

DEFINITIONS AND ABBREVIATIONS

RULE AND REGULATION 2

A. ABBREVIATIONS

AMI	-	Advanced Metering Infrastructure
AMR	-	Automated Meter Reading
AER	-	Advance Engineering Request
APGA	-	American Public Gas Association
ARB	-	Air Resources Board (California)
AWWA	-	American Water Works Association
Btu	-	British Thermal Unit
ccf	-	Hundred Cubic Feet (water)
CEC	-	California Energy Commission
CNG	-	Compressed Natural Gas
CPAU	-	City of Palo Alto Utilities
CPI	-	Consumer Price Index
CPUC	-	California Public Utilities Commission
DOE	-	Department of Energy (Federal)
DOT	-	Department of Transportation (Federal)
DSM	-	Demand-side Management
EVSE	-	Electric Vehicle Supply Equipment
ERT	-	“Encode, Receive, Transmit”
ERU	-	Equivalent Residential Unit
FERC	-	Federal Energy Regulatory Commission
GPM	-	Gallons Per Minute
kVar	-	Kilovar
kVarh	-	Kilovar-hours
kW	-	Kilowatt
kWh	-	Kilowatt-hour
LCFS	-	Low Carbon Fuel Standard
MW	-	Megawatt
MMBtu	-	One million Btu.
NCPA	-	Northern California Power Agency
NEC	-	National Electric Code, Latest Version
NEM	-	Net Energy Metering
NEM 1	-	Net Energy Metering Program
NEM 2	-	Net Energy Metering Successor Program
NEMA	-	Net Energy Metering Aggregation
NEMIA	-	Net Energy Metering Interconnection Agreement
NRTL	-	Nationally Recognized Testing Laboratory
PAMC	-	Palo Alto Municipal Code



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PSIG	-	Per square inch gauge
RAP	-	Rate Assistance Program
PPA	-	Power Purchase Agreement
PST	-	Pacific Standard Time
RTP	-	Real-time Pricing
RWQCP	-	Regional Water Quality Control Plant
TOU	-	Time of Use
WAPA	-	Western Area Power Administration
UUT	-	Utilities Users Tax

B. GENERAL DEFINITIONS

Account

The identification number in CPAU's billing system for Utility Services.

Advance Engineering Fee

A non-refundable fee paid at the start of an engineering review process. The Advance Engineering Fees will be credited against the estimated job cost prior to collection of construction fees.

Agency

Any local, county, state or federal governmental body or quasi-governmental body, including, without limitation, the CPUC, the FERC and any joint powers agency, but excluding the City and any board, commission or council of the City.

Aggregation Customer

A Customer with a Renewable Electrical Generation Facility wishing to install an eligible Renewable Electrical Generation Facility that is sized to offset separately metered electric loads on adjacent or contiguous properties that are solely owned, leased, or rented by that Customer, and who has signed the Net Energy Metering Interconnection Agreement for NEM Aggregation.

Affected System

An Electric system, other than CPAU's Distribution or Transmission System, that may be affected by a Customer's proposed Interconnection of a Generating Facility.

Affected System Operator

The entity that operates an Affected System.

Applicant

CITY OF PALO ALTO UTILITIES RULES AND REGULATIONS

Issued by the City Council



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An individual, corporation, partnership, Agency, or other legal entity or authorized agent of same, requesting CPAU to supply any or all of the following:

1. Electric Service
2. Water Service
3. Gas Service
4. Wastewater Collection
5. Refuse Service
6. Storm and Surface Water Drainage Service
7. Fiber Optics Service

Or, an entity submitting an Application for Interconnection pursuant to Utilities Rule and Regulation 27.

Application (for Interconnection of Generating Facilities)

An approved standard form (Load Sheet) submitted to CPAU for Interconnection of a Generating Facility.

Backflow Prevention Assembly

Approved device to prevent water from Customer plumbing from flowing into the City's Water Distribution System.

Beneficiary Account

The Electric Service Meter(s) serviced by an Aggregation Customer's Generating Facility, as listed on the Aggregation Customer's NEM Aggregation Interconnection Agreement.

Bidweek Price Index

The price reported in Natural Gas Intelligence "NGI's Bidweek Survey", California "PG&E Citygate" under the column "avg." for the calendar month.

Billing Period

Also "service period" or "billing cycle". The normal Billing Period for CPAU Customers is 27 to 33 days with variations occurring due to staff availability, holiday scheduling, field verification of Meter readings, or any other billing-related issues requiring additional investigation prior to issuance of the bill.

British Thermal Unit

Also "Btu". The standard sub-unit of measurement comprising a Therm of natural Gas. One (1) Therm equals 100,000 Btu.



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Business Day

Any day, except a Saturday, Sunday, or any day observed as a legal holiday by the City.

Business Partner

A Utilities customer having multiple service locations in the City of Palo Alto.

ccf (lower case)

One hundred cubic feet of water (748 gallons).

Certification Test

A test pursuant to Utilities Rule and Regulation 27 that verifies conformance of certain equipment with approved performance standards in order to be classified as Certified Equipment. Certification Tests are performed by NRTLs.

Certification; Certified; Certificate

The documented results of a successful Certification Test.

Certified Equipment

Equipment that has passed all required Certification Tests.

Charge

Any assessment, cost, fee, surcharge or levy for Utility Service other than a Tax, including metered and unmetered Utility Service, capacity, connections, construction, penalties, and mandated or required Customer financial obligations for Service.

Charter

The Charter of the City of Palo Alto.

City Attorney

The individual designated as the City Attorney of the City under Section 2.08.120 of the Palo Alto Municipal Code, and any Person who is designated the representative of the City Attorney.

City's Collector

The Person(s) authorized under Section 5.20.040 of the Palo Alto Municipal Code to provide collection, processing and disposal of Refuse including Solid Waste, Compostable Materials and Recyclable Materials pursuant to one or more written contracts with the City.

