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STATE OF CALIFORNIA

RULES

FOR

Overhead Electric Line Construction

Prescribed by the

PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

GENERAL ORDER No. 95

February 2014

Table 2: Basic Minimum Allowable Clearance of Wires from Other Wires at Crossings, in Midspans and at Supports (Letter References Denote Modifications of Minimum Clearances as Referred to in Notes Following This Table) All Clearances are in Inches

Case No.	Nature of Clearance and Class and Voltage of Wire, Cable or Conductor Concerned	Other Wire, Cable or Conductor Concerned										
					Supply Conductors (Including Supply Cables)							
		A Span Wires, Guys and Messengers	B Trolley Contact Conductors 0 – 750 Volts	C Communication Conductors (Including Open Wire, Cables and Service Drops)	D 0 – 750 Volts (Including Service Drops) and Trolley Feeders (a)	E 750 - 7,500 Volts	F 7,500 - 20,000 Volts	G 20,000 - 35,000 Volts	H 35,000 - 75,000 Volts	I 75,000 - 150,000 Volts	J 150,000 - 300,000 Volts	K (kk) 300,000 - 550,000 Volts
	Clearance between wires, cables and conductors not supported on the same poles, vertically at crossings in spans and radially where colinear or approaching crossings											
1	Span wires, guys and messengers (b)	18 (c)	48 (d, e)	24 (e)	24 (e)	36 (f)	36	72	72	78	78 (gg)	138 (hh)
2	Trolley contact conductors, 0 - 750 volts	48 (d, e)	-	48 (d)	48 (d, h)	48	72	96	96	96	96 (gg)	156 (hh)
3	Communication conductors	24 (e)	48 (d)	24	48 (i)	48 (dd)	72	96	96	96	96 (gg)	156 (hh)
4	Supply conductors, service drops and trolley feeders, 0 - 750 volts (qq)	24 (e)	48 (d, h)	48 (i)	24	48	48	96 (oo)	96	96	96(gg)	156 (hh)
5	Supply conductors, 750 - 7,500 volts (qq)	36 (f)	48	48 (dd)	48	48 (h)	72	96 (oo)	96	96	96(gg)	156 (hh)
6	Supply conductors, 7,500 - 20,000 volts (qq)	36	72	72	48	72	72	96 (oo)	96	96	96 (gg)	156 (hh)
7	Supply conductors, more than 20,000 volts (qq)	72 (g)	96 (g)	96 (g)	96 (g, oo)	96 (g, oo)	96 (g, oo)	96 (g, oo)	96 (g)	96	96 (gg)	156 (hh)
	Vertical separation between conductors and/ or cables, on separate crossarms or other supports at different levels (excepting on related line and buck arms) on the same pole and in adjoining midspans											
8	Communication Conductors and Service Drops	-	-	12 (j, rr)	48 (k, l, m, n, pp)	48 (k)	72 (m n)	72 (m)	72	78	87 (gg)	147 (hh)
9	Supply Conductors Service Drops and Trolley Feeders, 0 - 750 Volts	-	-	48 (k, l, m, n, pp)	24 (h, k, m, o)	48 (k, m, p)	48 (k, m, p)	72 (m, nn)	72	78	87 (gg)	147 (hh)

Table 2 (Continued)

