

INDEX

Volume No. 1

References are to sections unless otherwise noted. The following abbreviations are used. Def. for definitions; Chap. for chapter.

A

Abandoned lines	E 121.04(2)(c)
Accessible (def. 1)	E 101.02
Accessibility of	
conductors in manholes	E 129.04(1)
fuses	E 117.01
grounding conductors	E 103.08(1)
lines	E 121.03
live parts	E 113.02(2)
manholes	E 129.01(3)
overhead lines	E 121.03
station equipment	E 113.02(2), E 117.01, E 118.01(3) & (4)
supply lines	E 121.03
switchboards	E 118.01, E 143.01
switches	E 117.01, E 121.07(1)
underground lines	E 129.01
working space	E 112.06
Acid	E 114.01, E 143.01(5)
fumes	E 111.01(2)(c), E 112.04(2), E 114.02
resistive coverings	E 114.06
Additions, application of orders to	E 20.13(2)
Address lists	E 141.01(3)(a), E 144.02
Adjustable speed motor	E 113.01(5)
Adjusting lightning arresters	E 119.05(2)
Administrative authority (def. 3)	E 101.02, E 2.02
application and waiving of rules by	E 20.13
Alive (def. 4)	E 101.02
by leakage	E 140.03
Allowable	
fibre stresses wood poles	E 126.02 (Table 19)
unit stresses, steel	E 126.02 (Table 16)
Alternating-Current circuits	E 103.02(2)
ground connections	E 103.07
made electrode	E 103.08(4)
anchors	E 103.08(4)
grounding	E 103.08
grounding conductor	E 103.06
size and capacity	E 103.06
ground resistance	E 103.09
anchors and guys	E 103.08(4), E 128.03
Angles in line, strength	E 126.03(1)(d)
loading at	E 125.03(2)(d)
use of guys with	E 128.03(1)
Antislip treads	E 111.03(5)
Antenna, community (def. 23)	E 101.02
conflict (def. 38)	E 101.02

Apparatus	
location relative to climbing space	E 123.07(4)
Apparent sag, of span (def. 135(b))	E 101.02
at any point (def. 135(a))	E 101.02
Appliances, electrical (def. 6)	E 101.02
branch circuit (def. 12)	E 101.02
fire-extinguishing	E 111.04
Application of loads	E 125.03(5)
Application of rules	E 20.13, E 103.01, E 110.01, E 120.01, E 140.01
communication circuits	E 143.06(1)
grounding	E 103.01
intent	E 20.13(1)
killing equipment and lines	E 142.04
meters	E 143.02
overhead lines	E 143.04
protective grounds	E 142.05
series street lights	E 143.05(1)
specialized work	Chap. 143
supply equipment	E 110.01
temporary installations	E 20.13(3)
testing	E 20.13(4), E 143.03(1)
tunnel and subway	E 143.08(1)
underground lines	E 143.07(1)
waivers	E 20.13(1)
Approval of lines	E 122.05
Approved (def. 7)	E 101.02
materials	E 20.11(1)
methods of installation	E 20.11(2)
Arcing at insulators	E 127.08
Arcing parts	E 117.08, E 119.05
guarding	E 119.05
lightning arresters	E 119.05
precautions	E 142.01(6)
shielding	E 117.08
Arcing shields	E 113.02(4)
Arc lamps	E 128.07(5)(f)
Armored cable (def. 8)	E 101.02
grounding	E 103.03
Arrangement of equipment	Chap. E 111, E 121.07
lines	E 141.02(4)
station and substations	Chap. E 111
switchboards	Chap. E 118
switches	Chap. E 117, E 121.07
Arresters (see lightning arresters)	E 103.02(2)(f), E 103.10(1)(a), E 111.05(4), Chap. 119
Artificial grounds	E 103.07(3), E 103.08(4), E 103.09
Assumptions for stress calculation	E 126.01
Attachment of	
conductor to insulator	E 126.02(5), E 126.03(8)
lightning rods	E 103.10(1)(d)
wires and grounds	E 142.03(8)
Attachment plugs	E 111.02(4)
Attendance	E 141.02
Authority (def. 10)	E 101.02
in charge of operation	E 141.01(6)(a)
of deputy	E 141.01(6)(b)
Authorization	
for work	E 142.02(4)
Automatic (def. 11)	E 101.02

Automatic cutout and grounding conductor	E 103.06(1)
Auxiliaries	E 113.03(3)
Availability of water pipes	E 103.07
Averaging, adjacent poles	E 126.02(1)(a)
span length	E 125.03(4)
Avoiding, flames	E 143.07(5)
shock	E 142.03
Avoidance of conflict	E 122.02
Avoidance of current flow over grounding conductor	E 103.02(3)

B

Bare, conductors	E 116.03
Bare grounding conductors	E 103.06
Bare parts, separation of	E 112.06, E 118.05
Barriers for	
conductors	E 112.05(3)
coupled machines	E 113.03
disconnectors	E 112.05(3)(f)
protection of traffic	E 142.02(8)(a)
rotating machinery	E 112.03(1), E 113.02
switchboard equipment	E 118.05, E 118.07(1)
testing	E 143.03(5)
use of employees	E 143.03(5)
working space	E 112.05, E 123.08
Baskets, work from	E 142.03(1)
Batteries	Chap. 114, E 143.05(1), E 145.01(9)
emergency lighting	E 111.02
Battery rooms	Chap. 114, E 145.01(9)
floors	E 114.06
guarding live parts	E 114.08
illumination	E 114.09
smoking in	E 143.01(5), E 145.01(9)
supply stations	E 143.01(5)
supports in	E 114.05
ventilation	E 114.03
wiring in	E 114.07
working in	E 143.01(5), E 145.01(9)
Belts, guarding of	E 112.03
safety	E 141.02(7), E 142.01(10), E 144.05, E 145.01(4)(b)
Blasting, tunnels	E 143.08(12)(c)
Blocking switches	E 117.01(2), E 117.05(2)
Bolts	E 123.10(6)(d), & (7)(d)
Bonding	E 113.03, E 129.06(2)
Braces for, crossarms	E 126.08(4)(b), E 126.04(3), E 128.01(2)(b)
poles	E 128.03(1), E 143.04(2), E 145.02(1)
racks	E 126.03(5)
Brackets and racks	
conductor separation on	E 123.06(1)(d)
Grades B and C	E 126.02(4)
Grade D	E 126.03(5)
Branch circuits (def. 12, 13, 14, 15)	E 101.02
Branch connections for conductors	E 128.08(2)
Bridges	
conductor clearance	E 123.05(4)
conductor separation	E 123.06(3)
guards under	E 128.10(5)
Bridging series lamps	E 143.05(4)

Brushes, handling of	E 143.01(4), E 145.01(8)
Buckarms	E 123.07(6), E 123.08(4)
Building (def. 16)	E 101.02
as conductor supports	E 123.04(3), E 128.01(3)
clearance of conductors from	E 123.05(3)
separation of conductors attached to	E 123.06(2)
yards and general safety	E 111.03
Buried grounds	E 103.07(2) & (3), E 103.09
cable	E 129.05
Burns, protection from	E 117.08(1)
Bus bars	E 116.03, E 116.05(1), E 118.05(1), E 118.07(3)
ground	E 103.02(2), E 103.06(6)
Bushings	E 113.04(2)

C

Cabinets (def. 17)	E 101.02
grounding of	E 117.09
Cable (def. 18)	E 101.02
Cabled service drops	E 126.04(5)(d)
Cables	
bonding	E 129.06(2)
communication	E 123.10(7)(a), E 126.02(9)
grades B and C	E 126.02(7) & (9)
grade D	E 126.03
grade N	E 126.04
injury	E 143.08
installation	E 116.04, E 116.05(2), E 143.07, Chap. 129
live, in manholes	E 143.07(8)
location in manholes	E 129.04
portable, inspection	E 143.08(8)
protection	E 129.08
underground	E 129.04
pulling	E 143.07(6), E 145.03(5)
splicing of live	E 143.07(8)
strength of communication	E 126.02(9)
supply lines	E 124.02, E 126.02(7)
construction	E 124.02
covering	E 123.10(6)(a)
grounding	E 103.02(2)(d) & (e)2, E 126.02(7)
insulation of	E 126.02(7)
messengers for	E 126.02(7), (9) & (10)
pole strength for	E 124.02(1), E 124.04
specially installed	E 124.02, E 126.02
splices	E 126.02, Chap. 129, E 143.07(8)
strength	E 126.02(7) & (9)
supports in manholes	E 129.03(7)
testing before working on	E 143.07(8)
underground, accessibility	Chap. 129
accessibility	E 129.04(1)
protection of	E 129.05
spacing of	E 129.03, E 129.05
supports	E 129.03
unidentified	E 143.07(7)
Cable vault (def. 19)	E 101.02
Calculation of stresses	Chap. 125, Chap. 126
Capacity	
disconnectors	E 117.05
switches	E 117.05

Care, exercising	E 142.01(5), E 143.08(2), E 145.02(6)
live parts	E 142.01(5), E 143.04(6)
near live parts	E 142.01(5), E 143.04(6)
supply lines	E 145.02(6)
Carrying tools	E 143.08(6)
Casings	E 116.02(1)
Catenary construction	E 128.10
Cedar poles (see poles)	
Chestnut poles (see poles)	
Character of construction etc.	E 20.10, E 20.12
Checking conditions testing	E 143.03(3)
Checking grounds	E 103.09
Chief operator	E 141.01(6)(a)
authorization from	E 142.02(4)(a)
communication lines	E 143.06(2)
deputy	E 141.01(6)(b)
diagrams	E 141.02(4)
duties	E 141.01(6), E 142.02(1)
official in charge	E 143.06(2)
reporting circuit trouble	E 143.01(8)
Choke coils	E 119.05(3)
Circuit-breakers (def. 21)	E 101.02, E 111.05(1)
arrangement	E 117.01(1)
grounding	E 112.04, E 117.09
guarding	E 112.05, E 117.10
installation	Chap. 117
location	Chap. 117, E 117.02
protection required	E 111.05(1)
where required	E 117.06
Circuits (def. 20)	E 101.02
communication	E 143.06
constant current	E 123.01(2)
disconnected periodically	E 143.05(6)
fusing	E 117.06
grounding	Chap. 103, E 103.02, E 115.02, E 116.01(2) & (3), E 118.06
operation of, by employees	E 142.02(4)(b)
power, central offices	E 145.01(7)
protection of	E 115.01(2), E 116.01(1), E 116.02(1), E 117.06, E 119.01
series, handling of	E 142.03(9)
switches on	E 117.03
tagging	E 142.02(6)
Classification of	
circuits	E 124.03
supply cables	E 124.02(1)
voltages	E 122.01(3), E 123.09(1)
Clearances	Chap. 123
basic	
vertical	E 123.03(1)
wire-crossing	E 123.04(1)
branch connections	E 128.06(2)(b)
cable	E 123.01(3)
circuits, constant-current	E 123.01(2)
conductors	
above rails and ground	E 123.03
at supports	E 123.06(1)
from buildings	E 123.05(3)
from bridges	E 123.05(4)
from conductors of another line	E 123.05(1)

from floor	E 112.05
from other conductors at crossings	E 123.04
from poles of another line	E 123.05(2)
from signs	E 123.05(5)
from stored material	E 123.02(7)
from tanks	E 123.02(8)
from trees	E 123.02(6)
from wells	E 123.02(9)
in ground, cables	E 129.05
in manholes	E 129.04
lateral and vertical	
climbing space	E 123.07, E 123.10
communication	E 123.10(5) & (6)
conductors not in conduit	E 123.10(2)
from supports and other wires	E 123.06(1)(c), E 123.10
mechanical protection	E 103.06(3), E 123.10(3)
pole steps	E 123.10(1)
power wires on poles	E 123.10(4), (5)
separation	E 123.06(1)
working space	E 123.10(1)
longitudinal runs	E 123.07(7)
neutral	E 123.01(4)
on buildings	E 123.05(2)(c)3, E 123.06(2)
on bridges	E 123.06(3)
on pole lines	Chap. 123
on racks	E 123.06(1)(d)
open not in conduit	E 123.10(2)
connections on poles	E 128.06(2)
constant current circuits	E 123.01(2), E 128.07(5)
ducts, from other structures	E 129.02(5)
employees from, arcing parts	E 142.01(6)(b)
high voltages	E 142.03(2) & (3)
guards, from live parts	E 112.05
hand	E 128.07(4)
increases for, flexible supports	E 126.02(1)(f)(2)
high voltage	E 123.03(2), E 123.04(2)
large sags	E 123.03
long spans	E 123.03(2), E 123.04(2)
suspension insulators	E 123.03(2), E 123.04(2)
maintenance of	E 20.12, E 123.01(5)
metal sheath cables	E 123.01(3)
minimum requirements	E 20.01, E 120.02
poles, from conductors on another line	E 123.05(2)
from curbs	E 123.02(3)
from hydrants	E 123.02(1)
from rails	E 123.02(4)
from street corners	E 123.02(2)
pole steps above ground	E 128.01(1)(e)
street lamps above ground	E 128.07(5)(b)
from buildings	E 128.07(5)(c)
from poles	E 128.07(5)(a)
supply equipment from communication equipment	E 123.09(5), E 129.08(1)
trolley contact conductors	
above ground	E 123.03(1), E 128.10(1) & (2)
above rails	E 123.03(1)
from other wires at crossings	E 123.04(1)
Climbers	E 143.04(5)
Climbing poles	E 143.06(3)
Climbing space (def. 22)	E 101.02, E 123.07
dimensions	E 123.07(1) & (5)