City Lateral

A City Lateral (also known as a Lower Sewer Lateral) is the portion of the Sewer Lateral that is owned



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and maintained by the City. A City Lateral typically is the lower portion of a Sewer Lateral downstream from the City Sewer Cleanout.

City Manager

The individual designated as the City Manager of the City under Section 2.08.140 of the Palo Alto Municipal Code, and any Person who is designated the representative of the City Manager.

City of Palo Alto, or City

The government of the City of Palo Alto, a chartered City and a municipal corporation duly organized and validly existing under the Laws of the State of California, with a principal place of business located at 250 Hamilton Avenue, Palo Alto, County of Santa Clara. For the purposes of these Rules and Regulations, the term "City" may include services provided by both the City of Palo Alto Utilities Department and the City of Palo Alto Public Works Department.

City of Palo Alto Public Works Department (Public Works)

The City Department responsible for providing Refuse Service, Wastewater Treatment and Storm and Surface Water Drainage Services. Other Utility Services such as Water, Gas, Electric, Wastewater Collection, and Fiber Optics are provided by the City of Palo Alto Utilities Department.

City of Palo Alto Utilities Department (CPAU)

The City Department responsible for providing Water, Gas, Electric, Wastewater Collection and Fiber Optic Utility Services. Other Utility Services such as Refuse Service, Wastewater Treatment and Storm and Surface Water Drainage are provided by the City of Palo Alto Public Works Department.

City Sewer Cleanout

A sewer cleanout is a point of access where the Sewer Lateral can be serviced. The City Sewer Cleanout typically marks the transition point between the City Lateral (Lower Sewer Lateral) and the Customer's Upper Lateral, as further described in Utilities Rule and Regulation 23. .

CNG Vehicle

A vehicle powered by compressed natural gas.

Code

The words "the Code" or "this Code" shall mean the Palo Alto Municipal Code.

Commercial Service

Commercial Utility Service is provided to businesses, non-profit organizations, public institutions, and industrial Customers. The term also applies to Utility Services through Master Meters serving multi-family Residential dwellings and common areas of multi-family facilities.



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Compostable Materials

Organic materials designated by the City as acceptable for collection and processing, including, without limitation, yard trimmings, food scraps, soiled paper and compostable plastics, but excluding animal manure, sewage sludge, and human biological infectious wastes.

Container

Any bin, box, cart, compactor, drop box, roll-off box, or receptacle used for storage of Solid Waste, Recyclable Materials, Compostable Materials or other materials designated by the City to be collected by the City's Collector.

Cooling Degree Days

The number of the degrees per day that the daily average temperature is above 65 degrees Fahrenheit. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

Cross Bore

A Cross Bore is the unintended conflict between one utility line and a portion of another utility line. This situation can happen during construction using "horizontal directional drilling" or underground pneumatic boring.

Cross Bore Inspection Program

The Cross Bore Inspection Program inspects City Laterals and Private Laterals to find and repair Gas pipes that pass through existing Sewer Laterals.

Cross Connection

Cross Connections are any actual or potential unapproved unprotected connections between a potable water system and any source or system containing unapproved water or a substance which may not be safe.

Cross Connection Control and Backflow Prevention Program

This program protects the quality of drinking Water by preventing contaminants in private Service pipes from entering the Water Distribution system.

Cubic Foot of Gas (cf)

The quantity of Gas that, at a temperature of sixty (60) degrees Fahrenheit and a pressure of 14.73 pounds per square inch absolute, occupies one cubic foot.

Curtailment

The act of reducing or interrupting the delivery of natural Gas.



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Customer

The Person, corporation, Agency, or entity that receives or is entitled to receive Utility Service(s) from the City of Palo Alto, or in whose name Service is rendered for a particular Account as evidenced by the signature on the Application, contract, or agreement for Service. In the absence of a signed instrument, a Customer shall be identified by the receipt of any payment of bills regularly issued in the name of the Person, corporation, or Agency regardless of the identity of the actual user of the Utility Service(s).

Customer-Generator

A Customer who is an “eligible customer-generator,” as that term is defined by the California Public Utilities Code section 2827, as the same may be amended from time to time.

Dark Fiber (Optic)

A Fiber Optic cable provided to end-users or resellers by CPAU without any of the light transmitters, receivers, or electronics required for telecommunications over the Fiber. Transmission equipment for Fiber Optic activation service is provided by the reseller or end-user.

Dark Fiber (Optic) Infrastructure

The components of the CPAU Fiber Optic Distribution System required to provide Service to Customers (licensees), that are attached, owned, controlled or used by the City, located overhead or underground within the Public Right-of-Way, the Public Utility Easements and Leased Service Properties.

Dark Fiber (Optic) Licensing Agreement

The mandatory contractual agreement between the City and the Customer specifying the terms, conditions and pricing to access the City of Palo Alto’s Dark Fiber (Optic) Ring.

Dedicated Distribution Transformer

A distribution transformer that is dedicated to serving a single premise.

Demand

The highest rate of metered delivery of Electric energy, measured in Kilowatts (kW) or kilovolt amperes (kVA) occurring instantaneously or registered within a specified time interval (normally fifteen minutes within a monthly billing cycle, unless otherwise specified).

Demand Charge

An electrical Charge or rate that is applied to a metered Demand reading, within a specified interval, expressed in Kilowatts (kW) to compute the Demand Charge component of a Customer’s Electric bill.

Demand-side Management



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The planning, implementation, and monitoring of Utility activities designed to encourage commercial, residential, agricultural, and institutional Customers to modify patterns of electricity, natural gas, and water usage, including the timing and level of demand. Demand-side management also covers the complete range of electric load-shape objectives, including strategic conservation, load management, and strategic load growth.

Demarcation Point

The Demarcation Point for a project shall be the Customer side of the panel onto which the CPAU Fiber terminates within the Customer Premises, unless otherwise specified in the Proposal for Dark Fiber Services.

