

OFFICIAL FILE

ICC Docket No.10-0262

F.C.C. DOCKET NO. 10-0262

Commonwealth Edison Company's Response to Exhibit No. 8
Robert Zimmerman ("PETITIONER") Date Requests 1.00 - 1.04 DHoye
Dated: April 9, 2010
Date _____ Reporter _____

REQUEST NO. PETITIONER 1.01:

Please provide copies of all sections of the National Electrical Safety Code that ComEd believes are relevant to the issues in this proceeding, including but not limited to the provision that requires a seven foot six inch horizontal clearance between the ComEd line adjacent to the structure located at 1708 Crescent, Park Ridge, Illinois.

RESPONSE:

The relevant portions of the 2002 NESC are 234C1a, 234C1b, Table 234-1 and figures 234-1(a) 234-1(c) as shown below:

C. Clearances of Wires, Conductors, Cables, and Rigid Live Parts From Buildings, Signs, Billboards, Chimneys, Radio and Television Antennas, Tanks, and Other Installations Except Bridges

1. Vertical and Horizontal Clearances

a. Clearances

Unguarded or accessible wires, conductors, cables, or rigid live parts may be located adjacent to buildings, signs, billboards, chimneys, radio and television antennas, tanks, and other installations and any projections therefrom. The vertical and horizontal clearances of such rigid and nonrigid parts shall be not less than the values given in Table 234-1 when at rest under the conditions specified in Rule 234A1. These facilities may be installed beside, over or under buildings, building projections and other installations, as illustrated in Figs 234-1(a), 234-1(b), and 234-1(c).

b. Horizontal Clearances Under Wind Displacement Conditions

When the following conductors and cables are displaced from rest under the wind conditions of Rule 234A2, horizontal clearances from such conductors or cables to buildings, signs, billboards, chimneys, radio and television antennas, and other installations shall be not less than those shown below:

Conductor or cable	Horizontal clearance required when displaced by wind	
	(m)	(ft)
Open supply conductor, 0 to 750 V	1.1	3.5
230C2 cable, above 750 V	1.1	3.5
230C3 cable, above 750 V	1.1	3.5
Open supply conductors, over 750 V to 22 kV	1.4	4.5

See footnotes 9 and 10 to Table 234-1.

Table 234-1

**Clearance of Wires, Conductors, Cables, and Unguarded Rigid Live Parts
Adjacent but Not Attached to Buildings and Other Installations Except Bridges¹²**

(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems. Clearances are with no wind displacement except where stated in the footnotes below.

See Rules 234C1a, 234C2, and 234H4.)

Clearance of	Insulated communication conductors and cables; messengers; surge-protection wires; grounded guys; ungrounded guys exposed to 0 to 300 V ¹³ ; neutral conductors meeting Rule 230E1; supply cables meeting Rule 230C1 ⁵ (ft)	Supply cables of 0 to 750 V meeting Rules 230C2 or 230C3 (ft)	Unguarded rigid live parts, 0 to 750 V; non-insulated communication conductors; ungrounded equipment cases, 0 to 750 V; ungrounded guys exposed to open supply conductors of over 300 V to 750 V ⁵ (ft)	Supply cables over 750 V meeting Rules 230C2 or 230C3; open supply conductors, 0 to 750 V (ft)	Unguarded rigid live parts, over 750 V to 22 kV; ungrounded equipment cases, 750 V to 22 kV; ungrounded guys exposed to over 750 V to 22 kV ⁵ (ft)	Open supply conductors, over 750 V to 22 kV (ft)
1. Buildings						
a. Horizontal						
(1) To walls, projections, and guarded windows	4.5 ^{1,2,7}	5.0 ^{1,2}	5.0 ^{1,2}	5.5 ^{1,2,9}	7.0 ^{1,2}	7.5 ^{1,2,10,11}
(2) To unguarded windows ⁸	4.5	5.0	5.0	5.5 ⁹	7.0	7.5 ^{10,11}
(3) To balconies and areas readily accessible to pedestrians ³	4.5	5.0	5.0	5.5 ⁹	7.0	7.5 ^{10,11}
b. Vertical¹⁴						
(1) Over or under roofs or projections not readily accessible to pedestrians	3.0	3.5	10.0	10.5	12.0	12.5
(2) Over or under balconies and roofs readily accessible to pedestrians ³	10.5	11.0	11.0	11.5	13.0	13.5
(3) Over roofs accessible to vehicles but not subject to truck traffic ⁶	10.5	11.0	11.0	11.5	13.0	13.5
(4) Over roofs accessible to truck traffic ⁶	15.5	16.0	16.0	16.5	18.0	18.5

Table 234-1 (Continued)

Clearance of Wires, Conductors, Cables, and Unguarded Rigid Live Parts

Adjacent but Not Attached to Buildings and Other Installations Except Bridges¹²

(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems. Clearances are with no wind displacement except where stated in the footnotes below.

See Rules 234C1a, 234C2, and 234H4.)