Case No.	Nature of Clearance and Class and Voltage of Wire, Cable or Conductor Concerned	Other Wire, Cable or Conductor Concerned										
					Supply Conductors (Including Supply Cables)							
		A Span Wires, Guys and Messengers	B Trolley Contact Conductors 0 – 750 Volts	C Communication Conductors (Including Open Wire, Cables and Service Drops)	D 0 – 750 Volts (Including Service Drops) and Trolley Feeders (a)	E 750 - 7,500 Volts	F 7,500 - 20,000 Volts	G 20,000 - 35,000 Volts	H 35,000 - 75,000 Volts	I 75,000 - 150,000 Volts	J 150,000 - 300,000 Volts	K (kk) 300,000 - 550,000 Volts
10	Supply conductors, 750 – 7,500 volts	-	-	48 (k)	48 (k, m, p)	48 (m, o, r, ee)	48 (m, q)	48 (m, q)	48 (q)	60 (ff)	90 (gg)	150 (hh)
11	Supply conductors, 7,500 – 20,000 volts	-	-	72 (m, n)	48 (k, m, p)	48 (m, q)	48 (m, o, q, r, ee)	48 (m, q)	48 (q)	60 (ff)	90 (gg)	150 (hh)
12	Supply conductors, 20,000 – 75,000 volts	-	-	72 (m)	72 (m, nn)	48 (m, q)	48 (m, q)	48 (o, q)	48 (o, q)	60 (ff)	90 (gg)	150 (hh)
13	Supply conductors, more than 75,000 volts	-	-	72	72	60 (q)	60 (q)	60 (q)	60 (q)	60 (ff)	90 (gg)	150 (hh)
	Vertical clearance between conductors on related line arms and buck arms											
14	Line arms above or below related buck arms (s, t)	-	-	6	12 (u)	18 (u)	18 (u)	24	48	60 (ff)	90 (gg)	150(hh)
	Horizontal separation of conductors on same crossarm											
15	Pin spacing of longitudinal conductors vertical conductors and service drops (v, w, zz)	-	-	3 (x)	11–1/2 (h, x)	11 1/2 (x)	17–1/2 (x)	24 (x)	48	60 (ff)	90 (gg)	150 (hh)
	Radial separation of conductors on same crossarm, pole or structure—incidental pole wiring											
16	Conductors, taps or lead wires of different circuits (v, y, s, zz)	-	-	3 (x)	11–1/2 (h, x)	11 1/2 (x)	17–1/2 (x)	24 (x)	48	60 (ff)	90 (gg)	150 (hh)
16a	Uncovered, grounded, non-dielectric fiber optic cables on metallic structures, in transition (ss)	-	15	15	15	18	18	18	18	24	36	120
17	Conductors, taps or lead wires of the same circuit (v, s, aa, zz)	-	-	3	3	6	6	12	24	60 (ff)	90 (gg)	150 (hh)
	Radial separation between guys and conductors											
18	Guys passing conductors supported on other poles, or guys approximately parallel to conductors supported on the same poles	-	-	3	11–1/2	11–1/2	17–1/2	24	36	36 (ff)	78 (gg)	138 (hh)

Table 2 (Continued)

Case No.	Nature of Clearance and Class and Voltage of Wire, Cable or Conductor Concerned	Other Wire, Cable or Conductor Concerned										
					Supply Conductors (Including Supply Cables)							
		A Span Wires, Guys and Messengers	B Trolley Contact Conductors 0 – 750 Volts	C Communication Conductors (Including Open Wire, Cables and Service Drops)	D 0 – 750 Volts (Including Service Drops) and Trolley Feeders (a)	E 750 - 7,500 Volts	F 7,500 - 20,000 Volts	G 20,000 - 35,000 Volts	H 35,000 - 75,000 Volts	I 75,000 - 150,000 Volts	J 150,000 - 300,000 Volts	K (kk) 300,000 - 550,000 Volts
19	Guys and span wires passing conductors supported on the same poles	(cc)	-	3 (bb)	3	6	9	12	18	24	48 (ii)	86 (jj)
	Vertical and horizontal insulators clearances between conductors											
20	Vertical clearance between conductors of the same circuit on horizontal insulators	-	-	-	-	24	24	24	36 or 48 (ll, mm)	48 (mm)	48 (mm)	48 (mm)
	Vertical clearance above supply and/ or communication lines											
21	Antennas and associated elements on the same support structure. (tt, uu)	24 (vv)	48 (vv)	24(ww)	48(vv, xx)	72	72	72	120 (vv, yy)	-	-	-
		Rule										

References to Rules Modifying Minimum Clearances in Table 2

(a) The clearances in column D are also applicable to supply cables of any voltage under certain conditions — 57.4

(b) Clearances for guys and span wires apply vertically at crossings (see case 18 for radial clearances from conductors)
- 1 Supply guys and span wires from conductors — 56.4–C
- 2 Supply guys and span wires from guys and span wires — 56.4–D1
- 3 Communication guys and span wires from conductors — 86.4–C
- 4 Communication guys and span wires from guys and span wires — 86.4–D1

(c) Not applicable between messengers or span wires of the same system
- 1 Supply messengers — 57.4–E
- 2 Trolley span wires — 77.4–D
- 3 Communication messengers — 87.4–G

(d) Protection Required on guys, span wires, messengers and cables where within trolley throw
- 1 Supply guys and span wires — 56.4–B2
- 2 Supply messengers and cables — 57.4-B2
- 3 Communication guys and span wires — 86.4–B2
- 4 Communication messengers — 87.4–B2