Deposit

A fixed amount (for residential customers), or an estimated amount based upon usage (for commercial customers, except Fiber Optic), to be paid to the Utilities Department upon submission of an Application for Service. See Utilities Rule and Regulation 7, "Deposits."

Detailed Study

An engineering study consisting of an Interconnection System Impact Study and an Interconnection Facilities Study for the purpose of identifying Interconnection Facilities, Distribution Upgrades, and Reliability Network Upgrades.

Disconnection Notice

A final written notice from CPAU to the Customer indicating the date that all Utilities Services will be disconnected for non-payment unless payment is tendered to mitigate an outstanding balance, or until a Payment Arrangement is completed with CPAU for repayment over time. See Utilities Rule and Regulation 9, "Disconnection, Termination, and Restoration of Service."

Distribution Services

This includes, but is not limited to, Utility Service provided by the City's Distribution System and other Services such as billing, Meter reading, administration, marketing, and Customer Services. Distribution Services do not include Services directly related to the Interconnection of a Generating Facility, as per Utilities Rule and Regulation 27.

Distribution System

The infrastructure owned and operated by CPAU which is capable of transmitting electrical power, other than Interconnection Facilities, or transporting Water, Wastewater, or Gas within the City of Palo Alto. The Electric Distribution System transmits power from the City's Interconnection with PG&E to



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CPAU's Meter located on the Customer's Premises. The Gas Distribution System transports Gas from PG&E receiving stations to CPAU's Meter located on the Customer Premises. The Water Distribution System transports Water from the San Francisco Water Department receiving stations and CPAU wells to the meter located on the Customer Premises. The Wastewater Collection System transports sewage from the Customer's Premises to the Water Quality Control Plant.

Duct

A single, enclosed thoroughfare for conductors, cables, or wires.

Easement

See **Public Utility Easement**.

Efficiency

The ratio of water or energy input to useful output, measured at either a single point in time, or measured change in ratio over time.

Effluent

Treated or untreated Wastewater flowing out of a Wastewater treatment facility, sewer, or industrial outfall.

Elasticity of Demand

The ratio of the percentage change in consumer demand to the percentage change in price. If the ratio is more than one, demand is elastic (sensitive to price).

Electric Distribution

The process of delivering electric energy to customers on a utility's distribution system. Transmission lines carry electricity at high voltage to substations which reduce the voltage and distribute the electricity over primary distribution lines that extend throughout the service territory.

Electric, Electric Service

A Utility Service provided to residents and business owners in the City of Palo Alto consisting of the generation, transmission, and distribution of electrical power for retail use. Electric Service is provided by the City of Palo Alto Utilities Department.

Electric Vehicle

A vehicle powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, photovoltaic arrays, residential or commercial charging kiosks, or other sources of electric current.



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Electric Vehicle Supply Equipment (EVSE)

The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle. EVSE is as defined in the California Electrical Code, California Code of Regulations (CCR), Title 24, Part 3, Chapter 6, Article 625 (Electric Vehicle Charging System), as amended.

Enterprise Funds, Enterprise Services

A budgetary identification for individual Utilities services. Each individual Utility (electric, natural gas, water, wastewater, storm drain, fiber optic, refuse) has its own operating and capital budgets, staffing, contracts, financial obligations, cash reserves, etc. combined into specific Enterprise Funds.

Emergency

An actual or imminent condition or situation, which jeopardizes CPAU's Distribution System Integrity.

Emergency Service

The Electric Service supplied to, or made available to, Load devices which are operated only in Emergency situations or in testing for same.

Energy Services

The Energy commodity and any applicable ancillary Services used to generate and transport such commodity from its origin to the City's Point of Receipt. May also mean the sale of value-added Services associated with or related to the Provision and/or usage of the energy commodity.

Energy Storage Facility, Energy Storage System

A facility or storage system that is an "energy storage system," as that term is defined by the California Public Utilities Code section 2835, as the same may be amended from time to time.

End Points

The respective start and termination of a Fiber Optic cable.

Equivalent Residential Unit (ERU)

The basic unit for computing storm and surface water drainage fees. All single-family Residential properties are billed the number of ERU's specified in the table contained in Utility Rate Schedule D-1, according to parcel size. All other properties have ERU's computed to the nearest 1/10 ERU using this formula: No. Of ERU = Impervious Area (sq. ft.) / 2,500 sq. ft.



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ERT (“Encode, Receive, Transmit”)

A battery-powered module attached to an Electric, natural Gas, or Water Meter that permits the remote reading by CPAU of secure, or encrypted, meter data from a centralized location for the purposes of billing, outage management, or data analysis.

Final Bill

The last bill that is issued upon permanent termination of Service. This bill will combine ending financial debits and credits, close the Account, and terminate all further Customer and Utility financial obligations, unless additional Services are requested by the Customer prior to the receipt of the final bill.

Fiber Optic (Optical Fiber), Fiber Optic Service

A solid core of optical transmission material. Fiber Optic Service that is provided by the City of Palo Alto Utilities Department is referred to as Dark Fiber.

Fiber Optic Backbone

The high-density portion of the Dark Fiber Infrastructure installed and owned by the City.

Force Majeure

The occurrence of any event that has, had, or may have an adverse effect on the design, construction, installation, management, operation, testing, use or enjoyment of the City’s Utility Services, which is beyond the reasonable control of the City or Customer and which event includes, but is not limited to, an Act of God, an irresistible superhuman cause, an act of a superior governmental authority, an act of a public enemy, a labor dispute or strike or a boycott which could not be reasonably contemplated by the City or Customer affected thereby, a defect in manufactured equipment (including, but not limited to, the Dark Fibers), fire, floods, earthquakes, or any other similar cause.

