

A

acceptable meter sockets 3-3
access to meter socket 3-4
additional load for existing customers 1-2
adjustable-speed drive controller 1-7
agricultural and other pole-mounted services
 irrigation pumping overhead metering, direct
 connect 12-1
 meter access platform in a flooded area
 12-6
 underground irrigation pumping service
 backstop options 12-4
agricultural services 12-1
ANSI, defined *xxxiii*
application for service 2-1

B

backfill 6-9
backfill, select 6-4
barrier post 1-4, 3-4, 6-1, 9-1, 10-1, 11-4
 requirements 6-9
bushings, defined *xxiii*
bypass, defined *xxiii*

C

call before you dig 1-5, 6-3
checklist, electrical room 5-16
clearances
 around pad-mounted electrical equipment
 5-20
 around PGE submersible equipment 5-22
 around secondary voltage pedestal and
 handhole 5-25
 basic requirements 5-1
 combustibility of building material 5-17
 from pools, spas, and hot tubs 5-17
 from underground fuel tank 5-17
 locating a less-flammable oil-filled transformer
 next to a building or oil-filled
 equipment 5-19
 meters 5-1

 multiple-meter installation 5-4
 nonresidential meter 5-10
 pad-mounted transformers 6-8
 residential meter 5-6
 separating electrical equipment and meter
 from a gas meter set 5-23
 separating electrical equipment from a
 liquefied petroleum gas container 5-25
 separating oil-filled transformer from a
 structure 5-17
 separation of PGE equipment from oil-filled
 equipment 5-19
 service drops 5-9
 single-meter installation 5-2
 underground, from pools 5-17
codes and ordinances 2-1
cogeneration 1-8
combustibility of building material 5-17
commercial electric service
 obtaining C-1
 upgrading or relocating C-5
commercial multiple metering 11-8
commercial service, 0 to 800 amps 10-9
 combination current transformer/
 direct-connect, wall-mount metering
 10-16
 commercial ganged meter sockets 10-13
 commercial module meter sockets 10-14
 commercial pedestal, 0 to 200 amps 10-9
 commercial three-phase, direct-connect meter
 safety socket 10-11
commercial, industrial, and large residential
 services, 800 amps or lower
 basic requirements 10-1
 direct-connect meter safety socket 10-4
 direct-connect meters 10-2
 meter location 10-1
 termination compartment requirements
 10-6
commercial, industrial, and large residential
 services, 801 amps or higher
 basic requirements 11-1

Index

- current transformer compartment for switchgear 11-19
- switchgear metering 11-1
- concrete pads 6-8
- concrete pads and vaults for a pad-mounted transformer 6-8
- conductors, customer-owned 6-7
- conduit
 - controlled density fill with 6-4
 - current transformer metering 10-26
 - customer-owned conductors 6-7
 - duct proofing 6-8
 - general requirements 6-5
 - marking locations 6-8
 - mechanical protection 6-4
 - physical protection 6-4
 - requirements for secondary voltage conductors 6-6
 - secondary services 6-1
 - select backfill with 6-4
 - separation from underground fuel storage tank 5-17
 - sweeps and pull lines 6-7
 - underground system for long-side single-family service 7-12
- connection and disconnection of service 3-6
- connects, emergency 2-2
- construction criteria
 - temporary service 4-1
- construction requirements
 - temporary service 4-2
 - underground service extension 7-2
- contact information for PGE
 - customer service xxvii
 - emergencies and outages, reporting xxvii
 - phone numbers xxvii
 - service coordination xxvii
 - tree trimming xxvii
- controlled density fill 6-4
- corrosive areas 3-4
- current transformer cabinet 10-24
- current transformer compartment for switchgear
 - 0 to 1000 amps, 0 to 600 volts 11-19
 - 1001 to 3000 amps, 0 to 600 volts 11-21
- current transformer meter, defined xxiii
- current transformer metering
 - customer responsibilities 10-18
 - PGE responsibilities 10-18
- current transformer metering, 800 amps
 - maximum 10-18
 - conduit 10-26
 - current transformer cabinet 10-24
 - meter socket enclosure 10-27
 - post-mounted 10-19
 - transformer mounting base, single- and three-phase 10-28
 - wall-mounted 10-21
- current transformer, defined xxiii
- customer equipment on PGE poles 3-7
- customer generation 1-7
 - cogeneration 1-8
 - emergency or standby generator 1-7
 - net metering 1-9
 - parallel generation 1-8
 - requirements 1-8
 - small power production 1-9
 - solar payment option 1-10
- customer responsibilities
 - barrier posts 1-4
 - grounding and bonding 1-3
 - landscaping 1-4
 - monument protection 1-4
 - permits, rights of way, and easements 2-1
 - safety 1-3
 - switchgear maintenance 1-3, 10-8
 - temporary covers 1-4, 6-9
 - trenches 6-1
 - underground service 6-1
- customer service contact information xxvii
- customer, defined xxiii, 1-1
- customer-owned conductors 6-7
- customer-owned poles and guying 3-7

