CITY OF CORONA

UTILITIES DEPARTMENT

ELECTRIC ENERGY RULES AND REGULATIONS

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Rule 1
Definitions

For the purpose of these rules and rate schedules, the terms and expressions listed below shall have the meanings set forth as follows:

Agricultural Power Service: Agricultural power service is that portion of electric energy and service used by a person in connection with the production, harvesting, and preparation for market of agricultural and horticultural products, including poultry and livestock, on land owned and/or operated by such person for the production of agricultural products, but does not apply to processing of products raised by others.

Applicant: A person or agency requesting the Utility to supply electric service and who will be responsible for all related charges.

Application: A written request to the Utility for electric service as distinguished from an inquiry as to the availability or charges for such service.

Billing Demand: The load or demand used for computing charges under Rate Schedules based on the size of the Customer's load or demand. It may be the connected load, the measured maximum demand, or a modification of either as provided for by the applicable Rate Schedule.

Billing Period: The time interval between two consecutive Meter readings that are taken for billing purposes.

City: Corona, California. The City is responsible for the management and operation of the Utility on behalf of the residents and businesses of the City of Corona.

City Council: City Council of the City of Corona, California.

Class of Service: Different classes of electric utility service are: General Lighting, Multiple- Phase Lighting, Combination Lighting and Power, Emergency Lighting, Single-Phase Power, Polyphase Power, Welding, X-ray, Fire Pump, Fire Alarm, and Stand-by Power (permitted only where stand-by and normal circuit conductors are in separate raceways and enclosures).

Commercial Developments: Consist of two (2) or more enterprises engaged in trade or the furnishing of services; e.g., shopping centers, sales enterprises, business offices, professional offices, and educational or governmental complexes.

Completed Application: An Application that satisfies all of the information and other requirements of the Tariff Schedules, including any required deposits.

Connected Load: The sum of the rated capacities of all of the Customer's equipment that can be connected to the Utility's lines at one time, as more fully described in the applicable Rate Schedules.

CUD: Corona Utilities Department

Customer: The person in whose name service is rendered as evidenced by the signature on the Application, contract, or agreement for that service or, in the absence of a signed instrument, by the receipt and payment of bills or Summary Bills regularly issued in his or her name regardless of the identity of the actual user of the service. A Customer may also be a party with whom the Utility is doing business with or without a billing relationship.

Customer's Mailing Address: The address specified in a Customer's Application or contract, or any other address subsequently given to the Utility by the Customer, to which any notice, bill or other communication is to be Mailed.

Date of Presentation: The date upon which a bill or notice is Mailed, or delivered by the Utility, to the Customer.

Director of Utilities: Director of Utilities of the Utilities Department or designee.

Distribution Line Extension: New distribution facilities of the Utility that is a continuation of, or branch from, the nearest available existing permanent Distribution Line (including any facility rearrangements and relocations necessary to accommodate the Distribution Line Extension) to the point of connection of the last service. The Utility's Distribution Line Extension includes transmission underbuilds and converting an existing single-phase line to three-phase in order to furnish three-phase service to an Applicant, but excludes service transformers, Meters andservices.

Distribution Lines: Overhead and underground facilities which are operated at distribution voltages, and which are designed to supply two (2) or more services.

Distribution System: Those distribution facilities owned, controlled, and operated by theUtility that are used to provide distribution service under the tariffs.

Domestic Service: Service for residential use at dwelling premises. Any service for other than residential use at a dwelling premises may be served through the domestic service Meter only where such non-domestic connected load does not exceed 300 watts for lighting or 2 hp for power.

Domestic Farm Services: Single-phase service for light or power will be considered domestic farm service provided:

1. The service is furnished through the farm operator's domestic Meter;

2. The service is used only for farming operations, in addition to domestic purposes, on the farm furnished the service;

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3. Monthly billing: The total use on the domestic farm service Meter does not exceed 2,500 kilowatt-hours per month in each of three consecutive months or a total of 20,000 kilowatt-hours in any twelve consecutive months;

4. Bimonthly billing: The total use through the domestic farm service Meter does not exceed 10,000 kilowatt-hours in any two consecutive bimonthly periods or a total of 20,000 kilowatt-hours in any twelve consecutive months.

Domestic Heat Pump Customer: A Domestic Heat Pump Customer is one who has installed a central heat pump unit of not less than 3 hp (nameplate rating), which is used exclusively to heat and cool the domestic dwelling.

Electric Supply: Electric energy or power.

Electronic Transfer: Paperless exchange of data and/or funds, usually involving computer and telecommunication technology.

Energy Diversion: Electricity being received by a Customer without registering through a meter due to either tampering with the meter or bypassing the meter.

General Service: Service to any lighting or power installation except those eligible for service on single-family or multifamily domestic, street lighting, outdoor area lighting, municipal, or stand-by schedules.

Heating Service: Service to any apparatus employing the resistance of conductors to transform electric energy into heat.

Hourly Metering: See Interval Metering.

HP: Horsepower

Independent System Operator (ISO): The California Independent System OperatorCorporation, a nonprofit corporation that controls the transmission facilities of all participating transmission owners and dispatches certain generating units and loads. The ISO is responsible for the operation and control of the statewide transmission grid.

Industrial Developments: Consist of two (2) or more enterprises engaged in a process which creates a product or changes materials into another form or product.

Intermittent Service: Service which, in the opinion of the Utility, is subject to discontinuance for a time or at intervals.

Interval Metering: A metering device capable of recording minimum data required. Minimum data requirements may include 15-minute demand data required to bill the Utility's tariffs.

kW: Kilowatt.

kWh: Kilowatt hour.

Lighting Service: Service to any apparatus transforming electric energy into light for all visual purposes except those specified under Power Service.

Line Extension: All facilities, including transformer, Service Connection and Meter, required to extend electric service from the Utility's existing permanent facilities to the Point of Delivery to the Customer.

Mailed: Any notice or other communication will be considered "Mailed" when sent by electronic transfer or when it is enclosed in a sealed envelope, properly addressed, and deposited in any United States Post Office box, postage prepaid.

Maximum Demand: The average kilowatts during the specified time interval when the Customer's use is greatest in the billing period as indicated or recorded by the Utility's Meter.

Meter: The instrument used for measuring the electricity delivered to the Customer.

Meter Facilities: The necessary meter, instrument transformers, test facilities, data communication equipment, and other associated metering equipment.

Mobile Home: A Mobile Home is a structure designed for human habitation and for being moved on a street or highway under permit pursuant to the California Vehicle Code. Mobile Home also includes a manufactured home as defined in the California Health and Safety Code, but does not include a Recreational Vehicle as defined herein or a commercial coach as definedin the California Health and Safety Code.

Mobile Home Park: A Mobile Home Park is an area of land where two or more Mobile Home sites are rented, and held out for rent, to accommodate Mobile Homes used for human habitation. A Mobile Home Park is not a Recreational Vehicle Park.

Multifamily Accommodation: An apartment building, duplex, Mobile Home Park, or any other group of permanent residential single-family dwellings located upon a single premises, providing the residential dwellings therein meet the requirements for a single-family accommodation. A multifamily accommodation does not include hotels, motels, residential hotels, guest or resort ranches, tourist camps, Recreational Vehicle Parks, campgrounds, halfway houses, rooming houses, boarding houses, institutions, dormitories, rest or nursing homes, military barracks, or any enterprise that includes or rents to either transient tenants or transient accommodations.

Multiple Occupancy Building: A building of multiple occupancy provided with continuous outer wall construction including, but not limited to, apartments, condominiums, townhouses and commercial buildings.

Municipal Service: Utility services supplied to City of Corona departments.

Nominal Voltage: The Nominal Voltage of a circuit is the approximate voltage between conductors in a circuit or system of a given class, assigned for the purpose of convenient designation. For any specific Nominal Voltage, the operating voltage actually existing at various points and at various times on the system is subject to normal distribution variation.

Otherwise Applicable Tariff (OAT): The Customer's regularly filed Rate Schedule under which service is rendered.

Paid or Payment: Funds received by Utility through postal service, Utility payment office, Utility authorized agent, or deposited in Utility account for Electronic Transfer.

Permanent Service: Service which, in the opinion of the Utility, is of a permanent andestablished character. This may be continuous, intermittent, or seasonal in nature.

Person: Any individual, partnership, corporation, public agency, or other organization operating as a single entity.

Point of Delivery: The point where conductors of the Utility are connected to the conductors of the Customer, regardless of the location of the Utility's Meters or transformers. Utility conductors may be owned, leased, or under license by the Utility, and the conductors of the Customer may be owned, leased, or under license by the Customer.

Power Factor: The ratio of the revenue producing current in a circuit to the total current in that circuit. In terms of power quantities, power factor is the ratio of kW (real power) to the total kVA (total power).

Power Service: Service to apparatus or equipment used for purposes other than lighting shall be considered as Power Service. Lamps or lights used for purposes which, in the opinion of the Utility, are not general illumination purposes are classed as Power Service, such as the following: motion picture projection, motion picture and television production, production of chemical reactions, sterilizing, drying, radiant heating, therapeutic, photographic processing,production of stimulating the growth or yield of agricultural products, pilot or indicating lightson power control equipment, and lighting used as an aid in the operation of a motor-driven production machine for the purpose of checking tool settings or dial readings, measuring or inspecting the product while on the machine, when the lamps are installed as an integral part of the machine and energized from its power supply.