(e) Not applicable to certain conductors supported on trolley span wires — 74.4–G2
- 1 Trolley contact and feeder conductors — 78.1
- 2 Trolley feeder conductors — 78.2
- 3 Trolley system communication conductors — 78.3
- 4 Foreign conductors

(f) Increased clearance required over trolley contact conductors 750 - 7,500 volts — 74.4–G2

(g) Shall be increased for voltages above 75,000 as required by Table 2, Columns I, J and K — N/A

(h) May be reduced for certain conductors of Class T Circuits of the same system — 74.4–C

(i) May be reduced for service drops under special conditions
- 1 Supply service drops and communication line conductors — 54.8–C1a
- 2 Supply service drops and communication service drops — 54.8–C4
- 3 Communication service drops and supply line conductors — 84.8–D1a
- 4 Communication service drops and supply service drops — 84.8–D4

(j) May be reduced or shall be increased for certain communication conductors or cables — 84.4C1c
- 1 Open wire conductors, attached to poles, within 3 feet of topmost conductor — 84.8–D1b
- 2 Line conductors of police or fire–alarm circuits and service drops from other communication circuits — 87.4–C3
- 3 Cables and messengers attached to poles

(k) Special clearances for 0 - 750 volts in rack configuration and messengers and cables attached to poles — 54.9
- 1 Supply conductors of 0 - 750 volts in rack configuration — 57.4–F
- 2 Supply cables and messengers attached to poles — 87.4–C3
- 3 Communication cables and messengers attached to poles — 92.1
- 4 On jointly used poles

References to Rules Modifying Minimum Clearances in Table 2

		Rule
(l)	May be reduced for service drops and police and fire–alarm conductors, under special conditions	
1	Supply service drops and communication line conductors	54.8–C1b
2	Supply service drops on clearance arms	54.8–C2
3	Supply service drops on pole–top extensions	54.8–C3
4	Supply service drops and communication service drops	54.8–C4
5	Communication service drops and police, fire–alarm or supply line conductors	84.8–D1b
6	Communication service drops on clearance arms	84.8–D2
7	Communication service drops on pole–top extensions	84.8–D3
8	Communication service drops and supply service drops	84.8–D4
9	Police or fire–alarm conductors	92
(m)	May be reduced for lead wires	54.4–C6
1	Supply lead wires above supply conductors	92.1–F3
2	Supply drip loops above communication conductors	
(n)	May be reduced for supply conductors and private communication conductors of the same ownership	89.2–B
(o)	May be reduced or shall be increased for triangular or vertical configuration or for pole–top construction	
1	Triangular or vertical configuration on crossarms	54.4–C1c
2	deadended on pole in vertical configuration	54.4–C4
(p)	May be reduced for supply service drops of 0 - 750 volts	54.8–C6
(q)	Shall be increased between circuits where conductors are at pole top	54.4–D8
(r)	May be reduced under special conditions	
1	Supply conductors of 750 - 7,500 volts	54.4–C1a
2	Supply conductors of 7,500 - 20,000 volts	54.4C1b
(s)	Does not apply where conductors do not cross	
1	Supply conductors of different phase or polarity	54.4–C2a
2	Communication conductors	84.4–C1a
(t)	Shall not be applied consecutively both above and below the same supply conductors	54.4–C2a
(u)	Shall be increased where conductors of different classification are supported on the same crossarm	
1	Supply conductors of 0 - 750 volts and conductors of 7,500 - 22,500 volts	32.4–A2
2	Supply conductors of 0 - 750 volts and conductors of 750 - 7,500 volts	32.4–A3
(v)	Not applicable to certain kinds of conductors	
1	Supply conductors of same phase or polarity	54.4–C3c
2	Insulated supply conductors in multiple–conductor cables	57.4–C
3	Communication insulated conductors or multiple–conductor cables	87.4–C1
(w)	Shall apply radially to conductors on brackets attached to crossarms	
1	Supply conductors	54.4–C3b
2	Communication conductors	84.4–C1b
(x)	Shall be increased between conductors of different classification supported on the same crossarm	
1	Supply conductors of different voltage classification	32.4–A
2	Supply circuits of 0 - 750 volts and communication circuits	32.4–B
3	Supply circuits and private communications circuits	89.2–A
(y)	Special clearances for unprotected supply conductors from one level to another level	54.6–A 58.5–B3 92.1–F5