Gas, Gas Service

Gas refers to the Utility Service provided to residents and business owners in the City of Palo Alto. Gas Service consists of procurement, transmission, and distribution of any combustible gas or vapor, or combustible mixture of gaseous constituents used to produce heat by burning for retail use. It includes, but is not limited to, natural gas, gas manufactured from coal or oil, gas obtained from biomass or from landfill, or a mixture of any or all of the above. Gas Service is provided by the City of Palo Alto Utilities Department.

Generating Facility

All Generators, electrical wires, equipment, and other facilities owned or provided by the Producer for the purpose of producing Electric power, including energy storage facilities and solar or wind turbine-powered Renewable Electrical Generation



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Generator

A device converting mechanical, chemical or solar energy into electrical energy, including any required protection and control functions, features and structural appurtenances. One or more Generators may comprise a Generating Facility

Gross Nameplate Rating; Gross Nameplate Capacity

The total gross generating capacity of a Generator or Generating Facility as designated by the manufacturer(s) of the Generator(s).

Heating Degree Days (HDD)

The number of the degrees per day that the daily average temperature is below 65 degrees Fahrenheit. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

Initial Interconnection Capacity

The maximum rated generating capacity of a Renewable Electrical Generation Facility eligible for Net Energy Metering prior to the Total Rated Generating Capacity exceeding the NEM Cap.

Initial Review

The review by CPAU, following receipt of an Application for Interconnection, to determine the following: (a) whether the Generating Facility qualifies for Simplified Interconnection; or (b) if the Generating Facility can be made to qualify for Interconnection with a Supplemental Review determining any additional requirements.

Inspector

The authorized inspector, agent, or representative of CPAU.

Interconnection; Interconnected

The physical connection of a Generating Facility in accordance with the requirements of the City's Utilities Rules and Regulations allowing Parallel Operation with CPAU's Distribution System to occur.

Interconnection Agreement

An agreement between CPAU and the Producer providing for the Interconnection of a Generating Facility that gives certain rights and obligations to effect or end Interconnection. For the purposes of the City's Utilities Rules and Regulations, the Net Energy Metering and Interconnection Agreements, and the Power Purchase Agreements authorized by the City Council may be considered Interconnection Agreements.



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Interconnection Facilities

The electrical wires, switches and related equipment that are required in addition to the facilities required to provide Electric Distribution Service to a Customer to allow Interconnection. Interconnection Facilities may be located on either side of the Point of Common Coupling as appropriate to their purpose and design. Interconnection Facilities may be integral to a Generating Facility or provided separately.

Interconnection Facilities Study

A study conducted by CPAU for an Interconnection Customer under the Detailed Study process to determine a list of facilities (including CPAU's Interconnection Facilities, Distribution Upgrades, and Reliability Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with CPAU's Distribution or Transmission System.

Interconnection Request

An Applicant's request for the Interconnect of a new Generating Facility, or to increase the capacity of, or make a material modification to the operating characteristics of, an existing Generating Facility that is Interconnected with CPAU's Distribution or Transmission System.

Interconnection Study

A study to establish the requirements for Interconnection of a Generating Facility with CPAU's Distribution System.

Interconnection System Impact Study

An engineering study conducted by CPAU for an Interconnection Customer under the Independent Study Process that evaluates the impact of the proposed interconnection on the safety and reliability of CPAU's Distribution and/or Transmission system and, if applicable, an Affected System.

Internet Exchange

Any Internet data center for telecommunications equipment and computer equipment for the purposes of enabling traffic exchange and providing commercial-grade data center services.

Island; Islanding

A condition on CPAU's Electric Distribution System in which one or more Generating Facilities deliver power to Customers using a portion of CPAU's Distribution System that is electrically isolated from the remainder of CPAU's Distribution System.



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Junction, Junction Site

A location on the Dark Fiber Infrastructure where equipment is installed for the purpose of connecting communication cables. The Junction Site refers to the area within the Transmission Pathway at which a Junction is located.

Kilovar (kVar)

A unit of reactive power equal to 1,000 reactive volt-amperes.

Kilovar-hours (kVarh)

The amount of reactive flow in one hour, at a constant rate of Kilovar.

Kilowatt (kW)

A unit of power equal to 1,000 watts.

Kilowatt-hour (kWh)

The amount of energy delivered in one hour, when delivery is at a constant rate of one Kilowatt; a standard unit of billing for electrical energy.

Leased Service Properties

Any equipment or utility infrastructure which is not owned by CPAU, but leased from another provider in order to deliver service.

Law

Any administrative or judicial act, decision, bill, Certificate, Charter, Code, constitution, opinion, order, ordinance, policy, procedure, Rate, Regulation, resolution, Rule, Schedule, specification, statute, tariff, or other requirement of any district, local, municipal, county, joint powers, state, or federal Agency, or any other Agency having joint or several jurisdiction over the City of Palo Alto or City of Palo Alto Utilities or Public Works Customers, including, without limitation, any regulation or order of an official or quasi-official entity or body.

Licensed Fiber(s)

One or more fibers comprising a part of the Dark Fiber Infrastructure that is dedicated to the exclusive use of the Customer under the Provisions of the Dark Fiber License Agreement, a Proposal to the Dark Fiber Services Agreement, and the Utilities Rules and Regulations.

Licensed Fibers Route

A defined path of Licensed Fibers that is identified by specific end points.



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Load(s)

The Electric power Demand (kW) of the Customer at its Service Address within a measured period of time, normally 15 minutes, or the quantity of Gas required by a Customer at its Service Address, measured in MMBtu per Day.

Low Carbon Fuel Standard (LCFS)

A program developed and administered by the California Air Resources Board to lower the carbon intensity of transportation fuel under the Global Warming Solutions Act of 2006 (AB 32). Through the LCFS program, the City, through its Electric Utility, receives credits for providing electricity to charge electric vehicles. These credits are sold and the funds are utilized to benefit current or future electric vehicle customers, educate the public on the benefits of electric vehicle transportation, and accelerate the adoption of electric vehicles.