longitudinal conductors	E 123.07(7)
obstruction of	E 123.10(1), E 128.07(2)
past apparatus	E 123.07(4), E 128.07(2)
through conductors	E 123.07(5)
vertical conductors	E 123.07(8)
with buckarm construction	E 123.07(6)
with racks	E 123.07(7)
with ridge pins	E 123.07(9)
Closing circuits	E 142.02(7)(b)
Clothes	E 141.02(6)(a), E 142.01(8)
Clothing, suitable	E 142.01(8)
Communication cable strength	E 126.02(9)
Communication circuits classed as supply circuits,	
clearances	E 123.05
grade of construction	E 124.03(3)
guarding of	E 128.09(2)
used in operation of supply lines	E 124.03(3), E 128.09
Communication conductors	E 126.02, E 126.03, E 126.04(9)
climbing space	E 123.07
crossarm separation	E 123.09
strength	E 126.02
unguyed at railroad crossings	E 125.03(3)(d)
vertical and lateral conductors	E 123.10(5) & (6)
Communication lines (def. 24 & 105)	E 101.02
alone	E 124.03, E 126.04(9)
clearance above ground and rails	E 123.03
clearance from other wires	E 123.04
climbing space	E 123.07
concerned only with other communication lines	E 124.03, E 126.04(9)
conductor sizes	E 126.03(9)
crossing over trolley contact conductors	E 124.03
crossing railways, grade of construction	E 124.03
inspection of	E 121.04
maintenance of	E 121.04
minimum sizes of	
crossarms	E 126.03(4)(b)
pins	E 126.03(6)(c)
poles	E 126.03(1)(f)
wires	E 126.03(9)(b)
transverse and longitudinal strength	E 126.03(1)
underground	E 129.02(4), E 129.05
fire alarm lines	E 124.03(4), E 128.08(1)
grades of construction	E 124.03
grounding, isolation or protection of	E 128.08(1)
joint use of poles	E 122.03, E 126.02(7)
rules for employees	E 145.01
rules for employers	E 144.01
supporting structures for	E 126.03, E 126.04(1)
Community antenna (def. 23)	E 101.02
Commutators	E 113.02(4)
Complaints	E 2.02(5)
Compliance with orders	E 20.13
Compliance with building code	E 111.03
Compression members unsupported length	E 126.02(1)(c)6
Compression ratio (steel)	E 126.02(1)(c)
Concealed (def. 25)	E 101.02
Concrete poles	E 126.02(1)(b)
Condensers (see capacitors)	
Conductance of grounding conductor	E 103.06

Conductors (def. 26-33)	E 101.02, Chap. 116
accessible	E 129.04
attached to buildings	E 123.05(3)(c)
attaching	E 142.03(8)
attachment to insulator	E 126.03(8)
bare	E 116.02(3), E 116.03, E 129.07(1)
branch connections	E 128.06(2)
clearance (see clearances)	
conflict (def. 38 & 40)	E 101.02, E 124.02(5)
connecting lightning arresters	E 119.03
contact, clearance above ground	E 123.03, E 128.10(1) & (2)
high voltage	E 128.10(2)
jointly used poles	E 123.09(5)(c)
supports for	E 128.10(1)
third rails, protection of	E 128.10(3)
cradles	E 126.02(12), E 126.04(8)
damage	E 116.02
different voltage on same crossarm	E 123.06
exposed to higher voltages	E 116.01(3)
fallen, protection from	E 142.02(8)(b)
fastenings, strength of	E 126.02(5)
fire-alarm	E 124.03(4)
flame proofing	E 116.02(2)
form of guards	E 116.04(2)
fuses	E 116.01(1)
fuses in ground	E 116.01(2)
grade of construction	E 124.03, E 126.02(6)
B & C	E 126.02(6), E 126.02(8)
D	E 126.03(9)
N	E 126.04
grounded, fuses in	E 116.01(2)
grounding, installation of	E 103.06
grounding	Chap. 103, E 119.03, E 121.06
guarding	E 112.05, E 116.02, E 116.04
identification	E 116.01(3), E 128.06(1)
in high temperature	E 116.02(5)
insulation of	E 112.05(3)(e), E 116.02(5), E 123.10(4)
	E 123.10(6), E 129.08
isolation	E 112.05(3), E 116.03
lateral (def. 100, 101)	E 101.02
lightning protection	E 126.02(6)(c), E 126.04(6)
loading	E 125.01
location in manholes	E 129.04
location of vertical and lateral	E 123.10(1)
longitudinal runs of, protected	E 123.07(7)
material	E 126.02(6)(a), E 126.02(9), E 126.04(4)(a)
mechanical protection	E 123.10(3), E 129.08(2)
metal sheaths	E 116.04(1)
minimum sizes	E 126.02(6)(b)
neutral	E 123.01(4)
not in conduit	E 123.10(3)
over buildings	E 123.05(3)(d)1
paired communication	E 126.02(10)
protection of	E 116.01, E 126.02 (6)(a)2
against contact	E 116.02(3)
breakage	E 126.02(1)(f) & (6), E 128.02(2)
damp locations	E 116.05(2), E 129.06(1)
from falling trees	E 128.02(1)
hazardous locations	E 116.05
heat	E 116.02(2) & (5)

high voltages	E 116.01
magnetic force	E 116.02(3)
mechanical injury	E 116.02(1), E 116.04(1), E 123.10(3)
overload	E 116.01(1)
sags	E 126.02(6)(d), E 126.02(10)(a)2, E 126.03(9)(d), E 126.04(5)(c)
sags at same supports	E 123.09(2)(c)
separation	
from communication equipment	E 123.09(5)
from stored equipment	E 123.02(7)
from signs	E 123.05(5)
from tanks	E 123.02(8)
from trees	E 123.02(6)
from wells	E 123.02(9)
in any direction	E 123.09(5)
in manholes	E 129.04
on buildings	E 123.06(2)
on bridges	E 123.06(3)
on poles	E 123.06
on racks	E 123.06(1)(d)
when attached to bridges	E 123.06(3)
when attached to buildings	E 123.05(3)(c)3, E 123.06(2)
service	E 126.04(5)
size for grounding	E 103.06
size, minimum	E 126.02(6)(b), E 126.03(9), E 126.04(4)(b)
slack, taken up	E 123.01(5)
span lengths	E 123.03(1), E 125.03(4)
splices and taps	E 126.02(6)(e), E 126.03(4)
storage-battery rooms	Chap. 114
strength	E 124.03, E 126.02, E 126.03, E 126.04
supported by suspension insulators	E 123.04(2)(c)
supported by trees and roofs	E 128.01(3)
tensions, maximum	E 126.02(6)(d)
terminal construction	E 129.08(4)
third-rail	E 128.10(3)
trolley contact	E 126.02(6)(f)
twisted pair	E 126.02(10)
underground, clearance, of in manholes	E 129.04(3), E 129.05
guarding of live parts	E 129.07
location of	E 129.04, E 129.05
mechanical protection of	E 129.06, E 129.08
separation of	E 129.04(3), E 129.05(1)
supports for	E 129.03(7)
unusual supports	E 128.01(3)
vertical (def. 169)	E 101.02, E 123.09, E 123.10
vertical separation	E 123.09(2) & (4)
Conduit (def. 35)	E 101.02
for grounding conductors	E 103.06(3), E 123.10(1)
grounding	E 103.03, E 103.04, E 103.08(1) & (2), E 115.01(2), E 116.01(3), E 116.05, E 126.06(2)
grounding noncurrent-carrying parts	E 103.04
hazardous locations	E 116.05
in stations	E 116.05
service entrance	E 103.02(2)(b)
use of	E 103.06(3), E 115.01(2), E 116.01(3), E 116.05(1)
Conflict (def. 38, 39, 40)	E 101.02
antenna (def. 38)	E 101.02
avoidance	E 122.02, E 122.03(3)
conductor (def. 39)	E 101.02

grade of construction for	E 124.03
how determined	E 124.02(5)
structure (def. 40)	E 101.02
Connections, attaching to live parts	E 142.03(8)
Connections to be avoided	E 103.07(4), E 103.10
Connectors (def. 41)	E 101.02
plug	E 111.02(3) & (4), E 118.07(2)
separable	E 111.02(4)
Constant-current circuits (series)	E 124.03(1)
clearances for	E 123.01(2)
grade of construction	E 124.03(1)
insulators for	E 127.07(1)
Construction of	
duct system	E 129.02
lines and equipment	E 20.10, E 20.12, E 121.01
manholes	E 129.03
railways	E 128.10
Construction, grades of	E 124.03
Contact conductors (trolley)	E 124.03(2), E 125.03(2)(b), E 126.04(7), E 128.10
surface	E 103.08(3)
Control apparatus	
circuit protection for	E 113.01(6), E 113.06(1)
equipment	E 113.06(1), E 117.01(1)
Control of	
oil switches	E 117.02
remote	E 117.01(1), E 117.02, E 117.05 (2), E 119.02(2)
rotating machines	E 113.01
Controllers (def. 42)	E 101.02
arrangement	E 117.01(1)
Cooperation, between utilities	E 122.03(2)
to avoid hazard	E 122.02, E 122.03
Cooperative study	E 122.03(2)
Corner poles	E 123.02(2), E 126.02(2)
Corrosion of conductors	E 114.06, E 126.02(6)(a), E 126.03(9)(a), E 126.04(4)(a)
Corrosive vapors	Chap. 114
Coupled machines	E 113.03(2)
Covers for, enclosed control equipment	
live parts	E 112.05(3)
manholes	E 129.03(6)
Cradles	E 126.02(12), E 126.04(8)
Crescoted poles (signs on)	E 121.05(3)
Crossarms	
at ends of high grade construction	E 126.02(4)
at ends of transversely weak sections	E 126.04(3)
bracing for	E 126.02(4), E 126.03(4), E 126.04(3), E 128.01(2)(b)
dimensions	E 126.02(4)(d), E 126.03(4), E 126.04(3)
double	E 126.02(4)(e), E 126.03(4), E 126.04(3)
grade of	E 124.04(2)
grade B & C	E 126.02(4)
grade D	E 126.03(4)
grade N	E 126.04(3)
loading	E 125.03(1)
location	E 126.02(4)(f), E 128.01(2)
material	E 126.03(4)
minimum size	E 126.03(4)

separations	E 123.09
size	E 126.02(4)(d), E 126.03(4), E 126.04(3)
steel	E 126.02(4)
strength	E 126.02(4)(c), E 126.03(4), E 126.04(3)
Crossings	
average pole strength, not applicable	E 126.02(1)
average span not applicable	E 125.03(4)
communication over railroad	E 126.03
supply conductors	E 123.04
trolley contact	E 126.02(10)(b)2, E 126.04(7)
clearances	E 123.04
cradles	E 126.02(12), E 126.04(8)
double	E 124.02(4)(c)
grade of construction at	E 124.02(4), E 124.03, E 124.04
short-span construction	E 126.02(11)
supply lines over, communication	E 126.02
railways	E 126.02
underground	E 129.04, E 129.05(2)
Curbs, clearance from	E 123.02(3)
Current-carrying parts (def. 44)	E 101.02, E 121.05(1)
isolation, guarding & marking	E 121.05(1)
Current transformers, bridging of	E 115.01(1), E 143.02(5)
grounding	E 103.04, E 115.02
secondary circuits	E 115.01
Cutout	
box (def. 46)	E 101.02
Cutting into insulation	E 142.03(1)(d)

D

Damp locations, conductors in	E 116.05(2)
grounding station, equipment in	E 112.04, E 115.03
Dangerous conditions (see hazardous)	
Danger signals	E 143.07(2), E 145.03(1)
signs	E 121.05(3), E 141.02(9)
Dead (def. 47)	E 101.02
Dead ends, loading	E 125.03(3)(c)
strength of construction at	E 126.02(1)(d)
use of guys at	E 128.03(1)
Dead-front boards	E 118.07(3)
Defective equipment	E 112.02(1), E 113.01(2)
Defects, in wood poles	E 126.02(1)(d)5, E 126.03(1)(e)
record	E 121.04
reporting	E 121.04(1)(d), E 143.01(9), E 143.02(7), E 143.03(7), E 143.04(11), E 143.05(7), E 143.06(7), E 143.07(9), E 143.08(14), E 145.02(9), E 145.03(6)
Definitions	E 101.02
Deflecting supports, use of guys with	E 126.02(1)(f), E 128.03
Deflection or deformation of supports	E 126.01
Demand factor (def. 48)	E 101.02
Depth of setting poles	E 126.02(2)(b)2
Desirability of joint use	E 122.03(3)
Deteriorating agencies, protection against	E 112.09, E 113.05, E 126.02(1)(c)8, E 126.02(13)
Device (def. 49)	E 101.02
Diagrams, for chief operator	E 141.02(4)
organization	E 141.01(2)
Dimensions of, climbing space	E 123.07(1), E 123.07(5)
working space	E 123.08(2)