Premises: All of the real property and apparatus employed in a single enterprise on an integral parcel of land undivided, except in the case of industrial, agricultural, oil field, resort enterprises,

and public or quasi-public institutions, by a dedicated street, highway, or other public thoroughfare, or a railway. Automobile parking lots constituting a part of and adjacent to a single enterprise may be separated by an alley from the remainder of the premises served.

Producer: The entity that executes a generator interconnection agreement with CUD. Producer may or may not own or operate the Generating Facility, but is responsible for the rights and obligations related to the applicable generator interconnection agreement.

Property: A parcel of real property of record as shown in the County Assessor's maps on file in the Planning Department of the City of Corona.

Pull Box: An enclosure for joining conductors which also provides by its size, arrangement, and location the necessary facilities for pulling the conductors into place. This term as used here includes structures also known as "manhole," "hand hold," and "switch board pull section".

Qualified Contractor/Subcontractor (QC/S): An Applicant's contractor or subcontractorwho:

1. Is licensed in California for the appropriate type of work such as, but not limited to, electrical and general;

2. Employs workmen properly certified for specific required skills such as, but not limited to, plastic fusion and welding. Electric workmen shall be properly qualified (qualified Electrical Worker, Qualified Person, etc.) as defined in State of California High Voltage Safety Orders (Title 8, Subchapter 5, Group 2);

3. Complies with applicable laws such as, but not limited to, Equal Opportunity regulations, OSHA and EPA.

Qualified Customer: As determined by the Utility, those Customers having met the criteria and supplied the facilities for electric service under the Utility's Tariff Schedules and/or having special skills and equipment necessary to participate with the Utility in business services.

Qualifying Recreational Vehicle (RV) Unit: A RV Unit that is used as a permanent single- family residence at the same location in any RV Park or on a single premises for at least nine months out of the year; is not used for recreational purposes; and is not removed from its spaceor location on a regular basis.

Quasi-public Institutions: Public utilities, educational institutions, and hospitals, whether publicly or privately owned, where the property, campus or hospital grounds extend over relatively large areas through which public streets may run.

Rate Area: A specified area within which a Rate Schedule or Schedules apply.

Rate Charges: Charges in the Rate Schedules may include the following:

Customer Charge: That portion of the charge for service which is a fixed amount without

regard to Connected Load, demand, or energy consumption in accordance with the Rate Schedule.

Demand Charge: That portion of the charge for service which varies with the Billing Demand in accordance with the Rate Schedule.

Energy Charge: That portion of the charge for service which varies with the quantity of energy consumed in accordance with the Rate Schedule.

Minimum Charge: The least amount for which service will be rendered in accordance with the Rate Schedule.

Service Charge: That portion of the charge for service which is a fixed amount based on Connected Load in accordance with the Rate Schedule.

Standby Charge: That portion of the charge for Standby Service which is a fixed amount based on the maximum load the Utility stands ready to supply in accordance withthe Rate Schedule.

Rate Schedule: May be one or more tariff pages setting forth the charges and conditions for a particular class or type of service at a given location. A Rate Schedule, as referred to herein, shall include all the wording on the applicable tariff page or pages, such as, but not limited to,the following: Schedule Number, Class of Service, Character or Applicability, Territory, Rates, Conditions, and reference to Rules.

Recreational Vehicle: A Recreational Vehicle (RV), as defined in the California Health and Safety Code, is a motor home, slide-in camper, park trailer or camping trailer, with or without motive power, designed for human habitation for recreational or emergency occupancy.

Recreational Vehicle Park: A Recreational Vehicle (RV) Park is an area or tract of land or a separate designated section within a Mobile Home Park where one or more lots are occupied by owners or users of recreational vehicles as defined herein.

Residential Hotel: A hotel establishment which leases Residential Units as permanent primary residences and at least 50% of its total Residential Units released for a minimum period of one month and each of said leased units is occupied for at least nine months of the year. Residential Hotels do not include establishments such as guest or resort hotels; resort motels or resort ranches; tourist camps; Recreational Vehicle Parks; trailer parks; halfway houses, roominghouses; boarding houses; dormitories; clubhouses; rest homes; convalescent homes; retirement homes; military barracks; or a house, apartment, or any other residential dwelling unit used by a single family, an organization, or a group of persons.

Residential Unit: A residential dwelling unit consisting of a room or group of rooms which do not qualify as single-family dwellings. Residential units may be used as permanent primary dwellings, as transient tenant accommodations, and by organizations or groups of persons.When such unit is used by a transient tenant, an organization, or a group of persons, use shall be non-domestic service.

Retailer: Any entity, whether it is a non-utility generator, aggregator, broker, or marketer, which offers electric power service to end-use Customers.

Rules: Tariff pages which set forth the application of all rates, charges and service when such applicability is not set forth in and as a part of the Rate Schedules.

Service Wires or Connection: The group of conductors, whether overhead or underground, necessary to connect the service entrance conductors of the Customer to the Utility's supply line, regardless of the location of the Utility's Meters or transformers. An overhead service connection, sometimes referred to as a "service drop," is the group of conductors between the Customer's building or other permanent support and the Utility's adjacent pole.

Service Extension: Consists of the service wires or connections as above defined.

Single Enterprise: A separate business or other individual activity carried on by a Customer. The term does not apply to associations or combinations of Customers.

Single-Family Dwelling or Accommodation: A house, apartment, flat, or any other residential unit which contains cooking facilities (not necessarily electric) and which is used as a residence by a single family.

Small Customer/Applicant: Applicants for service and Customers served under Domestic Rate Schedules and Schedules GS-1, LS-3, and TC-1.

Small Commercial Customer: Customer served under Schedule GS-1.

Standby Service: Service supplied to Customers who normally obtain their power requirements from sources other than the Utility. Under this service, the Utility provides a permanent Service Connection to supply the Customer's contracted load in accordance with the provisions of the standby schedule.

Street Lighting Service: Service to any lighting apparatus used primarily for the illumination of streets, alleys, highways, or other public ways.

Summary Bill: A Customer account statement that includes charges for multiple serviceaccounts.

Swimming Pool: A permanently installed Swimming Pool, above or below ground, with permanently installed pump, motor, filtering equipment and automatic timer to control the operation of the pumping equipment. The pump motor must be rated at a minimum of 3/4 hp.

Tariff Page: An individual page of the Tariff Schedules.

Tariff Schedules: The entire body of effective rates, rentals, charges, and Rules collectively of the Utility, as set forth herein, and including title page, preliminary statement, Rate Schedules, lists of contracts and deviations, Rules and sample forms.

Tariff Sheet: An individual sheet of the Tariff Schedules.

Temporary Service: Service for enterprises or activities which are temporary in character or where it is known in advance that service will be of limited duration. Service, which in the opinion of the Utility, is for operations of a speculative character or the permanency of which hasnot been established, also is considered Temporary Service.

Tract or Subdivision: An area for family dwellings which may be identified by filed subdivision plans or as an area in which a group of dwellings may be constructed about the same time, either by a large scale builder or by several builders working on a coordinated basis.

Utility: Utilities Department of the City of Corona.

Utility Operating Convenience: The term refers to the utilization, under certain circumstances, or facilities or practices not ordinarily employed which contributes to the overall efficiency of Utility operations; it does not refer to Customer convenience nor to the use of facilities or adoption of practices required to comply with applicable laws, ordinances, rules or regulations,or similar requirements of public authorities.

Violence: Types of Violence are to include, but are not limited to death or injury with a weapon, inflicting bodily harm, allowing animals to attack, physically detaining an employee against his/her will, and/or tearing employee's clothing.

Water Suppliers: Establishments primarily engaged in distributing water for sale for domestic, commercial, and industrial use.

X-ray Service: Service to any apparatus transforming electric energy into radiation similar to light but having wavelengths from .0006 to 2 angstroms.

Zone: Zones are defined by zip code for purposes of establishing discretionary service fees.

Rule 2
Description of Electric Service

A. General.

1. The character of electric service available at any particular location should be ascertained by inquiry at the Utility's office.

2. The Rate Schedules included herein are applicable to both electric service and Utility services provided beyond the Utility's Point of Delivery.

3. The Rate Schedules included herein are applicable for service where the Customer purchases its entire electrical requirements from the Utility, exceptwhere such schedules specifically provide otherwise, and are not applicable wherea part of the Customer's electrical requirements are supplied from some other source.

4. The Rate Schedules included herein are applicable for service provided from overhead distribution facilities (or where underground distribution facilities are provided for the Utility's operating convenience) except where schedules specifically provide otherwise.

5. Alternating current service of approximately 60-cycle frequency will be supplied.

6. Voltages referred to in the Tariff Schedules are nominal voltages.

7. Service will be supplied at one standard voltage for each class of service. Each service shall have a service main disconnecting device with an ampere rating equal to or less than the ampere rating of the underground pull section and the service conductors. The total ampere rating of the service main disconnecting devices including taps to underground pull section shall be equal or less than the ampere rating of the service conductors.