		Rule
(z)	Not applicable to the following:	
1	Clearances between conductors at different levels specified in cases 8 to 13 inclusive	N/A
2	Supply lateral conductors, suitably protected	54.6–C
3	Supply vertical runs, suitably protected	54.6–D
4	Supply risers, suitably protected	54.6–E
5	Communication conductor	87.4–C1
(aa)	Not applicable between cables and their supporting messengers	
1	Supply	57.4–D
2	Communication	87.4–F
(bb)	May be reduced for guys and communication conductors supported on the same pole	
1	Supply	56.4–C4
2	Communication	86.4–C
(cc)	Clearance required between guys	
1	Supply guys, crossing	56.4–D2
2	Supply guys, approximately parallel	56.4–D3
3	Communication guys, crossing	86.4–D2
4	Communication guys, approximately parallel	86.4–D3
(dd)	Shall be increased where within 6 feet of a pole	103.5
(ee)	May be decreased in partial underground distribution	54.4–C4c
(ff)	Shall be increased by 0.40 inch per kV in excess of 75 kV	
(gg)	Shall be increased by 0.40 inch per kV in excess of 150 kV	
(hh)	Shall be increased by 0.40 inch per kV in excess of 300 kV	
(ii)	Shall be increased by 0.25 inch per kV in excess of 150 kV	
(jj)	Shall be increased by 0.25 inch per kV in excess of 300 kV	
(kk)	Proposed clearances to be submitted to the CPUC prior to construction for circuits in excess of 550 kV	
(ll)	36–inch clearance applies 35 kV to 68 kV. 42–inch clearance applies over 68 kV.	
(mm)	Vertical clearances shall be increased by 1/2 inch for each kV over 68 kV	
(nn)	The vertical separation between supply conductors and service drops of 0 - 750 volts and supply conductors of 20,000 - 22,500 volts may be reduced to 48 inches	
(oo)	May be reduced to 72inches for conductors of 20,000 - 22,500 volts	
(pp)	May be reduced to 36 inches vertically at midspan only when the supply conductors consist of abrasion resistant cable with a grounded metallic sheath or neutral–supported cable as specified in Rules 57 and 54.10.	
(qq)	Vertical clearances may be reduced between supply conductors of the same circuit at crossings in spans54.4–C7	
(rr)	Can be less than 12" for strand mounted terminals, splice cases and other equipment located 8" or more from centerline of pole but not less than 1" with mutual agreement between affected owners.	87.10
(ss)	Requirements for transition of Fiber optic cable facilities	
(tt)	For Antennas utilized by utilities for the sole purpose of operating and monitoring their supply system see Rules 54.4-G and 58.6.	
(uu)	For clearances below supply and communication lines see Rules 94.4-A and 94.4-B	
(vv)	Clearances for exposed associated cables may be reduced by 12 inches.	
(ww)	May be reduced to 10 inches for cables installed by Antenna owner/operator.	
(xx)	Clearance from service drop point of attachment on structure to Antenna(s) and associated supporting elements may be reduced to 10 inches.	
(yy)	Up to 50 kV.	
(zz)	In areas that are subjected to high winds, a utility may need to take extra measures to maintain all required separations. Measures may include but are not limited to, spacer bars and increased pin spacing	

Note: Revised February 7, 1964 by Decision No. 66707; September 18, 1967 by Decision No. 72984; March 30, 1968 by Decision No. 73813; July 22, 1968 by Decision No. 74342; September 11, 1974 by Decision No. 83420; March 9, 1988 by Resolution E–3076; November 6, 1992 by Resolution No. SU–15, January 19, 1994 by Resolution SU–25, October 9, 1996 by Resolution SU–40, January 13, 2005 by Decision No. 0501030 and October 2, 2008 by Decision No. 0810017.

