attached document, "Tentative Interim Amendment 2007-5 to the National Electrical Safety Code ANSI C2-2007 [Table 410-2]." This document is also available online at http://grouper.ieee.org/groups/nesc/nesc_tia.html.

Please include this information in the official file.

Respectfully Submitted,

/s/ Jerry Murray

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Attachment



National Electrical Safety Code®

**Tentative Interim Amendment 2007-5
to the
National Electrical Safety Code
ANSI C2-2007**

5 September 2008

In accordance with Section 13 of its Procedures, the National Electrical Safety Code Committee has issued the following Tentative Interim Amendment (TIA) to ANSI C2, National Electrical Safety Code, 2007 Edition. The TIA was issued by the Secretariat on 5 September 2008, as a result of a Proposal submitted by a member of the NESC Main Committee.

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.

Table 410-2: Since the publishing of the 2007 Edition of the Code, it has come to attention of Subcommittee 8 that, as published, Table 410-2 contains errors. The values in Table 410-2 have been recalculated (using the same commercial software and methodologies) and validated by circulating the revised table to several individuals that verified the revised values.

Table 410-2—Live-line tool work clothing and clothing systems—voltage, fault current, and maximum clearing time for voltages 46.1 to 800 kV[Ⓞ]
(See Rule 410A3.)

Phase-to-phase voltage (kV)	Fault current (kA)	4-cal system	8-cal system	12-cal system
		Maximum clearing time (cycles)	Maximum clearing time (cycles)	Maximum clearing time (cycles)
46.1 to 72.5	20	<u>18.2</u>	<u>36.4</u>	<u>54.5</u>
	30	<u>10.2</u>	<u>20.4</u>	<u>30.6</u>
	40	<u>6.6</u>	<u>13.2</u>	<u>19.7</u>
	50	<u>4.6</u>	<u>9.2</u>	<u>13.9</u>
72.6 to 121	20	<u>9.9</u>	<u>19.8</u>	<u>29.8</u>
	30	<u>5.7</u>	<u>11.4</u>	<u>17.1</u>
	40	<u>3.8</u>	<u>7.5</u>	<u>11.3</u>
	50	<u>2.7</u>	<u>5.4</u>	<u>8.1</u>
138 to 145	20	<u>12.1</u>	<u>24.1</u>	<u>36.2</u>
	30	<u>7.4</u>	<u>14.9</u>	<u>22.3</u>
	40	<u>5.2</u>	<u>10.4</u>	<u>15.6</u>
	50	<u>3.9</u>	<u>7.8</u>	<u>11.7</u>



National Electrical Safety Code®

Table 410-2—Live-line tool work clothing and clothing systems—voltage, fault current, and maximum clearing time for voltages 46.1 to 800 kV^① (continued)
(See Rule 410A3.)

Phase-to-phase voltage (kV)	Fault current (kA)	4-cal system	8-cal system	12-cal system
		Maximum clearing time (cycles)	Maximum clearing time (cycles)	Maximum clearing time (cycles)
161 to 169	20	<u>11.9</u>	<u>23.9</u>	<u>35.8</u>
	30	<u>7.4</u>	<u>14.8</u>	<u>22.2</u>
	40	<u>5.2</u>	<u>10.3</u>	<u>15.5</u>
	50	<u>3.9</u>	<u>7.8</u>	<u>11.6</u>
230 to 242	20	<u>13.6</u>	<u>27.3</u>	<u>40.9</u>
	30	<u>8.4</u>	<u>16.8</u>	<u>25.2</u>
	40	<u>5.9</u>	<u>11.7</u>	<u>17.6</u>
	50	<u>4.4</u>	<u>8.8</u>	<u>13.2</u>
345 to 362	20	<u>26.4</u>	<u>52.7</u>	<u>79.1</u>
	30	<u>16.2</u>	<u>32.4</u>	<u>48.6</u>
	40	<u>11.3</u>	<u>22.6</u>	<u>34.0</u>
	50	<u>8.5</u>	<u>17.0</u>	<u>25.5</u>
500 to 550	20	<u>23.1</u>	<u>46.2</u>	<u>69.2</u>
	30	<u>14.2</u>	<u>28.4</u>	<u>42.6</u>
	40	<u>10.0</u>	<u>19.9</u>	<u>29.9</u>
	50	<u>7.5</u>	<u>15.0</u>	<u>22.4</u>
765 to 800	20	<u>25.3</u>	<u>50.5</u>	<u>75.8</u>
	30	<u>15.6</u>	<u>31.2</u>	<u>46.8</u>
	40	<u>10.9</u>	<u>21.7</u>	<u>32.6</u>
	50	<u>8.2</u>	<u>16.3</u>	<u>24.5</u>

① Arc gap—calculated by using the phase-to-ground voltage of the circuit and dividing by 10. The dielectric strength of air is taken at 10 kV per inch. See IEEE Std 4-1995

Distance from arc—calculated by using the minimum approach distance from Table 441-2 and subtracting two times the assumed arc gap length.

These calculations were derived using a commercially available computer software program. Other methods are available to estimate arc exposure values and may yield slightly different, but equally acceptable results.

The use of the table in the selection of clothing is intended to reduce the amount or degree of injury but may not prevent all burns.