B. Phase and Voltage Specifications.

1. Customer Service Voltages.

a. Under all normal load conditions, distribution circuits will be operated so as to maintain secondary service voltage levels to Customers within the voltage range specified below:

Nominal Two-Wire and Multi-Wire Service Voltage	Minimum Voltage to All Services	Maximum Service Voltage on Residential and Commercial Distribution Circuits	Maximum Service Voltage on Agricultural and Industrial Distribution Circuits
120	114	120	126
208	197	208	218
240	228	240	252
277	263	277	291
480	456	480	504

b. Exceptions to Voltage Limits. Voltage may be outside the limits specified when the variations:

(1) Arise from the temporary action of the elements.

(2) Are infrequent momentary fluctuations of a short duration.

(3) Arise from service interruptions.

(4) Arise from temporary separation of parts of the system from the main system.

(5) Are from causes beyond the control of the Utility.

2. Customer Utilization Voltages.

a. All Customer-owned utilization equipment must be designed and rated in accordance with the following utilization voltages specified by the American National Standard C84.1 if Customer equipment is to give fully satisfactory performance.

Nominal Utilization Voltage	Minimum Utilization Voltage	Maximum Utilization Voltage
120	110	125
208	191	216
240	220	250
277	254	289
480	440	500

b. The difference between service and utilization voltages are allowances for voltage drop in Customer wiring. The maximum allowance is 4 volts (120 volt base) for secondary service.

c. Minimum utilization voltages from American National Standard C84.1 shown for Customer information by the Utility has no control over voltage drop in Customer's wiring.

d. The minimum utilization voltages shown in a. above, apply for circuits supplying lighting loads. The minimum secondary utilization voltages specified by American National Standard C84.1 for circuits not supplying lighting loads by 90 percent of nominal voltages (180 volts on 120 volt base) for normal service.

e. Motor used on 208 volt systems should be rated 200 volts or (for small single-phase motors) 115 volts. Motors rated 230 volts will not perform satisfactorily on these systems and should not be used. Motors rated 220 volts are no longer standard, but many of them were installed on existing 208 volt systems on the assumption that the utilization voltage would not be less than 187 volts (90 percent of 208 volts).

3. Single-phase Service.

a. General.

Voltage	Minimum Load Required	Maximum Load Allowed
120 volts	None	1-15 amp and 1-20 amp branch circuit
120/240 or 240 volts	None	400 amp main switch
240/480 volts	15kVA	200 amp main switch
2,400 volts or over	Varies with location	40 amp main switch

b. The maximum size 120 volt single-phase motor allowed is 1 hp and the maximum size 240 volt, or higher voltage, single-phase motor allowed is 10 hp.

c. Where three-phase service is supplied from a four-wire wye-connected 120/208 volt service, the maximum demand allowed is 1,000 kVA.

d. Service to all loads of 1,000 kVA maximum demand, or over, must be approved by the Utility as to adequacy of facilities for service.

e. Loads on three-phase service must be balanced between phases in accordance with good engineering practice.

f. Three-phase service may be supplied to installations having a proposed main service switch in excess of the switch capacities specified above provided approval of the Utility has first been obtained as to the number and size of switches, circuits and related facilities. Such service will be supplied from two or three separate service connections at one location. Energy supplied in this manner will be totalized for billing purposes. The loads will be balanced as closely as practicable between the services.

4. Combined Single-phase Service and Three-phase Service.

   a. Service may be supplied at 120/208 four-wire wye-connected where the Utility does not maintain four-wire secondary poly-phase mains provided: (1) written application is made for such service by the Customer; (2) the Customer's load is of such a size as to require an individual transformer installation of not less than 15kVA of transformer capacity; and (3) a Customer provides space acceptable to the Utility on this premises to accommodate the installation of the Utility's facilities when, in the opinion of the Utility, such space is considered necessary.

   b. Service may be supplied at 120/240 volts four-wire delta-connected where the Utility does not maintain four-wire secondary polyphase mains provided: (1) written application is made for such service by the Customer; (2) the Customer's load is of such a size as to require an individual transformer installation of not less than 15kVA of transformer capacity; (3) the unbalance between phases is less than100 kW; and (4) the Customer provides space acceptable to the Utility on his premises to accommodate the installation of the Utility's facilities when, in the opinion of the Utility, such space is considered necessary.

   c. The maximum demand allowances for combined single-phase and three-phase are as set forth in B.3 above.

5. At the option of the Utility, the above voltage and phase specifications may be modified because of the service conditions at the location involved.

C. Motor Protection and Equipment.

Customer's motor equipment must conform to the following requirements:

1. Motors that cannot be safely subjected to full rated voltage on starting or that drive machinery of such a nature that the machinery, itself, or the product it handles will not permit the motor to resume normal speed upon restoration of normal supply voltage shall be equipped with devices that will disconnect them from the line upon failure of supply voltage and that will prevent the automatic reconnection of the motors upon restoration of normal supply voltage.
2. All motors of 1 hp or larger shall be equipped with thermal relays, fuses, or other automatic overcurrent interrupting devices to disconnect completely such motors from the line as a protection against damage due to overheating.
3. Three-phase motors driving elevators, hoists, tramways, cranes, conveyers, or other equipment, which would create hazard to life in the event of uncontrolled reversal of motor rotation, shall be provided with reverse-phase and open-phase protection to disconnect completely the motors from the line in the event of phase reversal or

loss of one phase.

4. Wind machines thermostatically controlled with automatic reclosing switches must be equipped with suitable time-delay devices, as hereinafter specified, at the Customer's expense, to permit the required adjustment of the time of re-closure after interruption of service.

   A suitable time-delay device, within the meaning of this rule, is a relay or other type of equipment that can be preset to delay with various time intervals the re-closing of the automatic switches (and the consequent starting up of the electric motors on the wind machines) and to stagger the reconnection of the load on the Utility's system, and such device must be constructed so as effectively to permit a variable overall time interval of not less than five minutes with adjustable time increments of not greater than ten seconds. The particular setting to be utilized for each separate installation is to be determined by the Utility from time to time in accordance with its operating requirements, and the Customer is to obtain from the Utility the setting for each installation as thus determined.

D. Allowable Motor Starting Currents.

1. The starting current drawn from the Utility's lines shall be considered the nameplate locked rotor current or that guaranteed by the manufacturer. At its option the Utility may determine the starting current by test, using a stop ammeter with not more than 15% overswing or an oscillograph, disregarding the value shown for the first 10 cycles subsequent to energizing the motor.

   If the starting current for a single motor exceeds the value stated in the following tables, reduced voltage starting or other suitable means must be employed at the Customer's expense, to limit the current to the value specified, except where specified exemptions are provided in Section D.2, 3 and 4.

TABLE 1
Alternating Current – Single-phase Motors
Allowable Locked Rotor Currents

Standard nominal voltages of the Utility are as follows:

Rated Size	120 Volts	240 Volts
1 hp and less	50 amperes	36 amperes
1 ½ hp		48 amperes
2 hp		60 amperes
3 hp		80 amperes
5 hp		120 amperes
7 ½ hp		170 amperes
10 hp		220 amperes

TABLE 2
Alternating Current – Three-phase Motors
Allowable Locked Rotor Currents

Rated Size	120 Volts	480 Volts	2,400 Volts
3 hp	64 amperes	32 amperes	
5 hp	92 amperes	46 amperes	
7 ½ hp	127 amperes	63 amperes	
10 hp	162 amperes	81 amperes	
15 hp	232 amperes	116 amperes	
20 hp	290 amperes	145 amperes	
25 hp	365 amperes	183 amperes	
30 hp	435 amperes	218 amperes	
40 hp	580 amperes	290 amperes	
50 hp	725 amperes	363 amperes	70 amperes
60 hp		435 amperes	87 amperes
75 hp		535 amperes	107 amperes
100 hp		725 amperes	142 amperes

Over 100 hp – the Utility should be consulted for allowable locked rotor currents.

2. Where service conditions permit, subject to the Utility's approval, reduced- voltage starters may be omitted in the original installation until such time as the Utility may order the installation of a reduced-voltage starter to be made, and, similarly, the Utility may at any time require starting current values lower than set forth herein where conditions at any point on its system require such reduction to avoid interference with service.

3. Reduced-voltage starters may be omitted on any motor of a group installation provided that its starting current does not exceed the allowable starting current of the largest motor of the group.

4. A reduced-voltage starter may be omitted on any motor in a group installation provided that its starting current does not exceed three (3) times the maximum demand in amperes of the entire installation.

E. Interference with Service.

1. Customers who operate equipment which causes detrimental voltage fluctuations (such as, but limited to, hoists, welders, radio transmitters, X-ray apparatus, elevator motors, compressors, and furnaces) must reasonably limit such fluctuations upon request by the Utility. The Customer will be required to pay for whatever corrective measures are necessary.

2. Prior to the installation of any new arc furnace or design modification of an existing

furnace, the Customer shall provide basic design information for the installation to aid the Utility in determining a method of service and the allowable level of load fluctuations.

3. Any Customer who superimposes a current of any frequency upon any part of his electrical system, other than the current supplied by the Utility shall, at his expense, prevent the transmission of such current beyond his electrical system.