Table 1: Basic Minimum Allowable Vertical Clearance of Wires above Railroads, Thoroughfares, Ground or Water Surfaces; Also Clearances from Poles, Buildings, Structures or Other Objects (nn) (Letter References Denote Modifications of Minimum Clearances as Referred to in Notes Following This Table)

Case No.	Nature of Clearance	Wire or Conductor Concerned						
		A Span Wires (Other than Trolley Span Wires) Overhead Guys and Messengers	B Communication Conductors (Including Open Wire, Cables and Service Drops), Supply Service Drops of 0 - 750 Volts	C Trolley Contact, Feeder and Span Wires, 0 - 5,000 Volts	D Supply Conductors of 0 - 750 Volts and Supply Cables Treated as in Rule 57.8	E Supply Conductors and Supply Cables, 750 - 22,500 Volts	F Supply Conductors and Supply Cables, 22.5 - 300 kV	G Supply Conductors and Supply Cables, 300 - 550 kV (mm)
1	Crossing above tracks of railroads which transport or propose to transport freight cars (maximum height 15 feet, 6 inches) where not operated by overhead contact wires. (a) (b) (c) (d)	25 Feet	25 Feet	22.5 Feet	25 Feet	28 Feet	34 Feet	34 Feet (kk)
2	Crossing or paralleling above tracks of railroads operated by overhead trolleys. (b) (c) (d)	26 Feet (e)	26 Feet (e) (f) (g)	22.5 Feet (h) (i) (eee)	27 Feet (e) (g)	30 Feet (g)	34 Feet (g)	34 Feet (g) (kk)
3	Crossing or along thoroughfares in urban districts or crossing thoroughfares in rural districts. (c) (d)	18 Feet (j) (k) (ii)	18 Feet (j) (l) (m) (ii) (aa)	19 Feet (hh) (eee)	20 Feet (ii)	25 Feet (o) (ii)	30 Feet (o) (ii)	30 Feet (o) (ii) (kk)
4	Above ground along thoroughfares in rural districts or across other areas capable of being traversed by vehicles or agricultural equipment.	15 Feet (k)	15 Feet (m) (n) (p)	19 Feet (eee)	19 Feet	25 Feet (o)	30 Feet (o) (p)	30 Feet (o) (kk)
5	Above ground in areas accessible to pedestrians only	8 Feet	10 Feet (m) (q)	19 Feet (eee)	12 Feet	17 Feet	25 Feet (o)	25 Feet (o) (kk)
6	Vertical clearance above walkable surfaces on buildings, (except generating plants or substations) bridges or other structures which do not ordinarily support conductors, whether attached or unattached.	8 Feet (r)	8 Feet (r)	8 Feet	8 Feet	12 Feet	12 Feet	20 Feet (ll)
6a	Vertical clearance above non–walkable surfaces on buildings, (except generating plants or substations) bridges or other structures, which do not ordinarily support conductors, whether attached or unattached	2 Feet	8 Feet (yy)	8 Feet	8 Feet (zz)	8 Feet	8 Feet	20 Feet
7	Horizontal clearance of conductor at rest from buildings (except generating plants and substations), bridges or other structures (upon which men may work) where such conductor is not attached thereto (s) (t)	-	3 Feet (u)	3 Feet	3 Feet (u) (v)	6 Feet (v)	6 Feet (v)	15 Feet (v)
8	Distance of conductor from center line of pole, whether attached or unattached (w) (x) (y)	-	15 inches (s) (aa)	15 inches (aa) (bb) (cc)	15 inches (o) (aa) (dd)	15 or 18 inches (o) (dd) (ee) (jj)	18 inches (dd) (ee)	Not Applicable
9	Distance of conductor from surface of pole, crossarm or other overhead line structure upon which it is supported, providing it complies with case 8 above (x)	-	3 inches (aa) (ff)	3 inches (aa) (cc) (gg)	3 inches (aa) (dd) (gg)	3 inches (dd) (gg) (jj)	1/4 Pin Spacing Shown in Table 2 Case 15 (dd)	1/2 Pin Spacing Shown in Table 2 Case 15 (dd)

Table 1 (Continued)