Disconnecting means (def. 50)	E 101.02
Disconnection of fuses	E 117.07
Disconnectors (def. 51)	E 101.02
air break	E 117.05(3)
alignment	E 117.05(4)
barriers for	E 112.05(3)(e)
capacity of	E 117.05(1)
for lightning arrester	E 119.02
for street lamp	E 128.07(5)(f)
identification	E 112.10(1)
locking of	E 117.05(2)
opening and tagging	E 142.04(3)
protecting workman by	E 142.02(9)
rating	E 117.05(1)
use	E 117.03, E 117.05(3)
Distribution systems, grounding of	Chap. 103, E 103.02
Double crossarms	E 126.02(4)(e), E 126.03(4)(c), E 126.04(3), E 128.01(2)(b)
Double crossings	E 124.02(4)(c)
Double pins	E 126.02(5)(c)
Drainage	
for oil-filled apparatus	E 111.05, E 115.04
of manholes	E 129.03(3)
of underground systems	E 129.02(2)
Drip pans	E 113.06(2)
Driven-pipe ground (made ground)	E 103.08(4)(c)
Ducts (def. 53)	E 101.02
alignment	E 129.01(2), E 129.02
arrangement	E 129.02(8)
clearance from other structures	E 129.02(4)
construction	E 129.02(1)
dissipation of heat in	E 129.02(8)
for generator leads	E 116.02(4)
grading of	E 129.02(2)
location of	E 129.01(1)
material size and finish	E 129.02(1)
protection of	E 129.02(7)
separation between communication supply	E 129.02(5)
Dust proof (def. 54)	E 101.02
Dust-tight (def. 55)	E 101.02
Duties of chief operator	E 142.02(1)
Duties of foreman	E 142.02(2)
Duty (defs. 56-60 incl.)	E 101.02

E

Earth, resistance between ground part and	E 103.09
Effectively grounded (def. 61)	E 101.02, E 103.02, E 103.02(2)(d) & (e)
Effectiveness of ground connection	E 103.07
Electrical strength of insulators	E 127.03
Electrical supply equipment (def. 64)	E 101.02
Electrical supply lines (def. 65)	E 101.02, Chap. 126, E 145.02(6)
Electrical supply station (def. 66)	E 101.02
Electrical lines on highway	Chap. 122
Electric railway construction	E 128.10
Electric sign (def. 62)	E 101.02
Electrodes, made	E 103.07(3)
Electrolysis of anchor rods, protection against	E 128.03(6)
prevention	E 103.07(1)
Elevated parts	E 112.06(3)

Elevation, working in positions of	E 143.01(6)
Emergencies, first-aid address book	E 141.01(3)(a), E 144.02(1)
waiver of rules in	E 20.13(5)
Emergency	E 20.13(5)
control	E 113.01(2)
equipment	E 112.02(3)
illumination	E 111.02
installations	E 20.13(5)
methods	E 141.01(3), E 142.01(1), E 144.02(1)(b)
rules	E 144.02
Employees, battery rooms	E 143.01(5)
communication systems, avoidance of supply lines	
and equipment by	E 145.02(4), E 145.02(5)
duties of	E 142.02(1), E 142.02(2), E 145.01(3)
fuses, about	E 143.01(4)
inexperienced and unfit	E 142.01(3), E 145.01(2)
instruction, concerning equipment	E 141.02(5)
for first aid	E 141.01(4), E 144.03
protection of, by disconnectors	E 112.04(3), E 142.02(9), E 142.04
by grounding	E 112.04(3), E 117.04, E 118.06(2), E 142.04(4), E 142.04(6), E 142.05
qualification of	E 141.01(5), E 144.04
rules for, on communication systems	E 145.01
on supply systems, general	E 142.01
special	E 143.01
supervision of	E 142.01(4)
two required	E 141.02(2), E 142.03(4), E 143.03(6)
uninstructed	E 141.02(3)
Employers'	
instruction to employees	E 141.02(5)
operating rules	Part 3
responsibility	E 141.01(7)
rules, communication system	Chap. 144-145
Enclosed (def. 67)	E 101.02, E 112.05, E 112.07, E 114.01, E 115.04, E 117.08, E 118.07
Enforcement	E 2.02(3)
Enforcement of rules by distribution of rules books	E 141.01(1)(a)
Entering manholes	E 129.02(5)(b)
Equipment (def. 69)	E 101.02
accessibility of connections to	E 128.06(2)
and wire runways, grounding of	E 103.03, E 103.04
emergency	E 112.02(3)
for work on live parts	E 112.07
grounding during repairs	E 112.04(3)
grounding of	E 103.03, E 103.04, E 103.05, E 112.04, E 121.06, E 128.01(1)(d)
guarding (see guarding)	
identification (see identification)	
inspection of	E 112.02
isolation	E 111.05, E 112.05, E 114.01, E 115.04, E 121.05(2)
live, handling of	E 142.03
on poles	E 115.04, E 128.07
permission to work on	E 142.04(5)
request for killing of	E 142.04(2)
switchboard	E 118.03
tests of	E 112.02(3), E 121.04(1)(c)
Existing installations	E 20.13
Exists, station and substation	E 111.03(4)

Exposed (def. 74)	E 101.02
communication lines	E 140.03
conductors	E 116.01(3)
to higher voltage	E 116.01(3), E 142.03(1)(c)
Extension, application of rules to	E 20.13, E 122.01(2)
Externally operable (def. 75)	E 101.02
Extinguishers	E 111.04

F

Factor of safety	E 126.02
Factory tests of insulators	E 127.06
Falling objects	E 143.04(9)
Feeders (def. 76)	E 101.02
electric railway	E 124.03(2)
protection of supply	Chap. 110
Fences	E 111.01(4), E 112.05(3)(c)
Field rheostats	E 115.05
Fire alarm	
conductors	E 124.03(4)
Fire extinguishers	E 111.04, E 141.02(6), E 142.01(11), E 144.05
Fire hydrants, horizontal clearance	E 123.02(1)
Fire proof construction for supply stations	E 111.01(2)
Fires, protecting of poles against	E 123.02(5), E 128.01(1)(a)
First aid, instruction	E 141.01(4), E 142.01(1), E 144.03
outfits	E 141.02(6)(1), E 144.05(1)(a)
rules	E 141.01(3)(b), E 144.02
Fittings (def. 77)	E 101.02
approval	E 20.11
Fixtures, lighting, sockets and lampholders or plug receptacles	E 111.02
Flame-proofing	E 116.02(2)
Flammable gas and flyings	E 111.01(2)(c), E 112.04, E 112.08(1), E 113.06(2), E 114.02, E 115.03, E 116.05(1)
Flash-over voltage for insulators	E 127.04, E 127.05
Flat surfaces, wind pressure on	E 125.03(2)(c)
Flexible line supports	E 126.02(1)
Flexible metallic tubing (def. 78)	E 101.02
Floor	E 111.03(5)
surfaces (see mats)	E 112.05(3)(f), E 114.06
Floors in storage-battery rooms	E 114.06
Flying taps	E 123.02(2)
Foreman, duties of	E 142.02(2), E 143.03(4), E 145.01(5)
Foundations for, ducts	E 129.02(3)
poles and towers	E 126.02(2), E 126.03(2)
rotation machinery	E 111.01(3)
Frame switches	E 113.02(3)
Fumes (see also deteriorating agencies)	E 111.01(2), E 112.04(2), E 114.03
Fuses and Circuit breakers	
arrangement	E 117.01(1), E 117.07
disconnected by switch	E 117.07
enclosure	E 117.08(1), E 117.10
grounding of cases	E 103.04, E 117.09
guarding	E 117.08(1), E 117.09, E 117.10
handling of	E 117.07
identification	E 117.01(1), E 118.04

in ground conductorsE 103.06(1), E 116.01(2)
 installation ofE 117.01(1)
 on switchboardE 118.05(2)
 where requiredE 116.01(1), E 117.06
 working onE 143.01(4)

G

GalvanizingE 103.08(4), E 126.01(1)(3)
 Garage (def. 79)E 101.02
 Gas, flammableE 111.01(2), E 112.04(2), E 112.08(1),
 E 113.06(2), E 114.01, E 115.03, E 116.05(1)
 in underground systemsE 129.03(4), E 143.07(3), E 145.03(2)
 piping for groundsE 103.08(1)
 General precautions in operation of supply &
 communication linesPart 3
 Supply line operationChap. 141, 142 & 143
 communicationChap. 144 & 145
 General requirementsChap. E 20
 General requirements for supply stationsPart 1
 General requirement for overhead and underground linesPart 2
 General use switch (def. 157)E 101.02
 Generators (see motors)
 leadsE 116.02(3) & (4)
 protection ofE 113.01, E 117.06
 Gloves insulatingE 112.07(1), E 117.07, E 141.02,
 E 142.03, E 143.05(3)
 GogglesE 113.02(4), E 141.02(6), E 142.03
 Good practice, conformity withE 120.01(3)
 Grade of
 additional requirements (two or more conditions)E 124.02(2)
 communication conductorsE 124.02(3), E 124.03
 in operation of supply linesE 124.03(3)
 communication lines over RR & supply linesE 124.02(4)
 conductorsE 124.03
 conductor fasteningsE 124.04(3)
 constant current circuitsE 124.03(1)
 cradlesE 126.02(12)
 crossarmsE 124.03(4), E 124.04(2),
 E 126.02(4), E 126.04(3)
 fire-alarm conductorsE 124.03(4)
 foundationsE 126.02(2), E 126.03(2)
 guysE 126.02(3), E 126.03(3),
 E 126.04(2), E 128.03
 insulatorsE 124.04(3), Chap. 127
 joint poles at crossingsE 125.03(3)
 lightning protection wiresE 126.04(6)
 neutralE 123.01(4)
 order of gradesE 124.02(3)
 pinsE 124.04(3), E 126.02(5)
 poles and towersE 124.04(1), E 126.02(1), E 126.04
 railway feedersE 124.03(2)
 supply linesE 124.02, E 124.03, E 126.04(1)
 supply servicesE 126.04(5)
 supporting structuresE 124.04
 trolley contact conductorsE 124.03(2)
 under two or more conditionsE 124.02(2)
 Grades of construction
 B & CE 126.02
 DE 126.03
 NE 126.04

neutrals	E 124.03(5)
relative order of	E 124.02(3)
required, at conflicts	E 124.02(5)
at crossings	E 124.02(4)
short span construction	E 126.02(11)
two or more conditions	E 124.02(2)
Ground	
as part of circuit	E 121.06(3)
busses	E 103.02(2)(b), E 103.06(6)
checking	E 103.09(2)
clamps	E 103.08(2)
connections	
artificial (made electrode)	E 103.02(2)(b), E 103.07(3), E 103.08(4)
at building service	E 103.02(2)
contact surfaces	E 103.08(3)
direct current	E 103.02(1)
for alternating-current systems	E 103.02(2)
for direct-current systems	E 103.02(1)
gas piping	E 103.07(1)
guys	E 103.08(4)(e), E 128.03
individual services	E 103.02(2)
limited piping	E 103.08(1)
location of (for noncurrent-carrying parts)	E 103.03, E 103.04, E 103.05
method of making	E 103.08
multiple	E 103.02(2)(e), E 103.07(4)
number	E 103.02(2), E 103.07(3)
piping	E 103.07(1), E 103.08(1)
resistance	E 103.09
to building frames	E 103.07(2)
to piping systems	E 103.07(1)
to railway returns	E 103.07(4)
within building served	E 103.04(4), E 103.08(1)
detectors, grounding conductor for	E 103.06(1)
where required	Sec. 115, E 115.06
resistance	E 103.09(1)
checking	E 103.09(2)
limits of	E 103.09
standing on	E 143.08(5)
wire	E 103.06
Grounded (def. 82)	E 101.02
anchor rods	E 128.03
circuits	E 103.02
circuits, testing	E 142.02(7)(c)
conductor, continuity of	E 103.06, E 116.01(2)
switch in	E 117.03
guys	E 103.08(4)(e), E 128.03
system (def. 85)	E 101.02
Grounding	Chap. 103, E 112.01, E 121.01, E 142.05
alternate methods	E 103.07(2)
arresters	E 103.02(2)(f), E 103.06(1), E 103.06(2)(d), E 103.07(3)(a), E 103.10(1)(a), E 119.04, E 121.06(1)
auxiliaries	E 113.03(3)
cable sheaths	E 103.02(2)(e)2, E 121.06(2), E 126.02(7)(a)
capacity of	E 103.06(2)
circuits	Sec. 103, E 103.01, E 103.02, E 116.01(3), E 121.08(1)