Lower Sewer Lateral

See **City Lateral**.

Master-metering

Where CPAU installs one Service and Meter to supply more than one residence, apartment dwelling unit, mobile home space, store, or office.

Maximum Generation

For a Customer with a non-utility generator located on the Customer's side of the Point of Common Coupling, the Maximum Generation for that non-utility generator during any billing period is the maximum average generation in kilowatts taken during any 15-minute interval in that billing period, provided that in case the generator output is intermittent or subject to violent fluctuations, the City may use a 5-minute interval.

Meter

The instrument owned and maintained by CPAU that is used for measuring the quantity of the Electric, Gas or Water Service delivered to the Customer.

Metering

The measurement of electrical power flow in kW and/or energy in kWh, and, if necessary, reactive power in kVar at a point, and its display to CPAU.

Metering Equipment

All equipment, hardware, software including Meter cabinets, conduit, etc., that are necessary for Metering.



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Meter Read

The recording of Customer usage data from Metering Equipment.

Minimum Charge

The least amount to be billed to a Customer for rendering Service, in accordance with the applicable Rate Schedule.

Momentary Parallel Operation

The Interconnection of a Generating Facility to the Distribution System for one second (60 cycles) or less.

Nationally Recognized Testing Laboratory (NRTL)

A laboratory accredited to perform the Certification Testing requirements under Utilities Rule and Regulation 27.

Natural Gas Distribution

The process of delivering natural gas to customers on a utility's distribution system. Transmission lines carry natural gas at high pressures to receiving stations in Palo Alto, which reduce the pressure and distribute the natural gas over the City's Gas Distribution System.

Net Electricity Consumer

A Customer-Generator or Producer whose Generating Facility produces less electricity than is supplied by CPAU during a particular period; may also be referred to as a Net Electricity Importer.

Net Electricity Exporter

A Customer-Generator whose Generating Facility produces more electricity than is supplied by CPAU during a particular period; may also be referred to as a Net Surplus Customer-Generator.

Net Energy Metering (NEM)

A means of measuring Customer-generated renewable electricity exported to the CPAU grid.

Net Energy Metering 1 (NEM 1)

CPAU's original Net Energy Metering (NEM) Program and Net Energy Metering Aggregation (NEMA) Program, either individually or collectively, which were developed in accordance with Senate Bill 656 (1995).

Net Energy Metering Cap (NEM Cap)

The MW value reached when the Total Rated Generating Capacity used by eligible NEM 1 Customer-Generators exceeded 5 percent of CPAU's aggregate Customer peak Demand, at which point NEM 1 became closed to new Customer-Generators. CPAU reached its NEM Cap on December 31, 2017.



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Net Energy Metering 2 (NEM 2); Net Energy Metering Successor Program

CPAU's NEM Program offering compensation for Customer-Generators whose Generating Facilities are Interconnected after the NEM Cap was reached, including Customers-Generators who are eligible for NEM 1 but elect to take Service under the Net Energy Metering Successor Program. NEM 2 Customers take Service under Utilities Rate Schedule E-EEC-1 (Export Electricity Compensation), in conjunction with their otherwise applicable Rate Schedule.

Net Energy Metering Aggregation

The process by which an eligible Customer-Generator with multiple Meters participating in CPAU's NEM 1 Program may elect to combine the electrical Load of the Meters located on the property where the Renewable Electrical Generation Facility is located and on property adjacent or contiguous, if those properties are solely owned, leased, or rented by the eligible Customer-Generator.

Net Generation Metering

Metering of the net electrical power of energy output in kW or energy in kWh, from a given Generating Facility. This may also be the measurement of the difference between the total electrical energy produced by a Generator and the electrical energy consumed by the auxiliary equipment necessary to operate the Generator.

Net Nameplate Rating

The Gross Nameplate Rating minus the consumption of electrical power of a Generator or Generating Facility as designated by the manufacturer(s) of the Generator(s).

Net Surplus Customer-Generator

See **Net Electricity Exporter**.

Net Surplus Electricity Compensation

A per kilowatt-hour rate offered to NEM 1 Net Surplus Customer-Generators (excluding NEM Aggregation Customers) for net surplus electricity, as such definition may otherwise be modified or supplemented by any definition in California Public Utilities Code section 2827(b)(8), as the same may be amended from time to time.

Non-Islanding

A method designed to detect and disconnect from an Unintended Island with matched Load and generation. Reliance solely on under/over voltage and frequency trip is not considered sufficient to qualify as Non-Islanding.



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Occupied Domestic Dwelling

Any house, cottage, flat, or apartment unit having a kitchen, bath, and sleeping facilities, which is occupied by a Person or Persons.

Parallel Operation

The simultaneous operation of a Generator with power delivered or received by CPAU while Interconnected. For the purpose of Utilities Rules and Regulations, Parallel Operation includes only those Generating Facilities that are Interconnected with CPAU's Distribution System for more than 60 cycles (one second).

Performance Test, Performance Tested

After the completion of any Fiber Interconnection work, the City will conduct a Performance Test of each Fiber constituting a part of the proposed leased fibers to determine its compliance with the Performance Specifications.

Performance Specifications

These specifications will include, but not be limited to, criteria relating to end-to-end optical time domain reflectometer data plots that identify the light optical transmission losses in each direction along the licensed Fibers whenever the testing is possible, measured in decibels at a wavelength of 1310 or 1550 nanometers for single-mode Fiber, as a function of distance, measured in kilometers.

Person

Any individual, for profit corporation, nonprofit corporation, limited liability company, partnership, limited liability partnership, joint venture, business, family or testamentary trust, sole proprietorship, or other form of business association.

PG&E Citygate

The PG&E Citygate is the point at which PG&E's backbone natural Gas transmission system connects to the CPAU local natural Gas Distribution System.