customer-owned transformers beyond the point of delivery 3-9

D

direct-burial cable, defined *xxiii*
 direct-connect meter 10-2
 defined *xxiii*
 direct-connect meter safety socket 10-4, 10-11
 disconnecting means
 customer-provided 3-5
 PGE-provided 3-6
 primary 3-6
 drip loop, defined *xxiii*
 duct proofing 6-8

E

easements 2-1
 electric service
 agricultural 12-1
 application for 2-1
 commercial, 0 to 800 amps 10-9
 commercial, industrial, and large residential services, 800 amps or lower 10-1
 commercial, industrial, and large residential services, 801 amps or higher 11-1
 commercial, new C-1
 commercial, relocating C-5
 commercial, upgrading C-5
 errors that may cause your request for service to be turned down *xxi*
 multiple-family 8-1
 pole-mounted 12-1
 request form B-2, B-6, C-2, C-6
 single-family 7-1
 temporary 4-2
 temporary shutdown 1-5
 theft of 3-7
 unmetered 3-7
 Electric Utility Service Equipment Requirements Committee (EUSERC) *xxiii*
 electrical equipment room 5-10
 checklist 5-16

general requirements 5-10
 workspace entrance requirements 5-15
 workspace requirements 5-11

email addresses for PGE *xxvii*
 emergencies and outages, reporting *xxvii*
 emergency connects or reconnects 2-2
 emergency or standby generator 1-7
 Energy Theft Hotline 3-7
 entrance requirements for electrical equipment room 5-15
 equipment protection 1-4
 errors that may cause your request for electric service to be turned down *xxi*

ESR book

online version 1-1
 purpose 1-1
 revision record *xvii*

EUSERC

defined *xxiii*
 requirements for multiple-family underground service 8-4
 requirements for switchgear metering 11-6

excavation and backfill 6-9

F

fault current, defined *xxiii*
 fault current, maximum available 1-2
 commercial, industrial, agricultural, and multifamily services 1-2, 1-3
 network services 1-3
 single-family residential, 200 amps or lower 1-2
 single-family residential, 201 amps and higher 1-2

G

gas meters 5-23
 general meter installations
 acceptable meter sockets 3-3
 access to meter socket 3-4
 corrosive areas 3-4