F. Power Factor.

The Utility may require the Customer to provide, at his own expense, equipment to increase the operating power factor of each complete unit of neon, fluorescent, or other gaseous tube lighting equipment to not less than 90%, lagging or leading.

G. Wave Form.

The Utility may require that the wave form of current drawn by equipment of any kind be in conformity with good engineering practice.

H. Welder Service.

1. Rating of Welders. Electric welders will be rated for billing purposes as follows:

a. Generator Arc Welders. The horsepower rating of the motor driving a motor generator type arc welder will be taken as the horsepower rating of the welder.

b. Transformer Arc Welders. Nameplate maximum kVA input (at rated output amperes) will be taken as the rating of transformer type arc welders.

c. Resistance Welders. Resistance welder ratings will be determined by multiplying the welder transformer nameplate rating (at 50% duty cycle) by the appropriate factor listed below:

		Factor	
Type of Welder	Transformer Nameplate Rating @ 50% Duty Cycle	Utility-Owned Distribution Transformer	Customer-Owned Distribution Transformer
Rocker Arm, Press or Projection Spot	20 kVA or less	.60	.50
Rocker Arm or Press Spot	Over 20 kVA, incl.		
Projection Spot	21 to 75 kVA, incl.	.80	.60
Flash or Butt	100 kVa or over		
Seam or Portable Gun	All sizes		
Flash or Butt	67 to 100 kVA, incl.	*	
Project Spot	Over 75kVA		
Flash or Butt	66 kVA or less	1.20	.90

Each flash or butt welder in this group will be rated at 80 kVA where the distribution transformer is owned by the Utility or 60 kVA where the distribution transformer is owned by the Customer.

d. Ratings prescribed by a., b., and c., above normally will be determined from nameplate data or from data supplied by the manufacturer. If such data are not available or are believed by either the Utility or Customer to be unreliable, the rating will be determined by test.

e. If established by seals approved by the Utility, the welder rating may be limited by the sealing of taps which provide capacity greater than the selected tap and/or by the interlocking lockout of one or more welders with other welders.

f. When conversion of units is required for tariff application, one welder kVA will be taken as one horsepower for tariffs stated on a horsepower basis and one welder kVA will be taken as one kilowatt for tariffs stated on a kilowatt basis.

2. Billing of Welders. Welders will be billed at the regular rates and conditions of the tariffs on which they are served subject to the following provisions:

a. Connected Load Type of Schedule. Welder load will be included as part of the connected load with ratings as determined under section 1., above, based on maximum load that can be connected at any one time, and no allowance will be made for diversity between welders.

b. Demand Metered Type of Schedule. Where resistance welders are served on these schedules, the computation of diversified resistance welder load shall be made as follows:

Multiply the individual resistance welder ratings, as prescribed in Section 1.c. to 1.f. inclusive, above, by the following factors and add the results thus obtained:

1.0 times the rating of the largest welder
0.8 times the rating of the next largest welder
0.6 times the rating of the next largest welder
0.4 times the rating of the next largest welder
0.2 times the rating of all additional welders

If this computed diversified resistance welder load is greater than the metered demand, the diversified resistance welder load will be used in lieu of the metered demand for rate computation purposes.

Rated Size	120 Volts	240 Volts
1 hp and less	50 amperes	36 amperes
1 ½ hp		48 amperes
2 hp		60 amperes
3 hp		80 amperes
5 hp		120 amperes
7 ½ hp		170 amperes
10 hp		220 amperes

TABLE 2
Alternating Current – Three-phase Motors
Allowable Locked Rotor Currents

Rated Size	120 Volts	480 Volts	2,400 Volts
3 hp	64 amperes	32 amperes	
5 hp	92 amperes	46 amperes	
7 ½ hp	127 amperes	63 amperes	
10 hp	162 amperes	81 amperes	
15 hp	232 amperes	116 amperes	
20 hp	290 amperes	145 amperes	
25 hp	365 amperes	183 amperes	
30 hp	435 amperes	218 amperes	
40 hp	580 amperes	290 amperes	
50 hp	725 amperes	363 amperes	70 amperes
60 hp		435 amperes	87 amperes
75 hp		535 amperes	107 amperes
100 hp		725 amperes	142 amperes

Over 100 hp – the Utility should be consulted for allowable locked rotor currents.

3. Where service conditions permit, subject to the Utility's approval, reduced- voltage starters may be omitted in the original installation until such time as the Utility may

order the installation of a reduced-voltage starter to be made, and, similarly, the Utility may at any time require starting current values lower than setforth herein where conditions at any point on its system require such reduction to avoid interference with service.

Rule 3
Request for Service

A. Application for Service.

All Applicants for electric service have given implied consent to receive such service only upon agreeing to comply with the rules and regulations of the Utility.

Applicants may obtain electric service on active service connection by contacting the Utility's Billing Division by telephone or in person. If it is requested that service be turned on other than one (1) hour prior to the close of business, legal holidays excepted, a charge shall be incurred for after hours service. The charge for the after hours service isset forth in the Citywide Master Fee Recovery Schedule.

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All applicants shall be required to establish credit with the city by providing a social security number and/or tax identification number. The city will electronically verify this information with a third party agency for accuracy and fraud prevention. In the event that an applicant does not have a social security number or tax identification number, the applicant must present a passport and/or other official identification from his or her native country which will then be verified. Suspicious information will be reported to the Police Department for investigation. During the verification process credit will be checked to determine if a cash deposit equal to three times the average monthly bill shall be required from an applicant prior to the initiation of service based on the applicant's credit-worthiness, pursuant to the Department's policies.

If an existing electric service connection is found to be inactive at the time of application, which may include but not limited to, damages to the connection and/or replacement of the Meter, an assessment will be made of the electric service connection and a fee shallbe charged on a time and material basis to recover the cost of re-establishing the serviceto an active status.

A new account setup fee shall be charged to offset the cost of creating accounting and computer records, reading the Meter and/or turning on the electric service and shall be included on the first utility bill of all new accounts. The charge for the new account setup fee is set forth in the Citywide Master Fee Recovery Schedule.

The Application is a request for service and does not in itself bind the Utility to serve except under its filed tariff, nor does it bind the Applicant/Customer to take service for a longer period than the minimum requirements of the Rate Schedule. A contract will be required as stated in Rule 4 or in any applicable tariff.

Upon acceptance and approval of the Application, the Utility agrees to furnish and the Applicant agrees to take electric service in accordance with the Utility's applicable Tariff Schedule. These Tariff Schedules constitute the terms and conditions of the agreement between the Utility and the Applicant/Customer for public utility electric service provided, unless agreed otherwise in writing.

B. Individual Liability for Joint Service.

Two or more persons who join in one Application or contract for service shall be jointly and severally liable hereunder and shall be billed by means of a single periodic bill mailed to the person designated on the Application to receive the bill. Whether or not the Utility obtained a joint application, where two or more persons occupy the same premises, they shall be jointly and severally liable for bills for electric energy supplied.

C. Change in Customer's Equipment or Operations.

Customers shall give the Utility written notice of the extent and nature of any material change in the size, character, or extent of the utilizing equipment or operations for which the Utility is supplying service before making any such change.

D. Refusal to Provide Service.

Utility may disconnect or refuse to provide service to the Applicant if the conditions upon the Applicant's premises indicate that false, incomplete, or inaccurate information was provided to Utility or the acts of the Applicant or anyone on the premises creates an unsafe situation for Utility's employee. Utility shall provide the Applicant the reason for such refusal.

Rule 4
Contracts

Contract Requirements.

A. When Service Contracts are Required.

A contract or agreement to take and pay for electric service will not be required as a condition precedent to service except:

1. Where required by provisions contained in the Tariff Schedules, in which case the term of the contract will be that specified.

2. Where it is necessary to install a line extension , in which case a contract for a period of three (3) years may be required; except that, when temporary service is to be supplied under the provisions of Rule 13, the contract will cover the period of contemplated operations, but not longer than three (3) years.

3. Where street lighting service is requested, in which case a contract will be required for a period of not less than one (1) year and not more than five (5) years.

    a. Such contracts may include a provision that they will remain in effect from year to year thereafter, until terminated by either party.

B. When Facilities Contracts are Required.

A contract or agreement to pay for the use, installation, or removal of facilities including, but not limited to, line extensions, street light installations, will be required:

1. Where the provisions of the Tariff Schedules so specify, in which case the terms of the contract will be governed thereby.

2. Where any Applicant or Customer desires new or increased distribution facilities for Temporary Service, in which case the Utility shall require such person to pay to the Utility, in advance or otherwise, the estimated cost installed, plus the estimated cost of removal, less the estimated salvage of the facilities necessary forfurnishing service in accordance with the provisions of Rule 13.

3. Where a person, whether or not a Customer, desires to have the Utility modify, rearrange, relocate, or remove any of its facilities, the Utility if it agrees to make such changes shall require the person, at whose request the changes are made, to agree to pay, in advance or otherwise, the cost to the Utility of making the changes.

4. Where the Applicant requests and the Applicant agrees to install electric facilities under the special provisions of a contract form on file with the Utility for installations which have been determined by the Utility to be uneconomic under its filed Rules.