Point of Common Coupling (PCC)

The transfer point for electricity between the electrical conductors of CPAU and the electrical conductors of the Producer.

Point of Common Coupling Metering

Metering located at the Point of Common Coupling. This is the same Metering as Net Generation Metering for Generating Facilities with no host Load.

Point of Delivery (POD)



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Unless otherwise specified, the following definitions apply: For Electric, that location where the Service lateral conductors connect to the Customer's Service entrance equipment; for overhead Services, the POD is at the weather-head connection; for underground Services, the POD is located at the terminals ahead of or at the Meter; for multiple Meter arrangements with connections in a gutter, the POD is at the Meter terminals (supply-side); for multiple Meter arrangements in a switchboard, the POD is typically at the connectors in the utility entrance section; for Natural Gas, the POD is the point(s) on the Distribution System where the City delivers natural Gas that it has transported to the Customer.

Point of Interconnection

The electrical transfer point between a Generating Facility and the Distribution System. This may or may not be coincident with the Point of Common Coupling.

Point of Service (POS)

Where CPAU connects the Customer's Electric Service lateral to its Distribution System. For Fiber Optics Service, this is where CPAU connects the Customer's Fiber Service to the backbone. This point is usually a box located in or near the street or sidewalk and can be in the Public Right-of-Way. This point is at a mutually agreed upon location established at the time of installation.

Pole Line

Overhead wires and overhead structures, including poles, towers, support wires, conductors, guys, studs, platforms, cross arms braces, transformers, insulators, cutouts, switches, communication circuits, appliances attachments, and appurtenances, located above ground and used or useful in supplying Electric, communication, or similar or associated Service.

Power Factor

The percent of total power delivery (kVA) which does useful work. For billing purposes, average Power Factor is calculated from a trigonometric function of the ratio of reactive kilovolt-ampere-hours to the kilowatt-hours consumed during the billing month. Power Factor is a ratio that reflects the reactive power used by a Customer. CPAU maintains an overall system Power Factor above 95% to reduce distribution system losses caused by low Power Factor.

Power Factor Adjustment

An adjustment to Customer's bill that CPAU may make when necessary due to Customer maintaining low Power Factor. . CPAU may make a Power Factor Adjustment to a Customer's bill to account for those costs to install additional equipment to correct for Customers that maintain a low Power Factor and the additional energy costs and losses incurred by CPAU due to the Customer's low Power Factor.



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Premise(s)

All structures, apparatus, or portion thereof occupied or operated by an individual(s), a family, or a business enterprise, and situated on an integral parcel of land undivided by a public street, highway, or railway.

Primary Service

The Electric Distribution Service CPAU provides to a Customer's Premises at a voltage level equal to or greater than 1000 volts.

Private Lateral

A Private Lateral (also known as the Upper Sewer Lateral) is the portion of the Sewer Lateral that is owned and maintained by the Customer. A Private Lateral typically is the upper portion of a Sewer Lateral upstream from the City Sewer Cleanout. A Private Lateral may include the entire Sewer Lateral if a City Sewer Cleanout is not present or if the Sewer Main is in a Public Utility Easement.

Producer

The entity that executes an Interconnection Agreement with CPAU. The Producer may or may not own or operate the Generating Facility, but is responsible for the rights and obligations related to the Interconnection Agreement.

Proposal for Dark Fiber Services

A project-specific Service agreement that acts as a supplemental document for the Dark Fiber License Agreement. This Service agreement shall include the proposed Interconnection fees, applicable Fiber licensing fees, term of the Service, and summary of licensed Fiber elements.

Protective Function(s)

The equipment, hardware and/or software in a Generating Facility (whether discrete or integrated with other Functions) whose purpose is to protect against Unsafe Operating Conditions.

Provision

Any agreement, circumstance, clause, condition, covenant, fact, objective, qualification, restriction, recital, reservation, representation, term, warranty, or other stipulation in a contract or in Law that defines or otherwise controls, establishes, or limits the performance required or permitted by any party.

Prudent Utility Practices

The methods, protocols, and procedures that are currently used or employed by utilities to design, engineer, select, construct, operate and maintain facilities in a dependable, reliable, safe, efficient and economic manner.



DEFINITIONS AND ABBREVIATIONS

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Public Right-of-Way

The areas owned, occupied or used by the City for the purposes of furnishing retail and/or wholesale Electricity, Gas, Water, Wastewater, Storm and Surface Water Drainage, Refuse Service or communications commodity and/or distribution Service, and the means of public transportation, to the general public, including but not limited to, the public alleys, avenues, boulevards, courts, curbs, gutters, lanes, places, roads, sidewalks, sidewalk planter areas, streets, and ways.

Public Utility Easements; Easement

The areas occupied or used by the City for the purpose of providing Utility Service and all related Services offered by the City to the general public, the rights of which were acquired by easements appurtenant or in gross, or other interests or estates in real property, or the highest use permitted to be granted by the nature of the City's interest in and to the affected real property. This term incorporates all public Service Easements for Utility Services that have been recorded by the City with the Recorder of the County of Santa Clara, California.

Public Works Department

See **City of Palo Alto Public Works Department**.

Rate Schedule

One or more Council-adopted documents setting forth the Charges and conditions for a particular class or type of Utility Service. A Rate Schedule includes wording such as Schedule number, title, class of Service, applicability, territory, rates, conditions, and references to Rules.

Recyclable Materials

Materials designated by the City as suitable for collection and transport to a material recovery facility for processing into a recycled content product, including, but not limited to newspaper, paper, cans, corrugated cardboard, glass and certain types of plastic, and metals.

Refuse Service

Refuse Service includes weekly collection, processing and disposal of Solid Waste, weekly collection and processing of Recyclable Materials, weekly collection and processing of Compostable Materials and construction and demolition waste, street sweeping service, the household hazardous waste program, and the annual Clean Up Day.