circuits worked on	E 118.06(2), E 142.04(6), E 142.05
conductors (def. 30)	E 101.02
accessible to public	E 103.06(3)
attachment of	E 103.07, E 142.03(8)(b)
capacity of	E 103.06(2)
continuity of	E 103.06
current in	E 103.02(3)
for conduit, cable sheaths and metal raceways	E 103.03, E 103.04, E 103.05, E 103.02(2)(e)2
for ground detectors	E 103.06(1)
for lightning arresters	E 103.02(2)(f), E 103.06(1), E 103.06(2)(d), E 103.07(3)(a), E 103.10, E 119.04, E 121.06(1)
for lines	E 121.06(1) & (2)
for fixed equipment	E 103.04, E 103.06, E 113.03, E 121.06
for portable equipment	E 103.05
for rotating machinery	E 113.03
fuses in	E 103.06(1), E 116.01(2)
insulation	E 103.06(3)
joints	E 103.06(1)
material	E 103.06(1)
mechanical protection of	E 103.06(3)
neutrals	E 103.02(2)(e)
separate	E 103.10
size of	E 103.06(2)
switch in	E 103.06(1)
underground	E 103.06(4)
conduit	E 103.06(5)
connections	Chap. 103, E 103.07, E 103.08(2)
coupled machines	E 113.03(2)
devices	E 103.07, E 117.03, E 141.02(6), E 142.05(4)
distribution systems	Chap. 103
effective protection measure	E 103.01
electric systems	E 103.02
electrodes (made grounds)	E 103.08(4)
enclosed switches	E 103.04(4)
equipment, conduit, raceway	E 103.03, E 103.04, E 103.02(2)(e)2., E 103.05
equipment during repairs	E 112.04(3), E 142.03(8)
frames of	
lighting arresters	E 119.04
motors	E 103.04, E 113.06
switchboard	E 103.10, E 118.06
fuse cases	E 117.09
general	Chap. 103
ground detector	E 103.06(1)
guys	E 103.08(4)(e), E 128.03(8)
individual systems	E 103.02(2)(e)1
in hazardous locations	E 113.05(2)
in stations	E 112.04
instrument cases	E 103.04(3), E 118.08
instrument transformer	E 115.02
in wet places	E 112.04(2), E 115.03
lightning arresters	E 103.02(2)(f), E 103.06(1), E 103.06(2)(d), E 103.07(3)(a), E 103.10(1)(a), E 119.04, E 121.06(1)
lightning rods	E 103.10(1)(d)

lines	E 103.02, E 142.04(6)
machine frames	E 113.03
metal frames	E 103.04, E 112.08(2)
metal poles	E 128.01(1)(d)
metal sheath	E 103.02(2)(e)2, E 121.06(2), E 126.02(7)(a)
methods	Chap. 103, E 103.08
motor frames	E 103.04, E 113.06
neutral conductors	E 103.02(2)(e)
non-current parts	E 103.03, E 103.04, E 103.05, E 112.08(2), E 113.05(2), E 117.09, E 118.06(1), E 119.04, E 121.06(2)
on farms (limited water systems)	E 103.08(1) & (3)
permanent protective measure	E 103.01
portable devices	E 103.05
protection in subway work	E 143.08
riser pipes	E 129.08(3)
rotating machinery	E 113.03(1)
scope	E 103.01
small isolated plants	E 103.02(2)(c)
supply conductors	E 103.01
switch	E 112.04(3), E 117.04
switchboard frames	E 103.04, E 118.06(1)
temporary installations	E 20.13(3)
to buried metal structures	E 103.07(2), E 103.08(1) & (3)
to limited metallic bodies	E 103.08(1) & (3)
transformer cases and circuits (interconnection)	E 103.02(2)(d), E 103.04(4), E 115.01(2), E 115.02, E 115.03
water pipe connections	E 103.06(2), E 103.08(1) & (3)
wires	E 123.10(6)
Grounds	
abandoned	E 103.02(3)
arrangement	E 103.02(3), E 103.08, E 103.09
artificial (see made grounds)	
attaching and removing temporary	E 142.04(4), E 142.04(6), E 142.05
completing	E 142.05(4)
lightning rods	E 142.05(4)
made electrodes	E 103.07(3)
multiple	E 103.02(2), E 103.07(4)
relocated	E 103.02(3)
resistance of	E 103.09
separate	E 103.10
tests for	E 103.09(2), E 142.02(7)(c)
Guarded (def. 87)	E 101.02
Guarding	E 103.06(3), E 112.05
against deteriorating agencies	E 112.09, E 113.05(1)
apparatus in manholes	E 129.07(2)
arcing and sparking parts	E 112.08(1), E 117.08(1)
circuit breakers	E 112.05, E 117.10
conductor joints in manholes	E 129.07(1)
conductors	E 116.02(1), E 116.04, E 116.05
current-carrying parts	E 112.05, E 121.05(1)
equipment	E 113.05(1), E 121.05(2), E 128.07(3)
grounding conductors	E 103.06(3)
in hazardous locations	E 116.05
lightning arresters	E 119.04
live equipment on poles	E 128.07(3)
live parts, in manholes	E 129.07
in storage battery rooms	E 114.08

of line equipment	E 121.05(1)
of rotating machinery	E 113.02
of supply equipment	E 112.05
of switchboards	E 118.07
of switches, fuses and circuit-breakers	E 117.10
underground	E 129.07(2)
manholes	E 143.07(2), E 143.07(4), E 145.03(1)
metal sheath	E 116.05(1)
methods of	E 112.05, E 113.02
moving parts	E 112.03, E 117.08(2)
noncurrent-carrying parts	E 112.04(2), E 121.05(2)
poles	E 128.07(3)
against climbing	E 121.05(3), E 128.01(1)(b)2
against mechanical injury	E 121.05, E 128.01(1)(b)1
warning signs	E 121.05(3), E 128.01(1)(c)
shaft ends, pulleys, belts	E 112.03
street openings	E 143.07(2), E 145.03(1)
suddenly moving parts	E 112.03
switchboards	E 118.07
third rails	E 128.10(3)
transformers	E 115.03
trolley contact conductors	E 123.05(4)(b), E 128.10(1)
Guard zone (def. 88)	E 101.02, E 112.05
Guards	
climbing	E 128.01(1)(b)2
conductor	E 116.04
for floor openings	E 111.03(2)
for grounding conductors	E 103.06(3)
for guy wires	E 128.03(5)
for ladders, heads of	E 111.03(10)
for live parts	E 113.02
for manholes	E 129.03
for poles and towers	E 128.01(1)
for protection of traffic	E 142.02(8)(a)
for stairs	E 111.03
for trolleys, at railroad crossings	E 128.10(4)
under bridges	E 128.10(5)
for vertical conductors	E 123.10(3)
guy	E 128.03(5)
location	E 112.05
on buildings	E 123.05(3)(c)
on grounding conductor	E 103.06(3)
portable	E 143.03(5)
railway	E 128.10(5)
rotating equipment	E 113.02(1)
strength	E 112.05
types	E 112.05(3)
under bridges	E 128.10(5)
Guides	E 142.02(3)
Guying at a distance	E 126.02(1)(e), E 126.03(1)(c)
for communication lines at railroad crossing	
longitudinal	E 126.03(3)(d)
transverse	E 126.03(3)(d)
Guys	
anchor rods	E 128.03(7)
attachment	E 128.03(3)
clearances from other wires	E 123.04
from rails or ground	E 123.03
fastenings for	E 128.03(4)
for flexible supports	E 126.02(1)(e)

for lines in exposed locations	E 126.02(3)(b)
for steel structure	E 126.02(3)(c)
general requirements	E 128.03
grades B and C	E 126.02(3)
D	E 126.03(3)
N	E 126.04(2)
grounding	E 128.03(8)
guards for mechanical	E 128.03(5)
head, for communication lines crossing railways	E 126.03(3)(d)
insulation of	E 128.03(6)
insulators for	E 128.04
location	E 128.03(3)
strength of	E 126.02(3)(e), E 126.03(3)(d)
take total load	E 126.02(3)(d), E 126.03(3)(c), E 128.03(2)
used with steel supports	E 126.02(3)(c)
wood and concrete	E 126.02(3)(d)

H

Hand clearance	E 128.07(4)
Handholes (def. 89)	E 101.02
Hand line, specification for	E 143.04(6)(e)
Handling connecting lines	E 142.03(8)(a)
Handling live equipment	E 142.03
Handling series circuits	E 142.03(9)
Hazard, conditions of	E 124.01
Hazardous locations (def. 90)	E 102.01, E 111.01(2), E 112.04(2), E 112.08(1), E 113.06(2), E 114.02, E 115.03, E 116.05(1)
Hazardous locations, conductors in	E 116.05(1)
storage battery rooms	E 114.02
Head guys (See guys, guying)	
Headroom of passageway and working spaces	E 111.03(6), E 112.05(1)
Heat, dissipation of, in ducts	E 129.02(8)
Heavy loading	E 125.02, E 125.03
Height of pins	E 126.02(5)(a)1
High voltage contact conductors	E 128.10(1)
High voltages, clearance of employees from	E 142.03(3)(a)
Highways	
clearance of wires over	E 123.03
clearance of wires along	E 123.03
obstruction by poles	E 123.02
Hoistway (def. 91)	E 101.02
Horizontal separation between line conductors	E 123.06
Hydrants, clearance of poles and towers from	E 123.02(1)

I

Ice on conductors (See loading)	E 125.02
Identification	E 118.04
circuits	E 113.03(3), E 116.01(3)
conductors	E 128.06(1)
equipment	E 112.10(1)
generators	E 112.10(2)
lines and equipment	E 128.07(1), E 141.02(4)
motors	E 112.10(2)
poles	E 128.01(1)(f)
station equipment	E 112.10
switchboard equipment	E 118.04

Illumination	E 111.02
of storage battery rooms	E 114.09
of supply station	E 111.02, E 116.07
of switchboards	E 118.02(2)
Increase in vertical clearance	E 123.03(2)
Indicating position of switches	E 121.07(2)
Induction regulators	Chap. 115
Inspection and repairs	E 20.12, E 121.04
Inspection of	E 20.12
ground connections	E 103.09(2)
lines	E 121.04
portable cables	E 143.08(8)
protective devices	E 141.02(7), E 144.05
station equipment	E 112.02
supply lines and equipment	E 121.04
structures and equipment	E 121.04(1)(b)
Installation, emergency	E 20.13(5)
Instructing employees	E 141.01(4), E 144.03
Instructions to employees	E 141.02(5)
Instruments, grounding of	E 103.04(3), E 118.08
switchboard	E 118.06
Instrument transformers	E 115.01, E 115.02, E 118.08
grounding	E 103.04(3)
Insulated (def. 93)	E 101.02
supports	E 142.03(1)
Insulating (def. 94)	E 101.02
conductor supports	E 116.05(2)
conduit or molding	E 123.10(3) & (4) & (6)
gloves	E 112.07(1), E 117.07, E 142.03(1)(d), E 142.03(2), E 143.05(3)
guards	E 112.05, E 118.05(1)
guys from poles	E 128.03(6)
live parts of switchboards	E 118.05(1)
supports	E 116.05(2)
wearing apparel	E 141.02(6)(a), E 144.05(1)
Insulation and guarding	E 103.06(3)
Insulation, cutting into	E 142.03(1)(d)
dependence on	E 112.05(3)(e), E 142.03(1)(b), E 143.04(6)(d)
Insulation for	
conductors in battery rooms	E 114.07
grounding conductor	E 103.06(3)
lightning protection equipment	E 119.05(3)
protection of	E 116.02(1)
services	E 126.04(5)(a)
supply cables	E 126.02(7)(a)
terminal bases	E 113.04(1)
vertical and lateral conductors	E 123.10(3) & (4) & (5)
Insulators, arcing at	E 127.08
arc lamp disconnectors	E 128.07(5)(f)
at crossings	E 126.03(7)
factory test	E 127.06
flash-over voltages	E 127.04, E 127.05
for communication lines at crossings	E 126.03(7)
for conductors entering stations	E 116.02(4)
for conductors in damp places	E 116.05(2)
for constant current circuits	E 127.07(1)
for guys	E 128.04
for nominal line voltage	E 127.07(3)
for span wires	E 128.05

for suspension	E 128.07(5)(e)
grade of	E 124.04(3)
grade B	E 127.02, E 127.03, E 127.04, E 127.05, E 127.06
grade D	E 126.03(7)
in strain position	E 127.03, E 128.04
material and working	E 127.02
selection of	E 127.07
strain	E 127.03
strength, electrical	E 127.03
suspension, increased clearance for	E 123.03(2), E 123.04(2)
test voltage	E 127.05
wet process	E 127.02
Intensity of illumination	E 111.02
Intent of rules, realization of	E 20.13(2)
Inter-connection of transformer	E 103.02(2)(b)
Interpretation of rules by employer or authorized agent	E 141.01(1)(b)
Interior conduit grounding	E 103.03, E 103.04
Interior wiring system grounding of	E 103.03, E 103.04
Introduction	E 2.01, E 103.10
Isolated (def. 95)	E 101.02
switch in grounding conductor	E 103.06(1)
Isolated plants (def. 96)	E 101.02, E 103.02(2)(c)1
Isolating live parts by elevation	E 112.05
switchboard equipment	E 118.07(3)
Isolating switch (def. 97)	E 101.02
Isolation by elevation (def. 98)	E 101.02
Isolation of, batteries	E 114.02
conductors	E 116.03
circuits	E 116.01(3)
lightning arresters	E 119.02(1)
live parts by elevation	
communication lines	E 128.08(1)
conductors	E 116.03
fuses and switches	E 117.10
lightning arresters	E 119.04, E 119.05(1)
motors	E 113.06
noncurrent-carrying parts	E 121.05(2)
oil switches	E 117.02
overhead lines and equipment	E 121.05
station equipment	E 112.08(1)
suddenly moving parts	E 117.08(2)
transformers	E 115.03, E 115.04

J

Jointly used poles, at crossings	E 125.03(3)(b)
extensions on	E 122.01(2)(b)
steps on	E 128.01(1)(e)
Joint poles	
conductors on	E 123.10(4)
grades of construction at crossings	E 125.03(3)(b)
Joints, in conductors	E 116.06, E 126.02(6)(e), E 126.02(7)(a)3
in grounding conductors	E 103.06(1)
Joint use (def. 99)	E 101.02
poles	E 122.03
Jurisdiction of municipal code	E 2.02(4)(b)