Case No.	Nature of Clearance	Wire or Conductor Concerned						
		A Span Wires (Other than Trolley Span Wires) Overhead Guys and Messengers	B Communication Conductors (Including Open Wire, Cables and Service Drops), Supply Service Drops of 0 - 750 Volts	C Trolley Contact, Feeder and Span Wires, 0 - 5,000 Volts	D Supply Conductors of 0 - 750 Volts and Supply Cables Treated as in Rule 57.8	E Supply Conductors and Supply Cables, 750 - 22,500 Volts	F Supply Conductors and Supply Cables, 22.5 - 300 kV	G Supply Conductors and Supply Cables, 300 - 550 kV (mm)
10	Radial centerline clearance of conductor or cable (unattached) from non-climbable street lighting or traffic signal poles or standards, including mastarms, brackets and lighting fixtures, and from antennas that are not part of the overhead line system.	-	1 Foot (u) (rr) (ss)	15 inches (bb) (cc)	3 Feet (oo)	6 Feet (pp)	10 Feet (qq)	10 Feet (ll)
11	Water areas not suitable for sailboating (tt) (uu) (ww) (xx)	15 Feet	15 Feet	-	15 Feet	17 Feet	25 Feet	25 Feet (kk)
12	Water areas suitable for sailboating, surface area of: (tt) (vv) (ww) (xx) (A) Less than 20 acres (B) 20 to 200 acres (C) Over 200 to 2,000 acres (D) Over 2,000 acres	 18 Feet 26 Feet 32 Feet 38 Feet	 18 Feet 26 Feet 32 Feet 38 Feet	 - - -	 18 Feet 26 Feet 32 Feet 38 Feet	 20 Feet 28 Feet 34 Feet 40 Feet	 27 Feet 35 Feet 41 Feet 47 Feet	 27 Feet (kk) 35 Feet (kk) 41 Feet (kk) 47 Feet (kk)
13	Radial clearance of bare line conductors from tree branches or foliage (aaa) (ddd)	-	-	18 inches (bbb)	-	18 inches (bbb)	1/4 pin spacing shown in table 2, Case 15 (bbb) (ccc)	1/2 pin spacing shown in table 2, Case 15
14	Radial clearance of bare line conductors from vegetation in Extreme and VeryHigh Fire Threat Zones in Southern California (aaa) (ddd) (hhh)(jjj)			18 inches (bbb)		48 inches (bbb) (iii)	48 inches (fff)	120 inches (ggg)

References to Rules Modifying Minimum Clearances in Table 1

	Rule
(a) Shall not be reduced more than 5% because of temperature or loading	37
1 Supply lines	54.4–B1
2 Communication lines	84.4–B1
(b) Shall be increased for supply conductors on suspension insulators, under certain conditions	37
(c) Special clearances are provided for traffic signal equipment	58.4–C
(d) Special clearances are provided for street lighting equipment	58.5–B
(e) Based on trolley pole throw of 26 feet. may be reduced where suitably protected	
1 Supply guys	56.4–B2
2 Supply cables and messengers	56.4–B2
3 Communication guys	57.4–B2
4 Communication cables and messengers	86.4–B2
(f) May be reduced depending on height of trolley contact conductors	87.4–B2
1 Supply service drops	54.8–C5
2 Communication service drops	84.8–D5
(g) May be reduced and shall be increased depending on trolley throw	
1 Supply conductors (except service drops)	54.4–B2
2 Communication conductors (except service drops)	84.4–B2
(h) May be decreased where freight cars are not transported.	
1. Trolley contact and feeder conductors.	74.4-B1
2. Trolley span wires	Rule 77.4-A
(i) May be reduced for trolley contact and span wires in subways, tunnels, under bridges and in fenced areas	
1 Trolley contact conductors	74.4–E
2 Trolley span wires	77.4–B
(j) May be reduced at crossings over private thoroughfares and entrances to private property and over private property	
1 Supply service drops	54.8–B2
2 Supply guys	56.4–A
3 Communication service drops	84.8–C2
4 Communication guys	86.4–A
(k) May be reduced along thoroughfares where not normally accessible to vehicles	
1 Supply guys	56.4–A1
2 Communication guys	86.4–A1
(l) May be reduced where within 12 feet of curb line of public thoroughfares	
1 Supply service drops	54.8–B1
2 Communication service drops	84.8–C1
(m) May be reduced for railway signal cables under special conditions	84.4–A4