Reliability Network Upgrades

The transmission facilities at or beyond the point where CPAU's Distribution System interconnects to the CAISO controlled grid that are necessary for the Interconnection of one or more Generating Facility(ies) safely and reliably to the CAISO-controlled grid, .



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Renewable Electrical Generation Facility

A Generation Facility eligible for NEM 1 under California Public Utilities Code section 2827 *et seq.* as the same may be amended from time to time.

Reserved Capacity

For a Customer with one or more non-utility generators located on the Customer's side of the Point of Common Coupling, the Reserved Capacity for each billing period is the lesser of 1) the sum of the Maximum Generation for that period for all non-utility generation sources; or 2) the maximum average Customer Demand in kilowatts taken during any 15-minute interval in the billing period, provided that in case the Load is intermittent or subject to violent fluctuations, the City may use a 5-minute interval.

Residential Service

Utility Service provided to separately metered single family or multi-family domestic dwelling.

Restoration of Service

The reactivation of a Utilities Account after: a) payment is received after Disconnection for non-payment, or b) the operating condition of a Customer's facility is brought into compliance with CPAU requirements. See Utilities Rule and Regulation 9, "Disconnection, Termination, and Restoration of Service."

Rules and Regulations

See **Utilities Rules and Regulations**

Scheduling Coordinator

An entity providing the coordination of power schedules and nominations to effect transportation and distribution of Gas, Electric power and energy.

Secondary Service

CPAU Electric distribution Service provided to a Customer's Premises at a voltage level less than 1000 volts.

Service(s)

Utility Services offered by the City of Palo Alto include Electric, Fiber Optics, Gas, Water, Wastewater Collection services provided by the Utilities Department (CPAU); and Refuse Service, Wastewater Treatment, and Storm and Surface Water Drainage Services provided by the Public Works Department.

Service Address

The official physical address of the building or facility assigned by CPAU's Planning Department, at which Customer receives Utility Services.

CITY OF PALO ALTO UTILITIES RULES AND REGULATIONS

Issued by the City Council



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Service Charge

A fixed monthly Charge applicable on certain Rate Schedules that does not vary with consumption. The Charge is intended to recover a portion of certain fixed costs.

Service Drop

The overhead Electric Service conductors from the last pole or other aerial support to and including the splices, if any, connecting to the service entrance conductors at the building or other structure. Or, in the case of Fiber Optic Drops, the overhead Fiber Optics cable from the last pole or other aerial support to the building or other structure to and including the termination box.

Services or Service Lines

The Facilities of CPAU, excluding transformers and Meters, between CPAU's infrastructure and the Point of Delivery to the Customer.

Service Territory

The geographic area within the boundaries establishing the city limits of Palo Alto and served by CPAU's physical Distribution System.

Sewer Lateral

The Sewer Lateral is a pipe that takes an individual building's Wastewater to the Wastewater Main in the Public Right-of-Way or in a Public Utility Easement.

Short Circuit (Current) Contribution Ratio (SCCR)

The ratio of the Generating Facility's short circuit contribution to the short circuit contribution provided through CPAU's Distribution System for a three-phase fault at the high voltage side of the distribution transformer connecting the Generating Facility to CPAU's Distribution System.

Simplified Interconnection

An Interconnection conforming to the minimum requirements as determined under Utilities Rule and Regulation 27.

Single Line Diagram; Single Line Drawing

A schematic drawing, showing the major Electric switchgear, Protective Function devices, wires, Generators, transformers and other devices, providing sufficient detail to communicate to a qualified engineer the essential design and safety of the system being considered.



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Smart Inverter

A Generating Facility's inverter that performs functions that, when activated, can autonomously contribute to grid support during excursions from normal operating voltage and frequency system conditions by providing: dynamic reactive/real power support, voltage and frequency ride-through, ramp rate controls, communication systems with ability to accept external commands and other functions.

Solid Waste

Solid Waste means solid and semisolid wastes, generated in or upon, related to the occupancy of, remaining in or emanating from residential premises or commercial premises, including garbage, trash, rubbish, ashes, industrial wastes, manure, animal carcasses, solid or semisolid wastes, and other solid and semisolid wastes. Solid Waste shall not include liquid wastes or sewage, abandoned vehicles, hazardous waste, recyclable materials or compostable materials.

Special Facilities

Special Facilities are facilities requested by an Applicant in addition to or in substitution for standard facilities which CPAU would normally provide.

Splice

A point where two separate sections of Fiber are physically connected.

Standby Service

The back-up Energy Services provided by CPAU.

State Energy Surcharge

The California State Board of Equalization administers the Energy Resources Surcharge Law, as authorized under the Revenue and Taxation Code (section 40016). The surcharge is imposed upon the consumption in California of electrical energy purchased from an electric utility on and after January 1, 1975. Every electric utility in California making energy sales to consumers must collect and remit to the state the amount of surcharge applicable to its consumers. Information on the surcharge and current surcharge rate can be found at the California Board of Equalization's web site.

Storm and Surface Water Drainage

A Utility Service provided to residents and business owners in the City of Palo Alto. Storm and Surface Water Drainage Service is provided by the City of Palo Alto Public Works Department.

Submetering

Utility submetering is the implementation of a system that allows a landlord, property management firm, condominium association, homeowners association, or other multi-tenant property to bill Master-



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Metered tenants for Utility usage. See Utilities Rule and Regulation 11, “Billing, Adjustment, and Payment of Bills.”

Supplemental Review

A process wherein CPAU further reviews an Application that fails one or more of the Initial Review Process screens. The Supplemental Review may result in one of the following: (a) approval of Interconnection; (b) approval of Interconnection with additional requirements; or (c) cost and schedule for an Interconnection Study.

System Integrity

The condition under which a Distribution System is deemed safe and can reliably perform its intended functions in accordance with the safety and reliability rules of CPAU.

Tax

Any assessment, Charge, imposition, license, or levy (including any Utility Users Tax) and imposed by any Agency, including the City.