Rule 5
Special Information Required on Forms

A. Contracts.

Each agreement or contract form for electric service or installation of facilities will contain the following provision: "This contract shall at all times be subject to such changes or modifications by the City Council of Corona as said City Council may, from time to time, direct in the exercise of its jurisdiction."

B. Customer's Bill.

Information required to be printed on each bill or Summary Bill for electric service shall include, but not be limited to; the billing date, due date, reading dates, Meter readings, bill amount, Customer service contact information, Customer name, service address, account number, Customer number and summary of procedures to dispute the bill.

C. Discontinuance of Service Notice.

Every Discontinuance of Service Notice for nonpayment of a delinquent domestic account, as provided for in Rule 8 shall include, but not be limited to, Customer name, service address, account number, Customer number, amount of delinquency, due date, disconnect date, and billing period of delinquency.

Rule 6
Establishment and Re-establishment of Service

A. Establishment of Credit - All Classes of Service.

Pertinent information will be requested from the Applicant to establish credit which shall include, but not be limited to, a social security number and/or tax identification number. In lieu of providing a social security number or tax identification number, the Applicant shall pay a cash deposit equal to three (3) times the average monthly bill and sign an Application form provided by the Utility in advance of receiving electric service.

B. Re-establishment of Credit – All Classes of Service.

If the Utility has disconnected the service for non-payment of a delinquent bill, an additional charge shall be made to return service. Additionally, a deposit equal to three times the monthly bill shall be required.

C. Service Turn-On Charge

1. A service turn-on charge shall not be made for turning on electric service during normal working hours and for the following workday. There will be a charge for same day and after hours turn-on of service or special appointment turn-on service (the special appointment turn-on charge will apply if a specific time is requested and will not apply to the normal four hour window appointment) when specifically requested by the Customer. A service charge will be assessed for each additional field visit required to complete the service turn-on order.

    a. After hours for fee assessment purposes are legal holidays and hoursoutside the following time periods: 8:00 a.m. to 4:00 p.m. Monday through Friday.

2. Requests for additional services or modifications of existing services will be charged a fee for the services performed as determined by the Utility.

3. The Utility shall not be liable for any loss or damage caused by the improper installation, maintenance or malfunction of any electric apparatus or appliance, or for damage caused by turning on and off of electric service by the Utility.

Rule 7
Deposits

A. General.

Deposits will be required when a Customer is otherwise unable to satisfactorily establish or re-establish credit, as set forth in Rule 6.

B. Amount of Deposit.

The amount of deposit required to establish or re-establish credit for electric service is three times (3x) the estimated average monthly bill.

In the event that a Customer of the Utility has diverted electricity ("energy theft"), a separate deposit shall be assessed. This deposit shall be twice the amount of the estimated loss to the Utility resulting from the diversion, but in no case shall the amount be less than the minimum diversion deposit.

C. Return of Deposit.

Deposits may be returned after the Customer has paid bills for service for twelve (12) consecutive months, without having received a delinquent notice. The deposit shall be credited towards any outstanding charges.

All other deposits shall be retained by the Utility until the electric service has been terminated at the request of the Customer or by the Utility pursuant to these rules and regulations. Upon service termination, the Utility shall credit the deposit towards payment of any outstanding charges due and owing by the Customer. After the Utility has made such credit, any remaining portion shall be refunded to the Customer.

Rule 8
Notices

A. Notices to Customers.

When notices from the Utility to a Customer are required, they will normally be given in writing, either mailed to the address specified in the Customer's Application for service or to any address subsequently specified by the Customer or delivered to him or her or posted in the local newspaper of record, except that in emergencies the Utility may give notices in the manner most suitable under the existing conditions (radio, television, telephone, etc.).

Where Utility service is provided to residential users through a master Meter, Utility shall make good faith efforts to inform the actual users of the Utility services when the account is in arrears. All procedures as required by law shall be exercised.

B. Notices from Customers.

Notices from a Customer to the Utility may be given by written communication mailed to the Utility's office or may be given orally by the Customer or the Customer's authorized agent at the Utility's office except when written notice is specifically required in Tariff Schedules or in any written agreement.

Rule 9
Rendering and Payment of Bills

A. Rendering of Bills.

1. Billing Period. Bills for electric service will be rendered bimonthly, monthly or as otherwise provided in the Tariff Schedules. Electric Meters shall be read as nearly as possible at regular intervals. Such regular Meter readings normally shall be monthly, but may be at other intervals as established at the discretion of the Utility.

2. Metered Service.

   a. Bills for metered service will be based on Meter registrations. Meters will be read as required for the preparation of regular bills, opening bills and closing bills.

   b. If, because of unusual conditions or for reasons beyond its control, the Utility is unable to read the Meter on the scheduled reading date, the Utility may bill the Customer or those deriving the benefit of service for estimated consumption during the Billing Period, and make any necessary corrections when a reading is obtained. Estimated consumption for this purpose will be calculated considering the Customer's prior usage, the Utility's experience with other Customers of the same class in that area, and the general characteristics of the Customer's operations. Adjustments for any underestimation or overestimation of a Customer's consumption will be reflected on the first regularly scheduled bill rendered and based onan actual reading following any periods when estimation was required. When a service start date can be reliably estimated, the undercharge canbe computed back to that date, exclusive of Rule 17. Access to the Meter, sufficient to permit it being read, shall be provided by the Customer as a prerequisite to the Utility making any adjustment of consumption billed on an estimated basis.

3. Un-metered Service. A flat rate may be applied upon request (in writing) where the Applicant for service has a fixed Connected Load to be operated over a fixed number of hours during a Billing Period, and where the following conditions are met:

   a. Provision has been made to prevent any additional consumption on the service.

   b. The point of interconnection of the service is approved by the Utility.

   c. Such service may be supplied under any appropriate Rate Schedule at the Utility's operating convenience and all conditions of the Rate Schedule shall apply, including the power cost adjustment.

4. Pro rata Computation. All bills for electric service rendered will be computed in accordance with the applicable thirty-day Rate Schedule, but the size of theenergy blocks and the amount of the Customer, Service, Demand or Minimum Charge specified therein will be prorated on the basis of the ratio of the number ofdays service has been rendered to the number of days in an average month ofthirty (30) days.

B. Readings of Separate Meters Not Combined.

For the purpose of billing, each Meter upon the Customer's premises will be considered separately, and the readings of two (2) or more Meters will not be combined, except as follows:

1. Where combinations of Meter readings are specifically provided for in the Tariff Schedules.

2. Where the Utility's operating convenience requires the use of more than one Meter.

C. Payment of Bills.

Electric bills, including service and penalty charges, are due and payable upon deposit by Utility in the United States mail ("date billed"), and shall be delinquent thirty (30) calendar days after said date. Upon delinquency, the Utility shall mail a second billing in the form of a delinquent notice. A ~~ten percent (10%)~~ penalty shall be assessed on that bill as set forth in the Citywide Master Fee Recovery Schedule and a date of discontinuance of electric service, forty-six (46) days after the date billed, shall be noted. Thirty nine (39) days after the date billed, a final notice shall be mailed to the billing address of the Customer. A final notice fee may be assessed on that notice and a date of discontinuance of electric service shall again be noted. All delinquent accounts, with the exception of Multiple Occupancy Buildings and Mobile Home Parks, unpaid at the close of business of the forty-fifth (45^{th}) calendar day after the date billed shall have electric service discontinued on the forty-sixth (46^{th}) day after said date without further notice. Prior to terminating electric service to Multiple Occupancy Buildings and Mobile Home Parks, all procedures as required by law will be exercised.

D. Returned Check Charge.

The Utility may require payment of a returned check charge equal to that permitted under law for any check returned from the bank unpaid, as set forth in the Corona Municipal Code, Section 3.02.040 Schedule of Fees and Service Charges. If the returned item was returned for payment on a prior 48-hour notice of disconnection, service may be terminated without further notice.

Rule 10
Disputed Bills

A. Customers who feel their bill is in error will first contact the Utility Billing Division by phone or in writing within five (5) days after receiving the bill to attempt to resolve the disputed bill. Failure to do so will authorize discontinuance of service in accordance with Rule 11.

B. If, after contact with the Utility Billing Division, the Customer believes the bill is still incorrect, the Customer must, within ten (10) days after receiving the explanation from the Utility Billing Division, send his/her remittance for the entire amount of the disputed bill along with a written statement setting forth the reasons why the Customer believes the bill is incorrect to: Director of Utilities, City of Corona Utilities Department, 755 Public Safety Way, Corona, California 92878.

C. Failure of the Customer to file a written statement with the Director of Utilities within ten (10) days after receipt of the explanation from the Customer Service Division will constitute acceptance by the Customer of the bill as rendered, and authorizediscontinuance of service in accordance with Rule 11.

D. Upon timely receipt of the written statement, the Director of Utilities or his designee will review the basis of the billed amount and communicate the results of the review and decision to the Customer.