K

Killing circuits	E 142.02(4)(c), E 142.03(5), E 142.04
equipment or lines	E 142.04
lines	E 142.04
parts	E 142.03(6)

L

Ladder space on building	E 123.05(3)(b)
Ladders	
guards for	E 111.03(10)
metal reinforced	E 142.03(1)(f)
portable	E 142.01(9)
Lamps	
clearance of, on jointly used poles	E 123.09(5)(c)
disconnectors for	E 128.07(5)(f)
handling of	E 128.07(5)(f)
in battery rooms	E 114.09
location of	E 128.07(5)
suspension for	E 128.07(5)(d)
Lanterns	E 111.02(2)
Lateral conductors (def. 100)	E 101.02, E 123.08(3), E 123.10
Lateral and vertical conductors	E 123.10(4)
Lateral working space (def. 101)	E 101.02, E 123.08, E 123.10(1)
Laterals	E 129.02(7)
Latticed structures	E 125.03(2)(c)
Legal authority and requirements	Chap. 2
Laws (quoted or referred to)	Chap. 123, E 2.02(3)(a), E 2.02(4)(b)
Leakage from live parts	E 117.09
Levels, arrangement of relative levels	E 122.01
Ladders, protection from suddenly moving	E 112.03(2), E 117.08(2)
Lighting	E 111.02
branch circuits (def. 12)	E 101.02
emergency	E 111.02(2)
fixture—	
in stations	E 111.02, E 116.07
outlet (def. 120)	E 101.02
Lightning arrester (def. 103)	E 101.02, Chap. 119
charging of	E 119.05(2)
disconnecting	E 119.02
ground conductors	E 103.06(1)
grounding	E 103.02(2)(d), E 103.06(2), E 103.07(3), E 103.10, E 119.04, E 121.06(1)
guarding	E 119.05(1)
installation of	E 111.05(4), E 119.01
location	E 119.01
on poles	E 128.07(2)
requirement for in stations	E 119.01
where required	E 119.01(1)
Lightning protection wires	E 126.02(6)(c), E 126.04(6)
clearance of	E 123.03
Limited metallic structures, grounding of	E 103.08(1)
Line conductors (def. 104)	E 101.02
clearance on poles	E 123.06
Line insulators	Chap. 127

Lines, accessibility	E 121.03
communication (def. 24 and 105)	E 101.02
construction of, general	E 120.01(3), E 121.01, E 121.02, E 143.04(10)
design of	E 121.01
electrical supply (def. 65 and 106)	E 101.02
grounding of	E 142.04(6)
guarding of	E 121.05
handling of	E 142.03
inspection	E 20.12, E 121.04
in trees	E 123.02(6)
isolation	E 121.05
killing of	E 142.02(4)(c), E 142.03(5), E 142.04
near stored material	E 123.02(7)
near wells	E 123.02(9)
out of service	E 121.04
over tanks	E 123.02(8)
relation of	Chap. 122
relative levels	E 122.01
standardization of levels	E 122.01(1)
stringing of	E 143.04(10)
tests of	E 121.04(1)(c)
Live (def. 4)	E 101.02
Live electrical, parts	E 143.08(3)
equipment	E 142.03
lines, handling	E 142.03
not worked on, climbing space of	E 123.07(5), E 123.07(6), E 123.07(7)
permission to work on	E 142.04(5), E 142.04(7), E 142.04(8)
request for killing of	E 142.04(2)
series circuits considered as	E 143.05(4)
Live or moving parts, care about	E 143.01(3)
Live parts	E 112.07, E 142.01(6)
care about	E 143.01(3), E 143.04(6), E 145.01(6)
care when exposed to	E 142.01(5), E 142.03(2), E 142.03(3), E 143.01(3), E 143.04(6)
guarding or isolated	E 112.05, E 113.02, E 114.04, E 121.05(1)
handling in subway operations	E 143.08(3) & (7)(a)
handling of	E 142.03(1), E 142.03(10), E 145.01(6)
isolation by elevation	E 112.06(3)
repairing in subway operations	E 143.08(7)(a)
touching of	E 142.03(1), E 143.04(7)
treat everything as alive	E 142.01(6)(a)
underground guarding of	E 129.07
handling of	E 143.08(3), E 143.08(7)
repairing	E 143.08(7)
when to kill	E 142.02(4)(c), E 142.03(5), E 142.04
working space about	E 112.06
Loading	Chap. 125
dead ends	E 125.03(3)(c)
districts	E 125.01
flat surfaces	E 125.03(2)(c)
for conductors	E 125.02
latticed structures	E 125.03(2)(c)

supports, longitudinal	E 125.03(3)
transverse	E 125.03(2)
vertical	E 125.03(1)
trolley contact conductors	E 125.03(2)(b)
Loads upon	
line supports	E 125.03
Local electrical regulations	E 2.02(4)
Location of (def. 107, 108, 109)	E 102.01
buckarms relative to working space	E 123.08(4)
climbing space	E 123.07(1)
conductors relative to working space	E 123.08
conductors vertical and lateral	E 123.10(1)
diagrams	E 141.02(4)
equipment in climbing space	E 123.07(4)
guards	E 112.05(3)
lightning arresters	E 111.05(4)
oil switch and circuit breakers	E 111.05(1)
regulators	E 111.05(2)
transformers	E 111.05(2), E 115.04, E 128.07
vertical and lateral conductors	E 123.10(1)
working space	E 123.08
Locking switches	E 117.05(2)
Longitudinal, conductors or runs	
loading	E 125.03(3)
runs, climbing space	E 123.07
strength requirements, grades B & C	
concrete poles	E 126.02(1)(b)
conductors	E 126.02(6)
crossarms	E 126.02(4)(c)
guys	E 126.02(3)(e)
messengers	E 126.02(7)(a)1
method of providing	E 126.02(1)(e)
steel poles	E 126.02(1)(c)2
wood poles	E 126.02(1)(d)2
strength requirements, grade D	
conductors	E 126.03(9)
crossarms	E 126.03(4)
guys	E 126.03(3)(d)
insulators	E 126.03(7)
messengers	E 126.03(10)
pins	E 126.03(6)b
poles	E 126.03(1)
strength requirements, grade N	E 126.04
Loss of contact at railroad crossings	E 128.10(4)
Low-voltage, protection (def. 111)	E 101.02, E 113.01(4)
release (def. 112)	E 101.02, E 113.01(5)
L/R for compression members	E 126.02(1)(c)

M

Machinery, foundations	E 111.01(3)
Machines	
care about	E 143.01(2)
coupled	E 113.03(2)
protection from accidental starting	E 113.01, E 143.01(2)
Made electrodes	E 103.07(3), E 103.08(4)
contact surface	E 103.08(3) & (4)
installation of	E 103.08(4)
guy as ground	E 103.08(4)(e)
limited water systems	E 103.08(1)

number of	E 103.09
on water systems	E 103.08(1)
resistance	E 103.09
wood pole grounds	E 103.08(4)(d)
extra for buried structures	E 103.08(4)(f)
Magnetic forces on conductor	E 116.02(3)
Maintaining service	E 142.02(7)
Maintenance of	
clearance	E 123.01(5)
lines and equipment	E 20.12, E 121.02
overhead and underground lines	E 20.12
stations	E 112.02(1)
steel poles and towers	E 126.02(13)
wood poles	E 126.02(1)(d)
Making protective grounds	E 142.05
Manholes (def. 113)	E 101.02, E 129.03
avoid smoking in	E 143.07(5), E 145.03(4)
avoid use of flames in	E 143.07(5), E 145.03(4)
conductor location in	E 129.04, E 129.06, E 129.07
construction of	E 129.03
covers	E 129.03(6)
dimensions	E 129.03(2)
drainage	E 129.03(3)
ducts entrance into	E 129.02(6)
entrance to	E 129.03
guarding live parts in	E 129.07
guards and guarding of	E 129.06, E 143.07(2), E 143.06(4), E 145.03(1), E 145.03(3)
jointly used	E 129.02(5)
location of	E 129.01(3), E 129.03
minimum strength	E 129.03(1)
openings	E 129.03(5)
precautions with fire	E 143.07(5), E 145.03(4)
strength	E 129.03(1)
supporting cables	E 129.03(7)
supports	E 129.03(7)
ventilation	E 129.03(4)
watchmen for	E 143.07(2), E 145.03(1)
working space	E 129.03(2)(b)
Manual (Def. 114)	E 101.02
operation	E 117.03
Manufacturing processes in stations	E 111.01(2)(b)
Marking of	
insulators	E 127.02
poles	E 121.05(3)
Master service (def. 142)	E 101.02
Materials for	
ground conductors	E 103.06(1)
switchboards	E 118.02
Mats	E 112.05(3)(f)
Mats, floors and platforms, insulating, as	
guards for live parts of	
machines	E 112.05
station equipment	E 112.05(3)(f), E 112.07(1), E 117.07, E 142.03
switchboards	E 118.07(1)
switches	E 117.10
Mechanical protection of conductors	E 103.06(3), E 113.01(6), E 116.02(11), E 123.10(3)
Messengers, repeating of	E 142.01(12)

Messengers	E 126.03(10)
communication cable	E 126.02(9)(b), E 126.03(10)(a)
communication conductors paired	E 126.02(10)(a), E 126.03(10)
grounded effectively	E 103.02(2)(d) & (e)
sag	E 126.02(10)(a)2
size	E 126.03(10)(a)
specially installed cable	E 126.02(7)(a)1
strength	E 126.02(9)(b)
supply cable	E 126.02(7)
Metal	
cabinets grounding	E 117.09
poles	E 126.02(1)
grounding of	E 128.01(1)(d)
guarding of	E 128.01(1)(d)
use of guys with	E 126.02(3), E 128.03(6)
raceways, grounding of	E 103.03
protection of conductors	E 123.10(3), E 123.10(4)(b), E 123.10(6)(a)
protection of control circuit	E 113.01(6)
sheathed cable	E 116.04(1), E 123.01(3), E 124.03, E 126.02(7)(a), E 126.02(9)(a), E 128.08(2)
clearances	E 123.01(3)
Meters, care about live parts	E 143.02
current-transformer secondary	E 103.06(2)(c), E 143.02(5)
open circuits at connections	E 143.02(4)
reporting defects	E 143.02(7)
special tools	E 143.02(6)
taped joints	E 143.02(2)
water, ground connections near	E 103.07(1) & (2), E 103.08
shunting of	E 103.08(1)
Methods of protective grounding	Chap. 103, E 103.01
Methods, of connection to ground	E 103.06, E 103.07
of construction	E 20.11(2)
of first-aid instruction	E 141.01(4)
of providing longitudinal strength	E 126.02(1)(f)
Minimum	
clearance for live parts	E 112.05
pole sizes	E 126.02(1)(d)6, E 126.03(1)(f)
sizes of conductors	E 126.02(6)(b), E 126.03(9), E 126.04(4)(b)
sizes of crossarms	E 126.03(4)(b)
Miscellaneous requirements for overhead lines	Chap. 128
Modification	
of rules	E 20.13(1)
Moisture and weather	E 111.01(2)(e), E 112.09
Molding, wood	E 123.10
Motor circuit switch (def. 115)	E 101.02
Motor generators, control of	E 113.01(3)(c)
Motors and Generators	E 113.01, E 113.06
control devices for	E 113.01, E 113.06(1)
enclosed type	E 113.06(2)
guards for live parts of	E 113.02, E 113.05(1)
identification of	E 112.10
in hazardous locations	E 113.06(2)
leads of	E 113.04(2), E 113.05(1)
location	E 113.06(2)
speed limits for	E 113.01(3)
starters for	E 113.06(1)
terminal bases	E 113.04(1)

Moving parts, care about	E 143.01(3)
guarding of	E 112.03, E 143.01(3)
protection against	E 117.08(2)
Multiple made grounds	E 103.02(2)(e),
E 103.07(3), E 103.10	
crossings	E 124.02(4)(c)
grounds	E 103.02(2), E 103.02(3),
E 103.07(3), E 103.10	
Municipal codes jurisdiction	E 2.02(4)(b)

N

Name plates	E 112.10
Nature of ground connections	Chap. 103
Neutral conductors, grounding of	E 103.02, E 103.02(2)(e),
E 123.01(4)	
clearance	E 123.01(4)
use of circuit breakers on	E 116.01(2)
New construction (def. 117)	E 101.02
N-grade construction	E 126.04
Noncombustible construction	E 111.01(2)
Noncurrent-carrying parts	
grounding	E 103.03, E 103.04,
E 103.05, E 112.04	
frames of generators, cases of transformers	E 112.04(2), E 113.05(2),
E 118.06(1), E 119.04	
metal conduit, cable sheath etc.	E 121.06(2)
where leakage is liable to occur	E 117.09
isolation guarding and marking	E 121.05(2)
Notification	
aeronautics commission	E 122.06
other utilities	E 122.02(2)
Number of made grounds	E 103.02(2)(e), E 103.07(3)