References to Rules Modifying Minimum Clearances in Table 1

	Rule
(n) May be reduced in rural districts	
1 Intentionally left blank	
2 Intentionally left blank	
3 Communication conductors along roads	84.4–A2
(o) May be reduced for transformer, regulator or capacitor leads	
1 Transformer leads	58.1–B
2 Regulator or capacitor leads	58.1–B
(p) May be reduced across arid or mountainous areas	
1 Supply conductors of more than 22,500 volts	54.4–A1
2 Communications conductors	84.4–A1
(q) Shall be increased or may be reduced under special conditions	
1 Supply service drops	54.8–B3
2 Intentionally left blank	
3 Communications conductors	84.4–A3
4 Increased for communication service drops on industrial or commercial premises	84.8–C3a
5 Communication service drops on residential premises	84.8–C3b
(r) May be reduced above roofs of buildings under special conditions	
1 Supply overhead guys	56.4–G
2 Supply service drops	54.8–B4
3 Communication overhead guys	86.4–F
4 Communication conductors and cables	84.4–E
5 Communication service drops	84.8–C4
(s) Also applies at fire escapes, etc.	
1 Supply conductors	54.4–H1
2 Vertical clearances	54.8B4a
3 Horizontal clearance	54.8–B4b
4 Communication conductors	84.4–E
(t) Special clearances where attached to buildings, bridges or other structures	
1 Supply conductors of 750 - 22,500 volts	54.4–H2
2 Trolley contact conductors	74.4–E
3 Communication conductors	84.4–F
(u) Reduced clearances permitted under special conditions	
1 Supply service drops on industrial or commercial premises	54.8–B4a
2 Supply cables, grounded	57.4–G
3 Communication cables beside buildings, etc.	84.4–E
4 Communication conductors under bridges, etc.	84.4–F
5 Communication service drops	84.8–C4
6 Communication cables passing nonclimbable street light poles, etc.	84.4–D4a
(v) May be reduced under special conditions	
1 Supply conductors of 750 - 7,500 volts	54.4–H1
2 Supply transformer lead and bus wires, where guarded	58.1
(w) May be reduced at angles in lines and transposition points	
1 Supply conductors	54.4–D1
2 Communication conductors	84.4–D5
(x) May be reduced for suitably protected lateral or vertical runs	
1 Supply bond wires	53.4
2 Supply ground wires	54.6–B
3 Supply lateral conductors	54.6–C
4 Supply vertical runs	54.6–D
5 Supply risers	54.6–E
6 Communication ground wires	84.6–B
7 Communication lateral conductors	84.6–C
8 Communication vertical runs	84.6–D
9 Communication risers	84.6–E
(y) Increased clearances required for certain conductors	
1 Unattached conductors on colinear and crossing lines	32.3
2 Unattached supply conductors	54.4–D3
3 Supply service drops on clearance crossarms	54.8–C2
4 Supply service drops on pole top extensions	54.8–C3
5 Unattached supply service drops	54.8–D
6 Communication lines, colinear, conflicting or crossing	84.4–D3
7 Communication conductors passing supply poles and unattached thereto	84.4–D4
8 Communication service drops on clearance crossarms	84.8–D2
9 Communication service drops on pole top extensions	84.8–D3
10 Unattached communication service drops	84.8–E
(z) Special provisions for police and fire alarm conductors require increased clearances	92.2
(aa) May be reduced under special provisions	
1 Supply conductors of 0 - 750 volts in rack configuration	54.4–D5
2 Service supply drops from racks	54.8–F
3 Supply cables and messengers attached to poles	57.4–F
4 Communication conductors on communication poles	84.4–D
5 Communication conductors on crossarms	84.4–D1
6 Communication conductors attached to poles	84.4–D2
7 Communication service drops attached to poles	84.8–B
8 Communication cables and messengers	87.4–D
9 Supply or communication cables and messengers on jointly used poles	92.1–B
10 Communication open wire on jointly used poles	92.1–C
11 Multiconductor cable with bare neutral	54.10–B1
12 Communication conductors across or along public thoroughfares	84.4–A6
(bb) May be reduced for class t conductors of not more than 750 volts and of the same potential and polarity	74.4–D
(cc) Not applicable to trolley span wires	77.4–E
(dd) Special clearances for pole–top and deadend construction	
1 Conductors deadended in vertical configuration on poles	54.4–C4
2 Conductors deadended in horizontal configuration	54.4–D8
(ee) Clearance requirements for certain voltage classifications	54.4–D2
(ff) Not applicable to communication conductors	84.4–D
(gg) Clearance from crossarms may be reduced for certain conductors	
1 Suitable insulated leads to protect runs	54.4–E
2 Leads of 0 - 5,000 volts to equipment	54.4–E
3 Leads of 0 - 5,000 volts to cutouts or switches	58.3–A2
(hh) Reduced clearance permitted from temporary fixtures and lighting circuits 0 - 300 volts	78.3–A1
(ii) Special Clearances Required Above Public and Private Swimming Pools	
1 Supply line conductors	54.4–A3
2 Supply service drops	54.8–B5
3 Communication line conductors	84.4–A5
4 Communication service drops	84.8–C5
5 Supply guys, span wires	56.4–A3
6 Communication guys	86.4–A3
(jj) May be decreased in partial underground distribution	54.4–D2

References to Rules Modifying Minimum Clearances in Table 1 Rule

(kk) Shall be increased by 0.025 feet per kV in excess of 300 kV

(ll) Shall be increased by 0.04 feet per KV in excess of 300 kV

(mm) Proposed clearances to be submitted to the cpuc prior to construction for circuits in excess of 550 kV.