Index

- general requirements 3-2
- meter socket adapters 3-4
- mounting of meter sockets 3-3
- primary voltage service 3-4
- sealing provisions 3-3
- generation, customer 1-7
 - cogeneration 1-8
 - emergency or standby generator 1-7
 - net metering 1-9
 - parallel generation 1-8
 - small power production 1-9
 - solar payment option 1-10
- generator
 - emergency 1-7
 - standby 1-7
- grounding and bonding 1-3
- grounding, defined xxiv
- grouping service entrances 8-3
- guying for customer-owned poles 3-7
- H**
- handhole, secondary 7-16
- harmonic distortion
 - filtering 1-6
 - total (THD) 1-6
- high-voltage overhead power lines 1-4
- I**
- Intermediate Metallic Conduit (IMC) xxiv
- irrigation pumping overhead metering, direct connect 12-1
- L**
- label requirement for meters
 - mobile home park 9-2
 - multiple-family service 8-1
 - multiple-meter commercial service 10-9, 11-8
 - structure with multiple commercial service 10-1
- landscaping 1-4
- load
 - additional for existing customers 1-2
- load requirements
 - single-phase service 3-8
 - three-phase service 3-8
- locating underground utility cables xxvii, 1-5, 6-3
- location criteria
 - for less-flammable oil-filled transformer next to a building and other oil-filled equipment 5-19
 - for meters 5-1
 - for transformer next to a building 5-18
- M**
- manual link bypass, defined xxiv
- manufactured and mobile home services
 - manufactured home 9-1, 9-5
 - mobile home 9-1, 9-5
 - overhead 9-5
 - underground 9-1
- manufactured home 9-1, 9-5
 - defined xxiv
- map
 - PGE commercial underground network district xxix
 - PGE service territory xxviii
- maximum available fault current 1-2
 - commercial, industrial, agricultural, and multifamily services 1-3
 - network services 1-3
 - single-family residential service, 200 amps or lower 1-2
 - single-family residential service, 201 amps and higher 1-2
- maximum voltage distortion 1-6
- meter
 - clearances 5-1
 - defined xxiv
 - direct-connect 10-2
 - label 8-1, 10-1, 10-2, 10-9, 11-8
 - location criteria 5-1, 10-1
 - nonresidential 5-10

- residential 5-6
 - sealing provisions 3-3
 - self-contained 10-2
 - meter access platform
 - in a flooded area 12-6
 - requirements 12-6
 - typical 12-7
 - meter base ring, defined xxiv
 - meter installations
 - acceptable meter sockets 3-3
 - access to meter socket 3-4
 - corrosive areas 3-4
 - general requirements 3-2
 - meter socket adapters 3-4
 - mounting of meter sockets 3-3
 - primary voltage service 3-4
 - sealing provisions 3-3
 - meter label 10-2
 - meter pedestal, defined xxiv
 - meter socket
 - acceptable 3-3
 - access to 3-4
 - adapters 3-4
 - clearance from gas meter, gas valve, or gas component 3-4
 - current transformer enclosure 10-27
 - defined xxiv
 - direct-connect 10-4
 - in corrosive areas 3-4
 - mounting 3-3
 - mitigating potential surface and subgrade water flows 6-5
 - mixed-use facilities 3-9
 - mobile home 9-1, 9-5
 - defined xxiv
 - underground pedestal service 9-1
 - underground post-mounted installation service 9-4
 - modular home, defined xxiv
 - monument protection 1-4
 - motors
 - adjustable-speed drive controller 1-7
 - protection 1-6
 - starting 1-7
 - mounting of meter sockets 3-3
 - multiple-family service
 - basic requirements 8-1
 - grouping service entrances 8-3
 - multiple-meter installation 5-4
 - overhead service 8-7
 - service terminating arrangements 8-4
 - single-meter installation 5-2
 - underground service 8-4
 - multiple-meter installation 5-4
- N**
- National Electrical Safety Code (NEC) xxiv
 - National Electrical Safety Code (NESC) xxiv
 - National Fire Protection Association (NFPA) xxiv
 - National Fuel Gas Code (NFGC) xxiv
 - NEC, defined xxiv
 - NESC, defined xxiv
 - net metering 1-9
 - new electric service
 - commercial C-1
 - multifamily and residential development B-5
 - request form B-2, B-6, C-2
 - single-family residential B-1
 - NFGC, defined xxiv
 - NFPA, defined xxiv
 - nonresidential meter clearance requirements 5-10
- O**
- Occupational Safety and Health Administration (OSHA) xxv
 - oil-filled equipment 5-19
 - oil-filled transformers
 - separation from a structure 5-17