O

Obstruction of highway	E 123.02
Obstruction on poles	E 128.01(1)(g)
Oil filled apparatus	E 111.05
lightning arresters	E 119.01
requirements for general	E 111.05
switches	E 117.02
transformers	E 115.04
Oil switches	E 111.05(1), E 117.02
Omission of guys, communication line crossing	E 126.03(3)(b)
Open communication conductors	E 126.02(8)
Open circuits	E 143.02(4)
Open wire communication lines	E 128.08(1)
Open wires (def. 119)	E 101.02
Operating	
lines and equipment	E 20.10
routine	E 142.02
rules	E 140.01 to E 145.03
application	E 140.02
scope	E 140.01
Operation, at stations	E 142.02(4)(b)
of electrical equipment and lines	E 140.01
Order, of grades of construction	E 124.02(3)
Organization diagram	E 141.01(2)

Outlet (def. 120)	E 101.02
Outline lighting (def. 121)	E 101.02
Overhead and underground lines	Part 2
accessibility	E 121.03
design and construction	E 121.01
installation and maintenance	E 121.02
Overhead lines, operation	E 143.04
grounding when worked on	E 142.04(6)
miscellaneous requirements	Chap. 128
precautions in climbing structures	E 145.02(1)

P

Painting steel poles	E 126.02(1)(c)8
Paired conductors	E 123.06(1)(a), E 126.02(10), E 126.03(9)(c)
Panelboard (def. 123)	E 101.02
Parts to be grounded	E 121.06(2)
Passageways	E 111.03(6)
guarding equipment near	E 112.05(1)(b), E 118.07(1), E 119.01(2)
Penalties	E 2.02(3)
Pendants (see also portables)	E 111.02(3)
Permanent supporting surface for workman	E 112.05(1)
Permanently grounded (def. 124)	E 101.02
Permission to work	E 142.04(5)
Phase, failure	E 113.01
Physicians addresses	E 141.01(3), E 144.02(1)(a)
Pine poles (see poles)	
Pins, grade of	E 124.04(3)
grades B, C	E 126.02(5)
grade D	E 126.03(6)
material	E 126.02(5), E 126.03(6)(a)
size	E 126.02(5), E 126.03(6)(c)
strength	E 126.02, E 126.03(6)(b)
Pins and conductor fastenings	E 126.02(5)
Pin spacing	E 123.06
Pin type insulators	E 126.03(7)
Pipe connections for grounding	E 103.07(1), E 103.08
size for made electrodes	E 103.07(3), E 103.08(4), E 103.06(3)
system grounds	E 103.02(2)(e), E 103.07(2)
Platforms, insulating (see mats)	
protection of	E 111.03
Plug connectors	E 111.02(3), E 118.07(2)
Plugs attachment	E 111.02(4)
Plug type switchboard	E 118.07(2)
Points	
of attachment of grounding conductors	E 103.02, E 103.08
A.C. systems	E 103.02(2)
D.C. systems	E 103.02(1)
Pole face (def. 125)	E 101.02
Poles	
attachment of guys to	E 128.03(3)
clearances from, conductors	E 123.05, E 123.06, E 123.10
from hydrants	E 123.02(1)
from rails	E 123.02(4)

from street corners and curbs	E 123.02(2), E 123.02(3)
rubbish	E 123.02(5), E 128.01(1)(a)
climbing of	E 128.01(1)(b)2
communication	E 126.02(1), E 126.03(1), E 126.04(1)
concrete	E 126.02(1)(b)
deflection and deformation of	E 126.01, E 126.02(1)(f)2
depth of setting	E 126.02(2)(b)2, E 126.03(2)
equipment on	E 128.07
exposure to fires	E 123.02(5), E 128.01(1)(a)
flexible supports	E 126.02(1)(f)2
foundations	E 126.02(2), E 126.02(2)(b)
grade of	E 124.04(1), E 126.02(1)
grounding	E 128.01(1)(d)
guards for	E 128.01(1)(b)1
guys	E 126.02(3), E 126.03(3), E 128.03
hand clearance	E 128.07(4)
identification of	E 128.01(1)(f), E 128.07(1)
jointly used, grades of	E 124.04(1)
relative conductor levels	E 122.01
supply communication circuits	E 122.03
loading	E 125.03
location of	E 123.02, E 126.03(1)(d), E 128.07(2)
longitudinal strength of, special cases	E 126.02(1)
maintenance	E 20.10, E 126.02(1)(d)
minimum sizes	E 126.02(1)(d)7, E 126.03(1)(f), E 126.03(1)(h), E 126.04(1)
obstructing traffic	E 123.02
obstructions	E 128.01(1)(g)
precautions when climbing	E 143.04(2), E 145.02(2)
protection against climbing	E 128.01(1)(b)2, E 143.04(2), E 145.02(2)
against fire	E 128.01(1)
against mechanical injury	E 128.01(1)(b)1
protective coatings	E 126.02(13)
selected	E 126.02(1)(d)5, E 126.03(1)(e)
settings	E 126.02, E 126.03(2)
spliced	E 126.02(1)(d)7, E 126.03(1)(g)
steel	E 126.02(1)(c)
flexible	E 126.02(1)(f)2
foundations	E 126.02(2), E 126.03(2)
strength of	E 126.02, E 126.03, E 126.04(1)
at angles and dead ends	E 126.02(1)(g)
for grades B and C	E 126.02(1)
for grade D	E 126.03
for grade N	E 126.04(1)
when used jointly	E 124.04(1), E 126.02(7)(a)
stresses in maximum	E 126.02(1)(c)4, E 126.02(1)(d)4, E 126.02(2)(b)1
testing of, before climbing	E 143.04(2), E 145.02(1)
top diameter	E 126.02(1)(d)6, E 126.03(1)(f)
warning signs	E 121.05(3), E 128.01(1)(c)
wood	E 126.02(1)(d), E 126.03(1), E 126.04(1)
Pole steps	E 123.10(1), E 128.01(1)(e), E 143.04(3), E 145.02(2)
Porcelain, bushings	E 113.04(2)
insulators	Chap. 127, E 128.04

socketsE 114.09
terminal basesE 113.04(1) & (2)
Portable appliance (def. 126)E 101.02
cables, inspection ofE 143.08(8)
devices, grounding ofE 103.05
 handlingE 143.08(9)
equipment, grounding ofE 103.05, E 103.06
Portable, cable connection forE 111.02(4)
 groundingE 103.05
 installation ofE 111.02(4)
 in subway operationE 143.08(9)
Position and connection
 of switchesE 121.07(2) & (3)
Potheads, use ofE 116.04(1), E 129.08(4)(b)
Power circuits in central officeE 145.01(7)
Prime movers, speed limit forE 113.01(1)
Private plant groundingE 103.02(2)(c)1
Proceeding with workE 142.04(7) & (8)
Protecting, arcing parts (see guarding)E 112.05
circuitsE 116.01(1), E 116.02, E 117.06
 conductors, longitudinal runsE 123.07(7)
 vertical runsE 123.07(8), E 123.10(3)
 control circuitsE 113.01(6)
 ends and jointsE 116.06
 moving partsE 112.03, E 117.08(2)
 station equipmentChap. 113, E 117.06
 trafficE 142.02(8), E 143.04(8), E 145.02(8)
 working by groundingE 112.04(3), E 117.04, E 118.06(2),
 E 142.04(4), E 142.05
 by switches and disconnectorsE 142.02(9)
Protection against, arcing insulatorE 127.08
 arcing of underground cableE 129.06(1)
 deteriorating agenciesE 113.05(1)
 rain and falling objectsE 111.03(3)
Protection
 low and under voltageE 113.01(4)
 of conductorsE 103.06(3), E 116.01,
 E 116.02(1), E 129.08(2)
 of control circuitsE 113.06(1)
 near groundE 123.10(3)
 of exposed communication linesE 128.08
 of longitudinal linesE 123.07(7)
Protective, arrangements of equipmentChap. 112
 clothingE 142.01(8)
 covering
 for metal partsE 126.02(13)
 for steel supporting structuresE 126.02(1)(c)7
 devicesE 141.02(6) & (7), E 144.05
 groundingChap. 103
 grounds makingE 142.05
 methodsE 141.02
Pulling cablesE 143.07(6), E 145.03(5)
Puncture voltage for insulatorsE 127.04, E 127.05

Q

Qualifications of employeesE 141.01(5), E 144.04
Qualified (def. 127)E 101.02
Qualified guidesE 142.02(3)

R

Raceways (def. 128)	E 101.02
Racks	
on communication at crossings	E 126.03(5)
on supply lines, vertical	E 123.06(1)(d)
climbing space for	E 123.07(7)
Railings	E 111.03(7), E 112.05(3)(c)
grounding	E 112.04(2)
guards for switchboards	E 118.07(1)
on machines	E 113.02(2)
Railroads	
clearance of wires over	E 123.03
increased vertical clearance of lines over	E 123.03(2) & (3)
tracks, horizontal clearance to poles	E 123.02(4)
Rails clearance of poles from	E 123.02(4)
Railway construction	E 128.10
assurance against loss of power	E 128.10(4)
at railroad crossings	E 124.03(2), E 128.10(4)
guards under bridges	E 128.10(5)
high voltage contact conductors	E 128.10(2)
supports for contact conductors	E 128.10(1)
third rails	E 128.10(3)
Railway crossings by electric railways	E 128.10(1)
clearance of conductors above rails	E 123.03
of trolleys above rails	E 123.03(1)
grade of construction at	E 124.03, E 124.04
Railway, feeders, grades of construction	E 124.03(2)
Rain-tight (def. 129)	E 101.02
Ratio, of flashover to puncture voltage	E 127.04
Readily accessible (def. 130)	E 101.02
Readjustment of sags	E 123.09(2)
Realization of intent of rules	E 20.13(2)
Receptacle outlet (def. 131)	E 101.02
Reconstruction (def. 132)	E 101.02
Record of defects	E 121.04(1)(d)
Reduced clearance of neutral	E 123.01(4)
Reduction in number of wires, permissible	E 125.03(3)
Redwood poles (see poles)	
Regulators, induction	E 111.05(2), E 115.03, E 128.07(8)
Reinforced concrete poles	E 126.02(1)(b)
Relation between various classes of lines	Chap. 122
Relative levels of wires	E 122.01, E 123.09(1)(a)
at crossings	E 122.01(3)(a)
minor extensions	E 122.01(2)(b)
preferred levels	E 122.01(2)(a)
supply and communication lines	E 122.01(2)
supply lines of different voltage	E 122.01(3)
Remote control	E 117.01(1), E 117.02, E 117.05(2), E 119.02(2)
Removing grounds	E 142.05(5)
Repairing and inspecting	E 20.12
Repairing, lines	E 121.04(1)(e), E 126.03(11)
station equipment	E 112.04(3)
subway equipment	E 143.08(7)
Repeating messengers	E 142.01(12)
Replacing equipment	E 121.04(1)
Reporting dangerous conditions	E 143.06(7), E 145.03(6)

Reporting defects E 143.02(7), E 143.03(7), E 143.04(11),
 E 143.05(7), E 143.06(7), E 143.07(9),
 E 143.08(14), E 145.02(9), E 145.03(6)

trouble or circuits E 143.01(8)

when lines are clear E 142.04(9)

Requirements for

in stations E 110.01

overhead and underground lines Part 2

rooms and spaces E 111.01

stations and substations Part 1

two workman E 141.02(2)

Resistance devices E 115.05

location E 115.05

Resistance of ground connections E 103.09

Responsibility, between officials and employees E 141.01(2)

designation of E 141.01(7)

transferring of E 142.04(9)

Restoring service E 142.02(5)

Resuscitation from shock E 141.01(4), E 142.01(1), E 144.03

Rheostats Chap. 115, E 115.05, E 117.01(1)

location E 115.05

Rights-of-way, construction on fenced E 124.03

Rigid conduit (def. 36) E 101.02

Risers E 123.03(3), E 129.08

clearance above ground E 123.03(3), E 129.08

grounding E 121.06(2)

Rivets E 126.02(1)(c)

Roads, clearance of wires along and over E 123.03

Roadway, clearance of wires and conductors above E 123.03

for electric railway E 128.10(1), E 128.10(2)

Rods, anchor E 128.03(7)

Rod size for made grounds E 103.08(4)

Roofs, attaching conductors to E 128.01(3)

conductors crossings E 123.05(3)

Rooms and spaces E 111.01

Rotating equipment Chap. 113

Rotating, machinery Chap. 113, E 111.01(3)

attendance of E 141.02(1)

grounding of E 103.03, E 103.04,
 E 103.05, E 113.03(1)

grounding live parts of E 113.02(2)

guarding moving parts E 112.03

Rubber

gloves E 112.07(1), E 117.07,
 E 142.03(2), E 143.05(3)

mats E 112.05(3)(f)

Rubbish near poles E 128.01(1)(a)

Rules, book of E 141.01(1), E 141.01(3),
 E 144.01, E 144.02(2)

enforcement of E 141.01(1)(a), E 144.01

for employees, communication systems Chap. 144, Chap. 145

supply systems Chap. 142, Chap. 143

interpretation of E 141.01(1)(b), E 144.01(3)

Rural districts (def. 134) E 101.02

supply lines in E 124.03

S

Safe supports for workman E 143.04(2), E 143.04(4),
 E 145.01(4), E 145.02(1)