(nn) Voltage shown in the table shall mean line–to–ground voltage for direct current (DC) systems

(oo) May Be reduced for grounded or multi–conductor cables

1 Grounded cables 57.4–H

2 Multi–Conductor cables 54.10–B2

(pp) May be reduced to 4 feet for voltages below 7,500 volts 54.4–D3

(qq) May be reduced to 6 feet for voltages below 75 kV

(rr) May be reduced for supply service drops 54.8–D1

(ss) May be reduced for communications service drops 84.8–E1

(tt) Where a federal agency or surrogate thereof has issued a crossing permit, clearances of that permit shall govern.

(uu) Or where sailboating is prohibited and where other boating activities are allowed

(vv) Clearance above contiguous ground shall be 5 feet greater than in cases 11 or 12 for the type of water area served for boat launch facilities and for area contiguous thereto, that are posted, designated or specifically prepared for rigging of sailboats or other watercraft.

(ww) For controlled impoundments, the surface areas and corresponding clearances shall be based upon the high water level. for other waters, the surface area shall be that enclosed by its annual flood level. the clearance over rivers, streams and canals shall be based upon the largest surface areas of any one–mile long segment which includes the crossing. The clearance over a canal, river or stream normally used to provide access for sailboats to a larger body of water shall be the same as that required for the larger body of water.

(xx) Water areas are lakes, ponds, reservoirs, tidal waters, rivers, streams and canals without surface obstructions.

(yy) May be reduced over non–walkable structures 54.8 (Table 10)

(zz) May be reduced to 2 feet for conductors insulated in accordance with 20.9–G

(aaa) Special requirements for communication and supply circuits energized at 0 - 750 volts 35

(bbb) May be reduced for conductor of less than 60,000 volts when protected from abrasion and grounding by contact with tree 35

(ccc) For 22.5 kV to 105 kV, minimum clearance shall be 18 inches.

(ddd) Clearances in this case shall be maintained for normal annual weather variations, rather than at 60 degrees, no wind.

Rule

(eee) May be reduced to 18 feet if the voltage does not exceed 1000 volts and the clearance is not reduced to more than 5% below the reduced value of 18 feet because of temperature and loading as specified in Rules 37 and 43.

(fff) Clearances in this case shall be increased for conductors operating above 72 kV, to the following:

1 Conductors operating between 72kV and a 110 kV shall maintain a 72 inch clearance

2 Conductors operating above 110 kV shall maintain a 120 inch clearance

(ggg) Shall be increased by 0.40 inch per kV in excess of 500 kV

(hhh) Extreme and Very High Fire Threat Zones are defined by California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) Fire Threat Map. The FRAP Fire Threat Map is to be used to establish approximate boundaries for purposes of this rule. The boundaries of the map are to be broadly construed, and utilities should use their own expertise and judgment to determine if local conditions require them to adjust the boundaries of the map. Southern California shall be defined as the following: Imperial, Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura Counties.

(iii) May be reduced to 18 inches for conductors operating less than 2.4 kV.

(jjj) Clearances in this case shall not apply to orchards of fruit, nut or citrus trees that are plowed or cultivated. In those areas Case 13 clearances shall apply.

Note: Revised February 1, 1948 by Supplement No. 1 (Decision No. 41134, Case No. 4324); January 2, 1962 by Resolution E–1109; February 7, 1964 by Decision No. 66707; March 29, 1966 by Decision No. 70489; August 9, 1966 by Decision No. 71094; September 18, 1967 by Decision No. 72984; March 30, 1968 by Decision No. 73813; January 8, 1980 by Decision No. 91186; March 9, 1988 by Resolution E–3076; November 21, 1990 by Resolution SU–6; January 21, 1992 by Resolution SU–10; and November 6, 1992 by Resolution SU–15, September 20, 1996 by Decision 96–09–097, October 9, 1996 by Resolution SU–40, January 23, 1997 by Decision 97–01–044, January 13, 2005 by Decision No. 0501030 and January 12, 2012 by Decision No. 1201032..