Index

- online version of ESR book 1-1
- ordinances 2-1
- Oregon Utility Coordinating Council (OUCC)
xxv
- Oregon Utility Notification Center (OUNC) xxv,
xxvii
- OSHA 2-1
 - defined xxv
 - rules 6-1
 - shoring standards 6-2
- OUCC
 - defined xxv
 - standards 6-1
- overhead clearance post 4-8
- overhead service 3-1, 7-20
 - clearance requirements for residential meters 5-6
 - defined xxv
 - for manufactured home 9-5
 - for mobile home 9-5
 - manufactured and mobile homes 9-5
 - multiple-family 8-7
 - service mast and guy anchor requirements for single-family service 7-24
 - surface- and flush-mount installations for single-family service 7-22
- overhead service post 4-3
 - in nonroad crossing 4-7
 - in road or traffic crossing 4-8
- overhead service termination 11-16
- P**
- pad-mounted electrical equipment
 - working clearances 5-20
- pad-mounted transformer 6-8
 - barrier posts 6-9
 - clearances 6-8
 - concrete pad 6-8
 - excavation and backfill 6-9
 - temporary covers 6-9
 - vaults 6-8
- parallel generation 1-8
- permanent service connection 3-1
- permits and applications 2-1
- permits, rights of way, and easements 2-1
- PGE commercial underground network district map xxix
- PGE contact information
 - customer service xxvii
 - emergencies and outages, reporting xxvii
 - service coordination xxvii
 - streetlights out, reporting xxvii
 - tree trimming xxvii
- PGE electrical equipment room 5-10
- PGE email addresses xxvii
- PGE equipment protection 1-4
- PGE Gold Temporary Service 4-11
- PGE phone numbers xxvii
- PGE secondary voltage pedestal and handhole 5-25
- PGE service territory map xxviii
- phone numbers for PGE xxvii
- plumb, defined xxv
- point of attachment, defined xxv
- point of delivery 3-2
 - defined xxv
 - inside customer building 5-1
 - maximum available fault current at 1-2
- point of termination 3-2
- pole-mounted services 12-1
- poles
 - customer equipment on PGE poles 3-7
 - customer-owned 3-7
 - guying 3-7
- post-mounted, freestanding residential meter pedestal 7-18
- power factor 1-5
- power factor, defined xxv
- power lines, overhead 1-4
- power quality 1-5

- primary disconnecting means 3-6
- primary voltage service 3-4
- primary, defined xxv
- protection of PGE equipment 1-4
- pull box 11-7
- PVC conduit, defined xxv

- R**
- reconnects, emergency 2-2
- relocation of services and facilities 3-7
- remote switchgear metering enclosure 11-17
- reporting emergencies and outages xxvii
- reporting streetlights out xxvii
- request form B-2, B-6, C-2, C-6
- required files for service A-1
- residential meter clearances 5-6
- residential sockets 7-1
- revision record for ESR book xvii
- rights of way 2-1

- S**
- safety 1-3
- safety socket, defined xxv
- secondary handhole 5-25, 7-16
- secondary splice pedestal 7-14
- secondary, defined xxv
- select backfill 6-4
 - defined xxv
- self-contained meter 10-2
- separation of electrical equipment and meter from a gas meter set 5-23
- separation of PGE electrical equipment from a liquefied petroleum gas container 5-25
- separation of PGE equipment from other oil-filled equipment 5-19
- service
 - agricultural 12-1
 - commercial, 0 to 800 amps 10-9
 - commercial, industrial, and large residential services, 800 amps or lower 10-1
 - commercial, industrial, and large residential services, 801 amps or higher 11-1
 - multiple-family 8-1
 - overhead 8-7, 9-5
 - pole-mounted 12-1
 - single-family 7-1
 - single-phase 3-8
 - temporary 4-1
 - three-phase 3-8
 - types furnished by PGE 3-1
 - underground 3-1, 8-4, 9-1
- service coordination contact information xxvii
- service drops, 750 volts and lower 5-9
- service entrance conductors, defined xxvi
- service entrances, grouping 8-3
- service lateral, defined xxvii
- service point, defined xxvi
- service request form
 - multifamily and residential development B-6
 - new commercial C-2
 - single-family residential B-2
 - upgrade or relocation of existing commercial service C-6
- service terminating arrangements for multiple-family service 8-4
- service territory for PGE xxviii
- service to mixed-use facilities 3-9
- single-family service
 - basic requirements 7-1
 - defined xxvi
 - overhead 7-20
 - residential sockets 7-1
 - underground 7-2
 - underground service extension 7-2
- single-meter installation 5-2
 - flush-mount 5-2
 - surface-mount 5-3
- single-phase service load requirements 3-8