Safety appliances, furnishing	E 112.07, E 141.02(6), E 144.05
use of	E 142.01(7)
Safety belts, inspection of	E 141.02(7), E 142.01(10)
provision of	E 142.01(10), E 144.05(1)(c)
use of	E 142.01(10), E 145.01(4)
Safety loops on ladders	E 111.03
Sags (def. 135)	E 101.02
basis of computation	E 126.02(6)(d)
communication lines crossing contact conductors	E 126.02(10)(b)2
conductors on same support	E 123.09(2)(b)
different, on same supports	E 123.09(2)(c)
grades B and C	E 126.02(6)(d), E 126.02(10)(a), E 126.02(10)(b)
D	E 126.03(9)(d), E 126.03(10)(b)
N	E 126.04(5)(c)
increased clearance for	E 123.06(1)(b)1.b.
messenger	E 126.02(10)(a)2, E 126.03(10)(b)
readjustment of	E 123.01(5), E 123.09(2)(c)2
service leads	E 126.04(5)(c)
Scope of code	E 2.01
grounding	E 103.01
on lines	E 120.01
operating rules	E 140.01
stations	E 110.01
Sealable equipment (def. 136)	E 101.02
Sealing conduit, hazardous locations	E 116.05(1)
Sealing laterals	E 129.02(7)
Secondaries	
grounding of	E 103.02
instruments transformers	E 103.04(3), E 115.02
Selection of insulators	E 127.07
Separate, pole lines	E 122.04
grounds and ground conductors	E 103.07, E 103.10
Separation in any direction	E 123.09(3)
Separation of, bare parts	E 112.05, E 118.05(1)
cables underground	E 129.02(4), E 129.05
circuits and equipment on joint poles	E 123.09
communication and supply lines	E 122.04
communication equipment and supply lines	E 123.09(5)
communication lines and supply equipment	E 123.09(5)
conductors, and noncurrent-carrying parts	E 123.09(5)
at supports	E 123.06(1)
attached to bridges	E 123.06(3)
attached to buildings	E 123.05(3)(c), E 123.06(2)
in manholes	E 129.04(3)(c)2
not carried on crossarms	E 123.09(4)
of different voltages on same crossarm	E 123.06(1)(e)
of same voltage classification	E 123.09(2)
on horizontal crossarms	E 123.09(2)
on poles	E 123.06(1)
on poles according to sags	E 123.06(1)
on racks	E 123.06(1)(d)
underground	E 129.04(3)
vertical	E 123.06(1), E 123.09
crossarms	E 123.09
duct systems, supply and communication	E 129.02(5)
pole lines	E 122.04
risers, communication and supply	E 129.08(1)
vertical	E 123.09

Series circuits, clearance for	E 123.01(2)
grade of	E 124.03(1)
handling of	E 142.03(9)
position of	E 123.06(1)(e)
precaution when worked on	E 143.05(2), E 143.05(6)
reporting defects	E 143.05(7)
testing of	E 143.05(5)
Series generators	E 113.03(2)
Series lamps	
bridging of	E 143.05(4)
disconnection	E 128.07(5)(f), E 143.05(6)
handling of	E 143.05(3)
installation of	E 128.07(5)
on poles	E 128.07(5)
suspension of	E 128.07(5)
work on	E 143.05
Service (def. 138-146)	E 101.02
cable (def. 139)	E 101.02, E 126.04(5)(d)
conductor (def. 140)	E 101.02
conduit, grounding	E 103.03
crossings, grade of construction	E 124.03
drops, cabled (def. 141)	E 101.02, E 126.04(5)(d)
connections of	E 128.06(2)
supply	E 126.04(5)
entrance (def. 142 and 143)	E 101.02
equipment (def. 144)	E 101.02
hazard by interruption of	E 117.06
insulation	E 126.04(5)(a)
leads, crossarms	E 124.04(2)
poles	E 124.04(1)
maintaining of circuits	E 142.02(7)
materials	E 126.04(5)(a)
pipe	E 126.04(5)(a)
raceway (def. 146)	E 101.02
restoring	E 142.02(5), E 142.04(11)
sag	E 126.04(5)(c)
size	E 126.04(5)(b)
Setting poles	E 126.02(2), E 126.03(2)
Shading lamps	E 111.02(3)
Shafting, guarding of	E 112.03
Shall (def. 148)	E 101.02
Shielding equipment from deteriorating agencies	E 112.09
Shields	E 112.05(3)
Shock, avoiding	E 142.03(2) & (3)
Short-span construction	E 126.02(11)
Should (def. 149)	E 101.02
Shunting water meters	E 103.08(1)
Side guying	E 126.02(1)(e)
Signal (see communication)	
Signaling apparatus, fire and police special supply circuits for	E 122.01(2)(c)
Signs, clearance from lines	E 123.05(5)
Signs, danger	E 121.05(3), E 141.02(9)
Signs on poles	E 121.05(3)
Signs warning	
as protective device	E 141.02(8) & (9)
for bridges	E 128.01(1)(c)
for disconnectors and switches	E 117.05(1), E 117.05(2)
for equipment under test	E 143.03(5)
for exposed live parts	E 141.02(9)
for fire extinguishers	E 111.04

for poles	E 121.05(3), E 128.01(1)(c), E 128.01(1)(c)
for starting devices	E 143.01(2)
for station entrances	E 111.01(1), E 141.02(8)
for traffic protection	E 143.04(8), E 143.07(2), E 145.02(8), E 145.03(1)
Simultaneous application of loads	E 125.03(5)
Size of	
ground conductor	E 103.06
lightning arrester ground connection	E 103.10
made electrodes	E 103.08(4)
pins	E 126.02(5), E 126.03(6)
services	E 126.04(5)
Slack in overhead conductors	E 123.01(5)
Slippery floors	E 111.03(2), E 112.06(1)
Sockets	
insulating	E 114.04
Solid enclosure in hazardous locations	E 112.08(1)
Spacing blocks for crossarms	E 126.03(4)(c)
Span lengths (def. 153)	E 101.02, E 126.03(9)
Spans, averaged	E 125.03(4)
increased clearance for long	E 123.03(2), E 123.04(2)
length of, communication line at railway crossing	E 126.03(1)(d)2
paired conductors	E 126.03(9)
supply line	E 126.02(6)(b), E 126.04(4)(b)
Span wires, clearances, above rails or ground	E 123.03
insulators for	E 128.05(1) & (2)
jointly used poles	E 123.09(5)(c)
on joint poles	E 123.09(1)(a)
Sparking, distance	E 119.02(1)
parts (see arcing parts)	
Special, authorization for station operation	E 142.02(4)
permission (def. 154)	E 101.02
precautions, supply lines on unusual supports	E 128.01(3)
supply circuits for operating signal equipment	E 122.01(2)(c)
tools	E 143.02(6)
Specially installed cables	E 124.02(1)(a), E 126.02(7)
Speed control	E 113.01
Speed limit, motors	E 113.01(3)
prime movers	E 113.01(1)
Spliced poles	E 126.02(1)(d)7, E 126.03(1)(g)
Splices	
and taps	E 126.02(6)(e), E 126.03(9)(e)
at crossings	E 126.02(6)(e), E 126.03(9)(e)
in supply cables	E 126.02(7)(a)3, E 129.07(1)
Spurs or climbers, care and use of	E 143.04(5), E 145.02(3)
Stairs, antislip treads for	E 111.03(2)
as supporting surface for workman	E 112.05(1)
guards for	E 111.03
landings for	E 111.03
Starters (see also controllers)	
motor control	E 113.01(4)
Starting rheostats	E 112.08(1), E 113.06(2), E 115.05, E 117.01(1)
Station, arrangement	Chap. 111
equipment, authorization to work on	E 142.02(4)(a)
guarding live parts	E 112.05
guarding moving parts	E 112.03
identification of	E 112.10
in hazardous locations	E 112.08

inspection of	E 112.02
lighting	E 111.02
protective grounding	E 112.04, E 113.03, E 117.09, E 118.06(2), E 119.04, E 142.04(4)
wiring for illumination	E 116.07
working space about	E 112.06
Stations, (def. 66) authorization for operation of	E 101.02, E 142.02(4)(b)
construction of, exists	E 111.03
floors	E 111.03
rooms	E 111.03
stairs and ladders	E 111.03
construction precautions	E 112.05(1)
fire protection of	E 111.04
hazardous conditions in	E 111.01(2), E 112.04(2)
identification of equipment	E 112.10
illumination of	E 111.02, E 114.09, E 116.07
requirements in	E 110.01
temporary wiring	E 20.13(3)
ventilation of	E 111.01(2)(d)
Statutes affecting electrical construction	E 2.02(1), E 2.02(3) & (4), E 121.05(3), E 122.05, Chap. 123
Statutory authority	E 2.02(1)
Steel supporting structures	E 126.02(1)(c)
Steps	
pole, clearance above ground	E 128.01(1)(e), E 145.02(2)
of conductors from	E 123.10(1)
metal and wood	E 128.01(1)(e)
use of	E 143.04(3), E 145.02(2)
Stopping devices	E 113.01
Storage about switchboards	E 118.01(2)
in supply stations	E 111.01(2)
Storage batteries	Chap. 114
Strain insulators	E 127.03
Street lighting	E 128.07(5)
drip loop clearance	E 123.09(5)(d)
Street openings, guarding of	E 143.07(2), E 145.03(3)
Street railways construction	E 128.10
grade of conductors	E 124.03(2)
span-wire insulators	E 128.05
third rails	E 128.10(3)
tracks separation from ducts and manholes	E 129.01(1), E 129.01(3), E 129.04, E 129.05
trolleys, guarding under bridges	E 123.05(4)(b), E 128.10(5)
included in transverse load	E 125.03(2)(b)
minimum size	E 126.04(7)
supports	E 125.03(2)(b), E 128.10(1)
suspension of high voltage	E 128.10(5)
Strength of	
communication cables	E 126.02(9)
conductor fastening	E 126.02(5)
conductors	E 126.02(6), E 126.03(9), E 126.04(4), E 126.04(5)
construction, minimum requirements	E 2.01
foundations	E 126.02(2), E 126.03(2)
guards	E 112.05(2)
guys	E 126.02(3), E 126.03, E 128.03(2)
messengers	E 126.02(9)(b)
paired communication conductors	E 126.02(10)
paired conductors over supply lines	E 126.02(10)(b)1
paired conductors over trolley conductors	E 126.02(10)(b)2

pins	E 126.02(5)(b), E 126.03(6)(b)
poles	E 126.02(1), E 126.03(1), E 126.04(1)
splices and taps	E 126.02(6)(e)
steel supporting structure	E 126.02(1)(c)
supply cables	E 126.02(7)
supports at angles	E 126.02(1)(e)2
trolley contact conductors	E 126.02(6)(f)
wood poles	E 126.02(1)(d)
strength requirements	Chap. 126
Stresses in conductors	E 126.02(6)(d)
magnetic	E 116.02(3)
Stringing wires	E 142.03(10), E 143.04(10), E 143.06(6), E 145.02(7)
Structural steel	E 126.02(1)(c)
Structure conflict (def. 155)	E 101.02, E 124.02(5)
Structures, supporting	E 124.04
Substantial (def. 156)	E 101.02
Substations (see stations)	
fences	E 111.01(4)
Subway and tunnel operation	E 143.08
Suddenly moving parts, protection	E 112.03(2), E 117.08(2)
Supervision of employees	E 142.01(4)
Supply cable, classification for grades	E 124.02(1)
strength	E 126.02(7)
Supply equipment (def. 69)	E 101.02
separation from communication conductors	E 123.09(5)
Supply lines (def. 106)	E 101.02
approaching	E 143.06(4), E 145.02(4)
branch connections of	E 128.06(2)
clearance above ground and rails	E 123.03
climbing space for	E 123.07
communication lines used in operation of supply lines	E 128.09
construction and maintenance general	E 121.01, E 121.02
construction under railways	E 129.02(4), E 129.05
crossarms	E 123.09
grades of	E 124.03, E 124.04
guarding or isolation	E 121.05, E 129.07
identification of conductors and equipment	E 128.06(1), E 128.07(1)
inspection and tests	E 121.04
insulators	E 127.07(2)
joint use	E 122.03
precautions while working on	E 142.02(4), E 142.03, E 142.04, E 143.04, E 145.02(6)
relative levels	E 122.01(1)
short-span construction	E 126.02(11)
Supply systems	
operating rules for	Chap. 141 and 142
Supporting conductors on trees	E 128.01(3)
structures, grade of	E 124.04
Supports (also see foundations)	
battery rooms	E 114.05
flexible	E 126.02(1)(f)2
for cable	E 129.03(7)
for contact conductor	E 125.03(2), E 128.05, E 128.10(1)
for large conductors and generator leads	E 116.02(3) & (4)
for rheostats and resistance devices	E 115.05
insulating conductors	E 116.05(2)
loads on	E 125.03

safe for workman	E 142.01(9), E 143.04(2), E 145.01(4), E 145.02(1)
unsafe	E 143.04(4)
Suspension for street lights	E 128.07(5)(d)
Suspension insulators	
increased clearances for	E 123.03(2), E 123.04(2)
material for street lamps	E 128.07(5)(d)
Switch (def. 157)	E 101.02
Switchboards and panelboards (def. 158)	E 101.02, Chap. 118
accessibility of	E 118.01(3) & (4)
arrangement of	E 118.01(4), E 118.04, E 118.07(2)
bare parts	E 118.05(1)
care about, employees	E 143.01(2)
dead-front	E 118.07(2)
equipment	E 118.03
frames	E 118.06
fuses	E 118.05(2)
grounding	E 118.06
guarding live parts	E 118.07
handling of	E 143.01(7)
identification of equipment	E 118.04
illumination	E 118.02(2)
instruments	E 118.03, E 118.08
location	E 118.01(1)
material	E 118.02
plug-type	E 118.07(2)
separation of bare parts on	E 118.05(1)
spaces around	E 118.01(2)
spacings	E 118.05
wiring on	E 118.04
Switch cells, illumination of	E 111.02
in supply stations	E 111.02, E 117.02
Switches (def. 157) and circuit breakers	E 102.01, Chap. E 117
accessibility and arrangement	E 121.07(1)
accidental operation	E 117.01(2), E 117.05(2)
ahead of fuses	E 117.07
air break	E 117.05(3)
alignment	E 117.05(4)
arrangement of	E 117.01(1), E 121.07
blades dead	E 117.01(2)
capacity of	E 117.05
closing	E 117.01(2)
construction of, for good contacts	E 117.05(4)
frame on rotating equipment	E 113.02(3)
grounding	E 117.04, E 117.09
guarding	E 117.10
in battery rooms	E 114.05
identification	E 117.01(1), E 118.04
indicating	E 117.01(1), E 121.07(2)
in grounding conductors	E 103.06(1)
in manholes	E 129.07(2)
isolation	E 117.02
knife	E 117.01(2)
location	E 117.01(1), E 117.02, E 117.03
locking or blocking of	E 117.05(2)
oil	E 111.05, E 117.02, E 117.05(3)
on poles	E 128.07(2)
on switchboards	E 118.01(4)
opening and closing	E 142.03(6)

operation by employees	E 142.03, E 143.01(7), E 143.02(4), E 143.08(10)
position	E 121.07(3)
remote control	E 117.02
suitability	E 117.05(1)
used as grounding devices	E 117.04
where required	E 117.03
System ground wire	E 103.02(2)(b) and (2)(c)3