Clearance of	Insulated communication conductors and cables; messengers; surge-protection wires; grounded guys; ungrounded guys exposed to 0 to 300 V ¹³ ; neutral conductors meeting Rule 230E1; supply cables meeting Rule 230C1 ⁵ (ft)	Supply cables of 0 to 750 V meeting Rules 230C2 or 230C3 (ft)	Unguarded rigid live parts, 0 to 750 V; non-insulated communication conductors; ungrounded equipment cases, 0 to 750 V; ungrounded guys exposed to open supply conductors of over 300 V to 750 V ⁵ (ft)	Supply cables over 750 V meeting Rules 230C2 or 230C3; open supply conductors, 0 to 750 V (ft)	Unguarded rigid live parts, over 750 V to 22 kV; ungrounded equipment cases, 750 V to 22 kV; ungrounded guys exposed to over 750V to 22 kV ⁵ (ft)	Open supply conductors, over 750 V to 22 kV (ft)
2. Signs, chimneys, billboards, radio and television antennas, tanks, and other installations not classified as buildings or bridges						
a. Horizontal⁴						
(1) To portions that are readily accessible to pedestrians ³	4.5	5.0	5.0 ^{1,2}	5.5 ⁹	7.0 ^{1,2}	7.5 ^{10,11}
(2) To portions that are not readily accessible to pedestrians ³	3.0	3.5	5.0 ^{1,2}	5.5 ^{1,2,9}	7.0 ^{1,2}	7.5 ^{1,2,10,11}
b. Vertical						
(1) Over or under catwalks and other surfaces upon which personnel walk	10.5	11.0	11.0	11.5	13.0	13.5
(2) Over or under other portions ⁴ of such installations	3.0	3.5	5.5	6.0 ¹	7.5	8.0

¹ Where building, sign, chimney, antenna, tank, or other installation does not require maintenance such as painting, washing, changing of sign letters, or other operations that would require persons to work or pass between wires, conductors, cables or unguarded rigid live parts and structure, the clearance may be reduced by 2 ft.

² Where available space will not permit this value, the clearance may be reduced by 2 ft provided the wires, conductors, or cables, including splices and taps, and unguarded rigid live parts have a covering that provides sufficient dielectric strength to limit the likelihood of a short circuit in case of momentary contact with a structure or building.

³ A roof, balcony, or area is considered readily accessible to pedestrians if it can be casually accessed through a doorway, ramp, window, stairway, or permanently mounted ladder by a person on foot who neither exerts extraordinary physical effort nor employs special tools or devices to gain entry. A permanently mounted ladder is not considered a means of access if its bottom rung is 8 ft or more from the ground or other permanently installed accessible surface.

⁴ The required clearances shall be to the closest approach of motorized signs or moving portions of installations covered by Rule 234C.

⁵ Ungrounded guys and ungrounded portion of guys between guy insulators shall have clearances based on the highest voltage to which they may be exposed to a slack conductor or guy.

⁶ For the purpose of this rule, trucks are defined as any vehicle exceeding 8 ft in height.

⁷ This clearance may be reduced to 3 in for the grounded portions of guys.

⁸ Windows not designed to open may have the clearances permitted for walls and projections.

⁹ The clearance at rest shall be not less than the value shown in this table. Also, when the conductor or cable is displaced by wind, the clearance shall be not less than 3.5 ft; see Rule 234C1b.

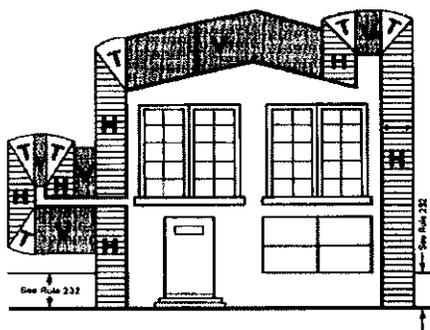
¹⁰ The clearance at rest shall be not less than the value shown in this table. Also, when the conductor or cable is displaced by wind, the clearance shall be not less than 4.5 ft; see Rule 234C1b.

¹¹ Where available space will not permit this value, the clearance may be reduced to 7.0 ft for conductors limited to 8.7 kV to ground.

¹² The clearance values shown in this table are computed by adding the applicable Mechanical and Electrical (M & E) value of Table A-1 to the applicable Reference Component of Table A-2b of Appendix A.

¹³ The anchor end of guys insulated in accordance with Rule 279 may have the same clearance as grounded guys.

¹⁴ For clearances above railings, walls, or parapets around balconies or roofs, use the clearances required for row 1b(1). For such clearances where an outside stairway exists, use the clearances required for row 2b(2).



LEGEND

Regions Where Conductors Are Present:	Controlling Clearances:
H	Horizontal
V	Vertical
T	Transitional - Vertical (and)

Fig 234-1(a)
Clearance Diagram for Building

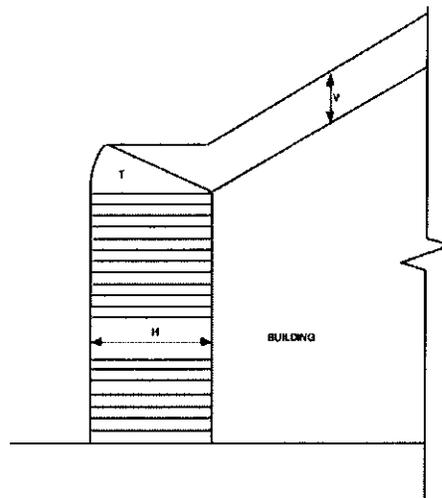


Fig 234-1(c)
Transitional Clearance When H is Greater Than V