Index

- six-disconnect rule 1-11, 8-3
- small power production 1-9
- socket
 - defined xxvi
 - residential 7-1
- solar payment option 1-10
- streetlights out, reporting xxvii
- submersible equipment, working clearances 5-22
- swedge reducer 7-13
- sweep, defined xxvi
- switchgear
 - current transformer compartment 11-19
 - current transformer compartment for switchgear 0 to 1000 amps, 0 to 600 volts 11-19
 - current transformer compartment for switchgear 1001 to 3000 amps, 0 to 600 volts 11-21
 - defined xxvi
 - enclosure for primary metering 3-6
 - maintenance 1-3, 10-8
- switchgear metering 11-1
 - commercial multiple metering 11-8
 - EUSERC requirements 11-6
 - indoor 11-2
 - outdoor 11-4
 - overhead service termination switchgear service section 11-16
 - pull box with terminating facilities 11-7
 - remote switchgear metering enclosure 11-17
 - switchgear service termination 11-6
 - underground service termination in a pull section below ground level 11-12
 - underground service termination switchgear service section 11-11
- switchgear service termination 11-6
- T**
- temporary covers on all openings 1-4, 6-9
- temporary service
 - basic requirements 4-1
 - construction criteria 4-1
 - construction requirements 4-2
 - defined xxvi
 - PGE Gold Temporary Service 4-11
 - typical structures for construction work 4-1
 - underground 4-10
- temporary shutdown of customer's service 1-5
- termination compartment requirements 10-6
- terms and definitions xxiii
- test block (TBF), defined xxvi
- test switch, defined xxvi
- theft of electric service, reporting 3-7
- three-phase service load requirements 3-8
- time-of-use metering 1-5
- total harmonic distortion (THD) 1-6
- transformers
 - customer-owned beyond the point of delivery 3-9
 - oil-filled 5-17
 - pad-mounted 6-8
- tree trimming contact information xxvii
- trenches
 - cable separation 6-3
 - call before you dig 6-3
 - controlled density fill 6-4
 - customer-provided 6-1
 - dimensions 6-3
 - mechanical protection 6-4
 - mitigating potential surface and subgrade water flows 6-5
 - select backfill 6-4
- types of service provided by PGE 3-1
 - overhead service 3-1
 - underground service 3-1
- U**
- underground clearances from pools 5-17
- underground conduit 6-5

- underground irrigation pumping service backstop options 12-4
- underground requirements
 - basic requirements 6-1
 - concrete pads and vaults for a pad-mounted transformer 6-8
 - conduit 6-5
 - customer-provided trenches 6-1
- underground service
 - customer responsibilities 6-1
 - defined xxvi
 - EUSERC requirements for multiple-family service 8-4
 - locational requirements for multiple-family service 8-4
 - manufactured and mobile homes 9-1
 - manufactured home 9-1
 - mobile home 9-1
 - multiple-family 8-4
 - post mounted 4-10
 - single-family 7-2
 - temporary 4-10
- underground service extension 7-2
 - flush-mount installation 7-11
 - surface-mount installation 7-8
 - swedge reducer for meter base applications 7-13
 - underground conduit system for long-side service 7-12
- underground service termination 11-11, 11-12
- underground utility cables, locating xxvii, 1-5, 6-3
- unmetered electric service, reporting 3-7
- upgrading or relocating commercial electric service C-5
- net metering power production 1-9
- solar production meter 1-10
- water flows 6-5, 7-2, 8-1
- work activity near high-voltage overhead power line over 600 volts 1-4
- working clearances
 - around pad-mounted electrical equipment 5-20
 - around PGE submersible equipment 5-22
- workspace requirements
 - electrical equipment room 5-11
 - entrance to workspace 5-15
 - general requirements 5-11
 - when there are two enclosures 5-13
 - when there are two enclosures and two doorways 5-14
 - when there is one enclosure 5-11
 - when there is one enclosure and one doorway 5-12

V

- voltage pedestals
 - secondary 5-25

W

- warning label
 - customer-owned generation 1-11

Index