E. If before completion of the Director of Utilities's review, additional bills become due which the Customer wishes to dispute, the Customer will not be required to file the dispute with the Utility Billing Division, as stated above, but will be required to send his/her remittance for the entire amount of the additional bills disputed to: Director of Utilities, City of Corona Utilities Department, 755 Public Safety Way, Corona, California 92878, and file additional written statements within ten (10) days after receipt of such bills setting forth the reasons why the Customer believes the additional bills are incorrect. Failure to do so will authorize discontinuance of service in accordance with Rule 11.

Rule 11
Discontinuance and Restoration of Service

A. Past Due Bills.

Electric bills, including service and penalty charges, are due and payable upon deposit by Utility in the United States mail ("date billed"), and shall be delinquent thirty (30) calendar days after said date. Upon delinquency, the Utility shall mail a second billing in the form of a delinquent notice. A ~~ten percent (10%)~~ penalty shall be assessed on that bill as set forth in the Citywide Master Fee Recovery Schedule and a date of discontinuance of electric service, forty-six (46) days after the date billed, shall be noted. Thirty-nine (39) days after the date billed, a final notice will be mailed to the billing address of the Customer. A final notice fee will be assessed on that notice and a date of discontinuance of electric service shall again be noted. The charge for this notice is set forth in the Citywide Master Fee Recovery Schedule~~.~~.

B. Nonpayment of Bills.

1. All delinquent accounts, with the exception of Multiple Occupancy Buildings and Mobile Home Parks, unpaid at the close of business on the forty-fifth (45^{th}) calendar day after the date billed shall have electric service discontinued on the forty-sixth (46^{th}) day after said date without further notice. Prior to terminating electric service to Multiple Occupancy Buildings and Mobile Home Parks, all procedures as required by law will be exercised.

   Any Customer who contests a bill and has initiated a complaint or requested an investigation within five (5) days of receiving said bill shall not have service discontinued for non-payment during the pendency of an investigation by the Utility of such Customer's dispute or complaint provided the Customer also keeps current the account for Utility services as charges accrue in each subsequent billing period. Services shall not be discontinued for non-payment for any Customer complying with an amortization agreement entered into with the Utility,provided the Customer also keeps current the account for Utility services ascharges accrue in each subsequent billing period. If a Customer fails to comply with an amortization agreement, the Utility will give a 7-day discontinuance of service notice before discontinuing service, but such notice shall not entitle the Customer to further investigation by Utility.

2. Utility services to a Customer will not be discontinued for non-payment when the Customer has established to the satisfaction of the Utility that such termination would be especially dangerous to the health of the Customer or a full timeresident of the Customer's household. Certification from a licensed physician, public health nurse, or a social worker may be required by the Utility. The Utility shall make available to Customers, upon request, information regarding agencies and/or organizations that may provide financial assistance.

3. If a Customer is receiving more than one (1) service, any or all services may be discontinued when any service, regardless of location, is discontinued for non-payment. However, residential service will not be discontinued because of non-payment of bills for other classes of service.

4. Under no circumstances may service be discontinued for non-payment of a bill to correct previously billed incorrect charges for a period in excess of the preceding three (3) months, unless such incorrect charges have resulted from the Customer not abiding by the Tariff Schedules.

5. On any Saturday, Sunday, legal holiday recognized by the Utility, or at any time during which the business office of the Utility is not open to the public, service will not be discontinued by reason of delinquency in payment for Utility services.

C. Unsafe Equipment.

The Utility may refuse or discontinue service to a Customer if any part of the Customer's wiring or other equipment, or the use thereof, shall be determined by the Utility to be unsafe or in violation of applicable laws, ordinances, rules or regulations of publicauthorities, or if any condition existing upon the Customer's premises shall be thus determined to endanger the Utility's service facilities, until it shall have been put in a safecondition or the violation remedied. The Utility does not assume any responsibility for inspecting or repairing the Customer's wiring or other equipment or any part thereof and assumes no liability therefore.

D. Service Detrimental to Other Customers.

The Utility will not provide service to utilizing equipment, the operation of which will be detrimental to the service of the Utility or its other Customers, and will discontinue electric service to any Customer who shall continue to operate such equipment after having been given notice by the Utility to cease so doing.

E. Fraud.

The Utility may refuse or discontinue service if the acts of the Customer or the conditions upon the Customer's premises are such as to indicate an intent to defraud the Utility. A fee will be collected for the investigation of acts of fraud and/or diversion.

F. Failure to Establish or Re-establish Credit.

If, for an Applicant's convenience, the Utility should provide service before credit is established or should continue service to a Customer when credit has not been re-established in accordance with Rule 6, and the Customer fails to establish or re-establish credit, the Utility may discontinue service.

G. Non-compliance.

Except as otherwise specifically provided in this Rule 11, the Utility may discontinue

service to a Customer for non-compliance with Tariff Schedules if, after written notice of at least five (5) days, the Customer has not complied with the notice. The Utility may dispense with the giving of such notice in the event there exists in the Utility's opinion a dangerous condition, thus rendering the immediate discontinuance of service to the premises imperative.

H. Unsafe Environment.

If the customer or anyone on the premises inflicts violence, as defined in Rule 1, or threatens with present ability to inflict violence upon an employee of the Utility or its subcontractors, the Utility may discontinue service to a customer after written notice of at least five (5) days. The discontinuance of service may be avoided if the customer agrees to meet with the Director of Utilities and/or law enforcement and the customer agrees to cease from any act of violence.

I. Customer's Request for Service Discontinuance.

When a Customer desires to terminate responsibility for service, the Customer shall give the Utility not less than one (1) days' notice of this intention, state the date on which the Customer wishes the termination to become effective, and provide the Utility with the address to which the closing bill should be mailed. A Customer may be held responsible for all service furnished at the premises until one (1) day after receipt of such notice by the Utility or until the date of termination specified in the notice, whichever date is later.

J. Restoration - Reconnection Charge.

The Utility will require payment of a reconnection charge for each incident in which the service(s) were disconnected before restoring service that has been disconnected for non-payment of bills or for failure otherwise to comply with Tariff Schedules. If service(s) have been illegally restored or damaged due to tampering, the Customer must pay all damage charges prior to reconnection. The Customer and/or beneficiary of service are responsible for all damage charges whether or not service is reconnected.

In case the Customer places a request on a day when maximum workload has been scheduled, an additional charge will be made.

Rule 12
Rates and Optional Rates

A. Effective Rates.

The rates charged by the Utility for electric service are those on file with the Utility's Director of Utilities and legally in effect. A copy of complete Tariff Schedules as filed with the Director of Utilities, shall be maintained for public inspection at the office of the Utility.

B. Optional Rates.

1. Where there are two or more Rate Schedules, rates, or optional provisions applicable to the class of service requested by the Applicant, the Utility or its authorized employees will call Applicant's attention, at the time Application is made, to the several schedules, and the Applicant must designate which Rate Schedule, rate, or optional provision the Customer desires. When the Customer notifies the Utility of any material change in the size, character, or extent of utilizing equipment or operations, in accordance with Section C of Rule 3, the Utility will, within a reasonable time, advise the Customer of the resulting rate options. In the absence of the notification provided for in Section C of Rule 3, theUtility assumes no responsibility for advising the Customer of lower optionalrates under other existing schedules, rates, or optional provisions available as a result of the Customer's changes in equipment or operations.

2. When an Applicant for new service has applied for service under a mutually agreed upon Rate Schedule, the Rate Schedule will remain in effect for a minimum of three (3) billing periods to determine the accuracy of the application of the rate.

C. New or Revised Rates.

Should new or revised rates be established after the time Application is made, the Utility will, within a reasonable time, use such means as may be practicable to bring them to the attention of those of its Customers who may be affected thereby.

D. Change of Rate Schedule.

1. A change to another applicable Rate Schedule, rate, or optional provision will be made only where the Customer elects to make such change, or where in the opinion of the Utility, another Rate Schedule is more applicable.

2. Should a Customer so elect, the change will be made, provided:

   a. A change has not been made effective during the past twelve-months' period; or

   b. The change is made to, or from, a new or revised Rate Schedule; or

c. There has been a change in the Customer's operating conditions for that service which, in the opinion of the Utility, justifies the change; and

d. The change is not made more often than once in twelve (12) months where service is being supplied under a schedule containing an annual fixed charge or an annual minimum charge; and

e. The Customer has made the request by written notice to the Utility.

3. The change will become effective for the Billing Period during which the Customer has requested the change and is not subject to a retroactive adjustment, except when such change is the result of a Utility error, in accordance withRule 17.

E. Power Cost Adjustment Factor (PCAF)

The PCAF is a charge per kWh which is used (1) to adjust the Utility's electric rates for the actual cost of purchasing and generating electric power and energy to service the Utility's Customers, and (2) to minimize fluctuations in rates.

The energy charge per kWh in each Rate Schedule recovers the costs of purchasing and delivering power and energy from all suppliers of power and energy, other suppliers, and the cost of power from the Utility's owned generating resources.

The PCAF will reflect all changes in energy costs, including the following:

1. Changes in any component of the wholesale rate.

2. Changes in transmission and wheeling payments.

3. Changes in scheduling and dispatching payments.

4. Changes in contract incremental costs.

5. Changes in economy energy purchases.

6. Changes in take-or-pay obligations.

7. Changes in cogenerated power purchases.

The PCAF as set forth in the Tariff Schedule shall be applied to kWh sold on and after the effective date, as also set forth below, and continuing thereafter until a new PCAF becomes effective. The amount to be added to or subtracted from each bill due to the PCAF shall be calculated by multiplying the number of kWh for which the bill isrendered by the applicable PCAF.