T

Tables

clearance	
from live parts	E 112.05(1), E 142.03(3)
underground risers	E 123.03(3)
vertical and lateral conductors	E 123.10(4)
wires crossing wires	E 123.04(1)
wires from, bridges	E 123.05(4)(a)
buildings	E 123.05(3)(d)
ground or rails	E 123.03
supports	E 123.06(1)(c)
climbing space	E 123.07(5)(c)
crossarms separation	E 123.09(1)(a)
size	E 126.02(4)(d)
depth of setting poles	E 126.02(2)(b)2
foundation for poles, strength	E 126.02(2)(b)2
grades of construction, communication conductors	E 124.03
at multiple crossings	E 124.02(4)
supply conductors	E 124.03
guys, strength for grades B and C	E 126.02(3)(e)
for grade D	E 126.03(3)
horizontal clearances and separations	E 123.06(1)
illumination intensities in stations	E 111.02
insulator test voltage	E 127.05
isolation by elevation	E 112.05(1)
loading specifications	E 125.02
messenger communication cables, size	E 126.03(10)(a)
pole setting depths	E 126.02(2)(b)2
sags of communication conductors, copper and steel	E 126.03(9)(d)
service leads, sags	E 126.04(5)(c)
sizes	E 126.04(5)(b)
steel poles, L/R ratio	E 126.02(1)(c)6
thickness of metal	E 126.02(1)(c)5
unit stresses	E 126.02(1)(c)4
vertical clearances and separations	E 123.09(1)
wood poles, allowable stresses	E 126.02(1)(d)4
depth of setting	E 126.02(2)(b)2
strength of grade D	E 126.03(1)(a)
ultimate stresses	E 126.02(1)(d)3
working space about live parts	E 112.05(1)
Tag (def. 159)	E 101.02, E 141.02(6)(a)5, E 141.02(10)
distinctive character	E 142.04(3)
removal of	E 142.04(10)
use of	E 117.05(2), E 141.02(6)(a)5, E 141.02(10), E 142.02(6), E 143.01(2)
Tagging, circuits	E 142.02(6)
open disconnects	E 142.04(3)
Tapes or ropes	E 142.03(1)(e)
Taping ends and joints	E 116.06, E 143.02(2)

Taps, flying	E 123.02(2)
in crossing spans	E 126.02(6)(e), E 126.03(9)(e)
Temperature	
of rheostats and resistance devices	E 115.05
protection against excessive	E 116.02(5)
Temporary decorative lighting	E 121.04(3)
Temporary installations	E 20.13(3)
modification of rules	E 20.13(3), E 141.01(1)(c)
waiver for	E 20.13(3)
wiring, disconnection of	E 143.08(12)
for subway construction	E 143.08(12)
Tensions in, cable messengers	E 126.03(10)(b)
conductors (def. 160)	E 101.02, E 126.02(6)(d)
Terminals bases	E 113.04(1)
construction	E 129.08(4)
Testing	E 143.03
and splicing live cables	E 143.07(8)
for gas	E 143.07(3), E 145.03(2)
for grounds	E 103.09, E 142.05(3)
of cables to determine if alive	E 143.07(8)
of equipment	E 122.02(2)
of lines and equipment	E 121.04(1)(c)
of series lamp circuits	E 143.05(5)
of structures before climbing	E 143.04(2)
operations	E 143.03
rooms	E 20.13(4)
Tests for insulators	E 127.05, E 127.06
steel towers	E 126.02(1)(c)7
Thermal protection of conductors	E 116.02
Thickness of steel	E 126.02(1)(c)5
Third-rail collector	
guarding or isolating	E 128.10(3)
Through bolts	E 123.10(6)(d), E 123.10(7)(d)
Tie wires and fastenings for communication	
lines	E 126.03(8)
supply lines	E 124.04(3), E 126.02(5)(a)1
special cases	E 126.02(5)(a)
Toe boards for, floors	E 111.03
platforms	E 111.03
stairs	E 111.03
surfaces above live parts	E 112.05(3)(g)
Tools	E 143.02(6)
Top diameter	
communication poles	E 126.03(1)(f)
supply poles	E 126.02(1)(d)1.
Totally enclosed motor (def. 67)	E 101.02
Touching equipment	E 143.06(5), E 145.02(5)
Touching live parts	E 142.03(1)(a)
Towers (see poles)	
Traffic, protection of	E 142.02(8), E 143.04(8), E 145.02(8)
Transformers	Chap. 115
general	Chap. 115
grounding	E 103.04(2), E 115.02, E 115.03, E 121.05, E 121.06
guarding	E 112.05, E 121.05, E 121.06, E 128.07(2), E 128.07(6)
installation of	E 111.05, E 115.02, E 115.04, E 123.09, E 128.07
interconnection	E 103.02
location	E 111.05(2), E 115.04

on poles	E 128.07(2)
vault (def. 164)	E 102.01, E 115.04, E 116.03
Transmission lines (see supply lines)	Part 2
Transverse loading (see loading)	E 125.03(2)
averaging span lengths	E 125.03(4)
special requirements	E 126.02(1)(e)
strength (line supports)	E 126.02(1)(c)1, E 126.02(1)(d)1
	E 126.03(1)
three poles	E 126.02(1)(a)
Traps for drainage pipes in manholes	E 129.03(3)
Trees	
attaching conductors to	E 128.01(3)
falling	E 128.02
lines in	E 123.02(6)
protection from	E 128.02
trimming	E 128.02
Trolley contact conductors (see conductors)	
attached to bridges	E 123.05(4)
clearance above rails and aground	E 123.03
grade of	E 124.03(2)
guarding	E 123.05(4)(b)
at railway crossings	E 128.10(4)
under bridges	E 128.10(5)
high voltage	E 128.10(2)
insulation for	E 128.05(2)
minimum size	E 126.02(6)(f)
on jointly used poles	E 125.03(2)(b)
supports	E 128.10(1)
third rails, protection of	E 128.10(3)
Trolley feeders	E 122.01(2)(a), E 123.04(1),
	E 124.03(2)
Trouble reporting to chief operators	E 143.01(8)
Tunnel working on	E 143.08
Twisted pair (see paired conductors)	
Two workman required	E 141.02(2), E 142.03(4),
	E 143.03(6)
Type of guards	E 112.05(3)

U

Ultimate fiber stresses, wood poles	E 126.02(1)(d)3
Ultimate strength of	
steel	E 126.02(1)(c)4
wood poles	E 126.02(1)(d)3
Underground	
cables and lines	Chap. 129
conduit and ducts	Chap. 129
lines, communication operating rules	Chap. 145
crossings under railway	E 129.02(4)(b)
operation	E 143.07
risers	E 123.03(3), E 129.08(3)
systems, communication, operation of	Chap. 145
location of	E 129.01(1)
supply operation of	E 143.07, E 143.08
Under voltage protection	E 113.01(4)
Unguyed supports at railroad crossings	E 125.03(3)
Uniformity with existing construction	E 20.13(2)
Unqualified workman	E 141.02(3)
Unsafe supports	E 143.04(4)

- Urban districts (def. 165) E 101.02
- grade of conductors E 124.03
- Use of
 - approved material and construction methods E 20.11
 - ground as part of circuit E 121.06(3)
 - of guy insulators E 128.04(2)
- Utilization equipment (def. 166) E 101.02

V

- Vapor-tight (def. 167) E 101.02
- Vault, transformer (def. 164) E 101.02, E 111.05(2),
 E 115.04, E 117.03
- Ventilated (def. 168) E 101.02
- Ventilation of battery rooms E 114.03
- manholes E 129.03(4)
- motor compartment E 113.06(2)
- station E 111.01(2), E 111.05(2),
 E 115.04
- Vertical clearance of wires, above ground and rails E 123.03
- increase E 123.03(2)
- increase for suspension insulators E 123.03(2)
- increase for voltage E 123.03(2)
- Vertical conductor (def. 169) (see conductors) E 101.02, E 123.10(4)
- arrangement of E 123.09(2)(b)
- climbing space E 123.07(8)
- separations for E 123.09
- Vertical loading E 125.03(1), E 125.03(5)
- Vertical separations of
 - conductors and noncurrent-carrying parts E 123.09(5)
 - conductors on, same pole E 123.09(2)
 - racks E 123.06(1)(d)
 - line conductors on horizontal crossarms E 123.09(2)
- Visitors E 141.02(3)
- Voltage (def. 170) E 101.02
- increased clearance for E 123.03(2)(b), E 123.04(2)(b),
 E 123.06(1)(b)

W

- Waiving rules E 20.13
- Warning employees E 142.01(2)
- Warning signs (see signs) E 121.05(3), E 128.01(1)(c),
 E 141.02(8)
- warnings and barriers E 143.03(5)
- Watchman at manholes E 143.07(4), E 145.03(3)
- Water pipe connections E 103.07(1), E 103.08
- Water pipe grounds E 103.07(1)
- Water systems grounding E 103.07(1), E 103.08
- limited E 103.08(1)
- Water tight (def. 171) E 101.02
- Weather conditions E 111.01(2), E 125.01, E 125.02
- Weatherproof (def. 172) E 101.02
- cases E 111.01(2)
- Well casing grounds on E 103.08(1)
- Width of working space E 112.06(2)
- Wind pressure E 125.02
- Wires
 - connecting lightning arresters E 119.03
 - handling E 142.03(8)(9) & (10)

protection from falling	E 142.02(8)(b)
stringing of	E 142.03(10), E 143.06(6), E 145.02(7)
vertical clearance, above ground and rails	E 123.03
Wiring	
diagram for, equipment and lines	E 141.02(4)
for illumination	E 116.07
lightning arrester grounds	E 119.03
on switchboards, arrangement	E 118.01(3) & (4), E 118.05(1)
Wood, molding, use of	E 103.06(3), E 123.10(3), E 123.10(4)(b), E 123.10(6)
poles	E 126.02(1)(d), E 126.03(1), E 126.04(1)
allowable fiber stresses	E 126.02(1)(d)3
guys	E 126.02(3)
longitudinal strength	E 126.02(1)(d)2
minimum sizes	E 126.02(1)(d)6
spliced	E 126.02(1)(d)7
top diameters	E 126.02(1)(d)6
ultimate fiber stresses	E 126.02(1)(d)3
Working space	E 123.08
about equipment	E 111.01, E 112.05(1), E 112.06(1) & (2), E 113.02(4), E 115.05
about lightning arresters	E 119.01(2), E 119.02(2)
about switchboards	E 118.01(2) & (4), E 118.07(3)
dimensions	E 123.08(2)
elevated parts	E 112.06(3)
exits from	E 111.03(4)
headroom for	E 111.03(6)
height	E 123.08(4)(a)
in manholes	E 129.03(2)(b)
in stations	E 112.06
lateral (def. 100 & 101)	E 101.02, E 123.08
lightning arresters	E 119.01(2), E 119.02(2)
location	E 123.08(1)
obstruction of, by conductors	E 123.08(3), E 123.10(1)
on poles	E 123.08(2) & (4), E 123.10(1), E 128.07(1) & (4)
where required	E 112.06(1)
width	E 112.06(2)
Workman's request	E 142.04(2)
Workmen, position	E 142.03(7)
protection of, by disconnectors	E 142.02(9)
requirements for two	E 141.02(2), E 142.03(4), E 143.03(6)
unqualified	E 141.02(3)
Work on circuits	E 118.06(2)
on live lines	E 141.02(2)