Telemetry

The electrical or electronic transmittal of Metering data in real-time to CPAU.

Temporary Service

When Service is requested for limited period of time or of indeterminate duration, such as, but not limited to, Service to provide power for construction, seasonal sales lots (Christmas trees), carnivals, rock crushers or paving plants. Temporary Service does not include Emergency, breakdown, or Standby Service.

Termination of Service

When one or more Utilities services are interrupted until a Customer’s operating condition is brought into compliance with CPAU regulations and requirements. This is assumed to be a temporary situation unless service is permanently terminated and the Account is closed. See Utilities Rule and Regulation 9, “Disconnection, Termination, and Restoration of Service.”

Therm

A Therm is a unit of heat energy equal to 100,000 British Thermal Units (Btu). It is approximately the energy equivalent of burning 100 cubic feet (often referred to as 1 ccf) of natural Gas. Since Meters measure volume and not energy content, a Therm factor is used to convert the volume of Gas used to its heat equivalent, and thus calculate the actual energy use. The Therm factor is usually in the units therms/ccf. It will vary with the mix of hydrocarbons in the natural Gas. Natural Gas with a higher than



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average concentration of ethane, propane or butane will have a higher Therm factor. Impurities, such as carbon dioxide or nitrogen lower the Therm factor.

Total Rated Generating Capacity

Total Rated Generating Capacity will be calculated as the sum of the rated generating capacity of all installed Renewable Electrical Generation Facilities participating in NEM 1 or NEM 2. The rated generating capacity for each individual Renewable Electrical Generation Facility participating in NEM 1 or NEM 2 will be calculated as follows:

1. For Solar: For each Renewable Electrical Generation Facility that is a solar photovoltaic generating facility, CPAU will use the CEC's Alternating Current (AC) rating; or where the CEC AC rating is not available, CPAU will multiply the inverter AC nameplate rating by 0.86; and
2. For Non-Solar: For all other Renewable Electrical Generation Facilities, CPAU will use the AC nameplate rating of the generating facility.

Transfer Trip

A Protective Function that trips a Generating Facility remotely by means of an automated communications link controlled by CPAU.

Transmission Pathway

Those areas of the Public Right-of-Way, the Public Utility Easements and the Leased Service Properties in which the Dark Fiber Infrastructure is located.

Transmission System

Transmission facilities owned by CPAU that have been placed under the CAISO's operation control and are part of the CAISO-controlled grid.

Trap

Any approved equipment or appliance for sealing an outlet from a house-connection sewer to prevent the escape of sewer Gas from a main line through a building connection (service) sewer.

Underground Utility District

An area in the City within which poles, overhead electric or telecommunication wires, and associated overhead structures are prohibited or as otherwise defined in Section 12.04.050 of the PAMC.

Unintended Island

The creation of an Island, usually following a loss of a portion of CPAU's Distribution System, without the approval of CPAU.



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Unsafe Operating Conditions

Conditions that, if left uncorrected, could result in harm to personnel, damage to equipment, loss of System Integrity, or operation outside pre-established parameters required by the Interconnection Agreement.

Upper Sewer Lateral

See **Private Lateral**.

Utilities Department

See **City of Palo Alto Utilities Department**.

Utilities Director

The individual designated as the Director of Utilities Department under Section 2.08.200 of the Palo Alto Municipal Code, and any Person who is designated the representative of the director of utilities.

Utility(ies) Rules and Regulations, Rules and Regulations

The compendium of Utilities Rules and Regulations prepared by the City's Utilities and Public Works Departments and adopted by ordinance or resolution of the Council pursuant to Chapter 12.20 of the Palo Alto Municipal Code, as amended from time to time.

Utility(ies) Service(s), Service(s)

Electric, Fiber optics, Water, Gas, Wastewater collection services provided by the City of Palo Alto Utilities Department (CPAU), and Refuse Service, Wastewater Treatment and Storm and Surface Water Drainage services provided by the CityPublic Works Department.

Utility Service Application (Application)

A general CPAU Application form documenting an Applicant's request for Electric, Water, Gas and Wastewater Service. The Application documents the Applicant's contact information, billing information and basic electric, water, gas and wastewater loading data necessary to approve, design and install sufficient facilities based on Load and usage information provided by the Applicant.

Utility Users Tax (UUT)

A City of Palo Alto Tax imposed on Utility Charges to a Water, Gas, and/or Electric Service Customer. This may include Charges made for Electricity, Gas, and Water and Charges for Service including Customer Charges, Service Charges, Standby Charges, Charges for Temporary Services, Demand Charges, and annual and monthly Charges, as described in Chapter 2.35 of the Palo Alto Municipal Code.



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Wastewater

Utility Service provided to residents and business owners in the City of Palo Alto. Wastewater Utility Services include collection and treatment of wastewater. Wastewater Collection Service is provided by the City of Palo Alto Utilities Department, and Wastewater Treatment Service is provided by the City of Palo Alto Public Works Department.

Wastewater Main

The collector pipes for numerous Sewer Laterals from an area or neighborhood. Wastewater Mains convey the wastewater to larger trunk sewer lines or to a water quality treatment plant.

Water

A Utility Service provided to residents and business owners in the City of Palo Alto for retail use. Water Service is provided by the City of Palo Alto Utilities Department.

Water Distribution

The process of delivering potable water to customers on a utility's distribution system. Transmission lines carry potable water from the San Francisco Public Utility Commission's Hetch Hetchy System to receiving stations in Palo Alto, which then distribute the water over distribution lines that extend throughout the Service Territory. In cases of reduced water supply from Hetch Hetchy, local wells in Palo Alto can also withdraw potable water from local aquifers and inject it into the Water Distribution System.

Water Column (WC)

A pressure unit based on the difference in inches between the heights of water columns as measured in a manometer. 6" WC = 0.217 psi; 7" WC = 0.25 psi.

(END)