The PCAF, which may be either positive or negative, will be reviewed and revised quarterly to reflect (1) actual changes in excess of a plus or minus ten percent (10%) of the amount stated in the energy charge included in the Tariff Schedule.

The City Council shall have responsibility for establishing the PCAF and its effective date.

F. Change of Law Adjustment Factor (CLAF)

Change in Law means any change, modification, revision, or adoption of (1) any law, rule, regulation, order, writ, judgment, decree, resolution, ordinance, or other legal or regulatory determination by any court, regulatory agency or governmental authority of competent jurisdiction, or (2) any law, rule, regulation, order, writ, judgment, decree, resolution, ordinance, or other legal or regulatory determination, or interpretation thereof,which has been adopted, enacted, released or promulgated, which results in either partial or wholly new or different application of a pre-existing law. The CLAF is a charge or credit per kWh which is used to adjust the Utility's electric rates for the impact of Changes in Law that would materially change the Utility's revenue or expenses.

The CLAF as set forth in the Tariff Schedule shall be applied to each kWh sold on and after the effective date, or also set forth below, and continuing thereafter until a new CLAF becomes effective. The amount to be added to or subtracted from each bill due to the CLAF shall be calculated by multiplying the number of kWh for which the bill is rendered by the applicable CLAF.

The CLAF, which may be either positive or negative, will be reviewed and revised quarterly to reflect actual changes in excess of a plus or minus ten percent (10%) of the amount stated in the Tariff Schedule.

The City Council shall have the responsibility for establishing the CLAF and its effective date.

G. Interconnection.

Unless otherwise stated in the Rate Schedule, the Rate Schedules of the Utility are applicable only for service supplied entirely by the Utility without interconnection, except that any interconnection may be double-throw switch where necessary to meet the minimum requirements for emergencies.

H. Definitions for Rule 12.

Billing Demand: The Billing Demand shall be the kilowatts of Maximum Demand, determined to the nearest kW. The Demand Charge shall include the following billing components. The Time Related Component shall be for the kilowatts of Maximum Demand recorded during (or established for) the monthly billing period. The Facilities Related Component shall be for the greater of the kilowatts of Maximum Demandrecorded during (or established for) the monthly billing period or 50% of the highest Maximum Demand established in the preceding eleven (11) months (Ratcheted Demand).However, when the Utility determines the Customer's Meter will record little or no energy use for extended periods of time or when the Customer's Meter has not recorded a Maximum Demand in the preceding eleven (11) months, the Facilities Related Component of the Demand Charge may be established at fifty percent (50%) of the Customer's Connected Load.

Excess Transformer Capacity: Excess Transformer Capacity is the amount of transformer capacity requested by a Customer in excess of that which the Utility would normally install to serve the Customer's Maximum Demand.

Holidays: Holidays are New Year's Day (January 1), Washington's Birthday (third Monday in February), Memorial Day (last Monday in May), Independence Day (July 4), Labor Day (first Monday in September), Veteran's Day (November 11), Thanksgiving Day (fourth Thursday in November), and Christmas (December 25). When any Holiday listed above falls on Sunday, the following Monday will be recognized as an off-peak period. No change will be made for Holidays falling on Saturday.

Maximum Demand: Maximum Demands shall be established for the On-Peak, Mid- Peak, and Off-Peak periods. The Maximum Demand for each period shall be the measured maximum average kilowatt input indicated or recorded by instruments, during any 15-minute metered interval, but, where applicable, not less than the diversifiedresistance welder load computed in accordance with the section designated Welder Service in Rule 2. Where the demand is intermittent or subject to violent fluctuations, a 5-minute interval may be used.

Power Factor Adjustment: When the Maximum Demand is expected or has exceeded 200 kW for three (3) consecutive months, kilovar metering will be installed as soon as practical, and, thereafter, until the Maximum Demand has been less than 150 kW for twelve (12) consecutive months, the billing will be increased each month for power factorfor service metered and delivered at the applicable voltage level, based on the per kilovar of maximum Reactive Demand imposed on the Utility. The reactive demand will be determined as follows:

1. For Customers with metering used for billing that measures reactive demand. The maximum reactive demand shall be the highest measured maximum averagekilovar demand indicated or recorded by metering during any 15-minute metered interval in the month. The kilovars shall be determined to the nearest unit. A device will be installed on each kilovar Meter to prevent reverse operation of the Meter.

2. For Customers with metering used for billing that measures kilovar-hours instead of reactive demand. The kilovars of reactive demand shall be calculated by multiplying the kilowatts of measured Maximum Demand by the ratio of the kilovar-hours to the kilowatt hours. Demands in kilowatts and kilovars shall be determined to the nearest unit. A ratchet device will be installed on the kilovar-hour Meter to prevent its reverse operation on leading power factors.

Summer Season: The Summer Season shall commence at 12:00 a.m. on June 1st and continue until 12:00 a.m. on October 1st of each year. A pro rata computation will be made for seasonal billing purposes.

Temporary Discontinuance Service: Where the use of energy is seasonal or intermittent, no adjustments will be made for a temporary discontinuance of service. AnyCustomer,

prior to resuming service within twelve (12) months after such service was discontinued, will be required to pay all charges which would have been billed if service had not been discontinued.

Time Period:
Time periods are defined as follows:

On-Peak:	4:00 p.m. to 9:00 p.m. summer weekdays except holidays.
Mid-Peak:	4:00 p.m. to 9:00 p.m. summer weekends except holidays. 4:00 p.m. to 9:00 p.m. winter weekdays except holidays.
Off-Peak:	All other hours.

Winter Season: The Winter Season shall commence at 12:00 a.m. on October 1st of each year and continue until 12:00 a.m. on June 1st of the following year. A pro rata computation will be made for seasonal billing purposes.

Rule 13
Temporary Service

A. Establishment of Temporary Service.

Utility shall, if no undue hardship to its existing Customers will result therefrom, furnish Temporary Service under the following conditions:

1. The Applicant shall pay, in advance or otherwise as required by Utility, the estimated cost installed, plus the estimated cost of removal, less the estimated salvage, of the facilities necessary for furnishing service.

2. The Applicant shall establish credit as required by Rule 6, except that the amount of deposit prescribed in Rule 7 shall not exceed the estimated bill for the duration of service.

B. Applicant Design.

Applicant shall design that portion of the temporary facilities in accordance with the same Applicant design provisions outlined in Rule 15.

C. Change to Permanent Status.

1. A Customer will retain temporary status as long as the Utility deems the facilities to be speculative in character, of questionable permanency, or where it is known in advance that service will be of limited duration.

2. If at any time the character of a temporary Customer's operations changes so that in the opinion of the Utility the Customer may be classified as permanent, the Customer shall be required to take permanent service.

Rule 14
Variations in the Quality or Supply of Electricity

A. Quality.

The Utility does not give any warranty, expressed or implied, as to the quality, adequacy, safety, or other characteristics of the electricity and/or electric service provided by the Utility.

B. Shortages, Brownouts, Interruptions, Spikes, Surges.

1. The Utility will exercise reasonable diligence (1) to furnish a continuous and sufficient supply of electricity to its Customers and (2) to minimize the occurrence of shortages, brownouts, interruptions, spikes, surges, or other electricity delivery problems; however, the Utility cannot and does not guaranteea continuous or sufficient supply, or freedom from such conditions which may affect the quality of the electricity provided.

2. The Utility will not be liable for variations in the quality of electricity supplied, nor for failure to supply a continuous or sufficient supply of electricity, nor will it be liable for variations in the quality of electricity supplied, nor for damage orloss occasioned by such failure to supply, or by shortages, brownouts,interruptions, spikes, surges, or other electricity delivery problems.

3. Whenever, in the operation of the Utility's electric plants, properties, and/or systems, interruption in the delivery of electricity to Customers results from or is occasioned by causes other than the exercise by the Utility of its right to suspend temporarily the delivery of electricity for the purpose of making repairs or improvements to its system, notice of any such interruption will not be given to the Customers of the Utility, but the Utility will exercise reasonable diligence to reinstate delivery of electricity.

C. Temporary Suspension for Repairs.

1. The Utility, whenever it shall find it necessary for the purpose of making repairs or improvements to its system, shall have the right to suspend temporarily the delivery of electricity. In all cases, to the extent circumstances so allow, reasonable notice will be given to the Customer. Such repairs or improvements will be made as rapidly as practicable, consistent with prudent utility practices.To the extent practicable and consistent with prudent utility practices, the Utility will minimize the inconvenience to its Customers.

2. When it is necessary to suspend temporarily the delivery of electricity for repairs or improvements to the system in accordance with Rule 14, Section C.1 above, and the Customer requests that such suspension of service occur at other than during normal Utility working hours, the Utility reserves the right to receive, in advance, the total estimated labor-related costs to be incurred by the Utility for performing

the work during non-regular Utility work hours. The Customer shall also pay any additional cost actually incurred in excess of the estimated costs.

D. Apportionment of Supply During Time of Shortage.

Should a shortage of supply ever occur, the Utility will apportion its available supply of electricity among its Customers as authorized or directed by the Utility in the manner determined at the Director of Utilities'~~s~~ discretion, to be equitable under prevailing conditions. The decision of the Director of Utilities shall be final in such matters.

Rule 15
Line Extensions

APPLICABILITY: This rule is applicable to extension of electric Distribution Lines of the Utility's standard voltages (less than 34 kV) necessary to furnish permanent electric service to Applicants and will be made in accordance with the following provisions:

A. General.

1. Distribution Line Extension Basis.

a. Design. The Applicant will be responsible for planning, designing, and engineering Distribution Line Extensions using the Utility's standards for material, design, and construction.

b. Ownership. The Distribution Line Extension facilities installed under the provisions of this rule, shall be owned, operated, and maintained by the Utility, except for Substructures and enclosures that are on, under, within, or part of a building or structure.

c. Private Lines. The Utility shall not be required to serve any Applicant from Distribution Line Extension facilities that are not owned, operated, and maintained by the Utility.

2. Distribution Line Extension Locations.

a. The Utility will own, operate and maintain Distribution Line Extension facilities only:

(1) Along public streets, alleys, roads, highways and other publicly dedicated ways and places which the Utility has the legal right to occupy; and

(2) On public lands and private property across which rights-of-way and permits satisfactory to the Utility may be obtained without costto or condemnation by the Utility.

b. Normal Route of Line. The length and normal route of a Distribution Line Extension will be determined by the Utility and considered as the distance along the shortest, most practical, available, and acceptable route which is clear of obstructions from the Utility's nearest permanent and available distribution facility to the point from which the service facilities will be connected.

3. Underground Distribution Line Extensions.

a. Underground Required. The Utility, by authority of the City Council, has declared itself an "underground" utility. Consistent with this declaration,

underground Distribution Line Extensions shall be installed where required to comply with applicable laws and ordinances of the City of Corona and where the Utility maintains or desires to maintain underground distribution facilities. For example, underground Distribution Line Extensions are required for all new: (1) Residential Subdivisions, (2) Residential Developments, (3) Commercial Developments, (4) Industrial Developments, and (5) locations that are in proximity to and visible from designated Scenic Areas. The requirements to underground lines set forth in this paragraph shall not apply where it is impractical to build underground lines, as determined by the Utility, and approved by the Director of Utilities.

b. Underground Optional. When requested by Applicant and agreed upon by the Utility, underground Distribution Line Extensions may be installed in areas where it is not required, as provided in Section A.3.a.

4. Overhead Distribution Line Extensions. Overhead Distribution Line Extensions may be installed only where underground extensions are not required as provided in Section A.3.a.

5. Temporary Service. Facilities installed for Temporary Service or for operations of speculative character or questionable permanency shall be made in accordance with the fundamental installation and ownership provisions of this rule and the provisions of Rule 13.

6. Services. Service facilities connected to the Distribution Lines to serve an Applicant's premises will be installed, owned and maintained as provided in Rule 16.

7. Street Lights. Street lights and appurtenant facilities shall be installed in accordance with the service provisions of the applicable street light schedule.

8. Contracts. Each Applicant requesting a Distribution Line Extension may be required to execute a written contract(s), prior to performing any work on the Distribution Line Extension.

B. Installation Responsibilities.

1. Underground Distribution Line Extensions.

a. In accordance with the Utility approved design, specifications, and requirements, using Qualified Contractor's (see Section E, Applicant Installation.) Applicant is responsible for:

(1) Excavation. All necessary Trenching, backfilling, and other digging as required;

(2) Substructure and Conduits. Furnishing, installing, and upon

acceptance by the Utility, conveying to the Utility ownership of all necessary installed Substructures and Conduits, including Feeder Conduits and related Substructures required to extend to and within subdivisions and developments; and

(3) Protective Structures. Furnishing, installing, and upon acceptance by the Utility, conveying to the Utility ownership of all necessary Protective Structures.

(4) Furnishing and installing cables, switches, transformers, and other distribution facilities required to complete the Distribution Line Extension.

b. Utility Responsibility. Providing plan check review and approval and inspection service to verify Applicant's performance.

2. Overhead Distribution Line Extensions. The Applicant is responsible for furnishing and installing all facilities required for the Distribution Pole LineExtension.

C. Contributions or Advances by Applicant.

1. General. Contributions or Advances by an Applicant to the Utility for the installation of a Distribution Line Extension to receive Utility service consists of such things as cash payments, the value of facilities deeded to the Utility, and the value of Excavation performed by Applicant.

2. Project-Specific Cost Estimates. The Applicant's total estimated installed cost will be based on a project-specific estimated cost.

3. Cash Advance. A cash Advance will be required for all plan check and inspection fees to complete a Distribution Line Extension.

4. Applicant shall contribute or Advance, before the start of the Applicant's construction, the following:

a. Underground Amount. The Utility's total estimated Applicant installed cost, to complete the underground Distribution Line Extension (including transformers, and including Betterments) for:

(1) Cabling. The Utility's estimated value of any necessary Cabling (including distribution transformers, switches and other distribution facilities) installed by the Utility to complete the underground Distribution Line Extension. This includes the cost ofconversion of existing single-phase lines to three-phase lines, if required; plus

(2) Substructures. The Utility's estimated value of Substructures installed by Applicant and deeded to the Utility as required.

b. Overhead Amount. The Utility's total estimated Applicant installed cost, to complete the overhead Distribution Line Extension (including distribution transformers and excluding Betterments) for:

(1) Pole Line. All necessary facilities required for an overhead Distribution Pole Line Extension and, if required, the conversion of existing single-phase lines to three-phase lines; plus

c. Other Amounts. The Utility's estimated value of Excavation, Conduits, and Protective Structures required by the Applicant for the Distribution Line Extension under Section B.1.a.

5. Joint Applicants. The total Contribution or Advance from a group of Applicants will be apportioned among the members of the group in such manner as they may mutually agree.

D. Applicant Design for New Installations.

The Distribution Line Extension shall be designed by Applicant's qualified contractor or sub-contractor in accordance with the Utility approved design and construction standards. All Applicant design work of electric facilities must be performed by or under thedirection of a licensed professional engineer and all design work submitted to the Utility must be certified by an appropriately licensed professional engineer, consistent with the applicable federal, state, and local, including City of Corona, codes and ordinances. The Applicant design applies to Applicant for new service and is available for replacement, reinforcement, or relocation of existing systems. Under this installation, the following applies:

1. Applicant shall notify the Utility, in a manner acceptable to the Utility.

2. Applicant designs shall conform to all applicable federal, state and local, including City of Corona, codes and ordinances for Utility installations design (such as, but not limited to the California Business and Professions Code).

3. The Utility may require Applicant designers to meet the Utility's prequalification requirements prior to participating in Applicant design.

4. Applicant designers shall obtain Utility design and construction standards and specifications prior to performing Applicant design. The Utility may charge for any of these services.

5. The Utility will perform plan check on each Applicant design project at the expense to Applicant.

6. The Utility shall perform all the Utility's project accounting and cost estimating.

E. Applicant Installation.

1. The Distribution Line Extension shall be installed by Applicant's qualified contractor or sub-contractor in accordance with the Utility approved design and specifications. All Applicant installation work for electric facilities must be performed by a qualified Contractor and approved by the Utility consistent with the applicable federal, state, and local, including City of Corona, codes andordinances. Under this installation, the following applies:

   a. The Utility's total estimated Applicant installed project cost will apply regardless of whom Applicant selects to perform the installation.

   b. Upon acceptance by the Utility, ownership of all such facilities will transfer to the Utility.

   c. Applicant shall pay to the Utility any Utility costs associated with the Distribution Line Extension, including the estimated costs of design, administration, and installation of any additional facilities and labor necessary to complete the Distribution Line Extension.

   d. Applicant shall pay to the Utility the cost of inspection.

   f. Only duly authorized employees of the Utility are allowed to connect to, disconnect from, or perform any work upon the Utility's facilities.

2. Minimum Contractor Qualifications. Applicant's contractor or subcontractor (QC/S) shall:

   a. Be licensed in California for the appropriate type of work (electrical and general, etc.).

   b. Employ workmen properly qualified for specific skills required (Qualified Electrical Worker, Qualified Person, etc.) as defined in State of California High Voltage Safety Orders (Title 8, Chapter 4, Subchapter 5, Group 2).

   c. Comply with applicable laws (Equal Opportunity Regulations, OSHA,EPA, etc.).

3. Other Contractor Qualifications. An Applicant for service who intends to employ a QC/S also should consider whether the QC/S:

   a. Is technically competent.

   b. Has access to proper equipment.

   c. Demonstrates financial responsibility commensurate with the scope of the contract.

   d. Has adequate insurance coverage (worker's compensation, liability, property damage, etc.).

e. Is able to furnish a surety bond for performance of the contract, if required.

F. Special Conditions.

1. Facility Relocation or Rearrangement. Any relocation or rearrangement of the Utility's existing facilities, at the request of, or to meet the convenience of an Applicant or Customer, and agreed upon by the Utility, shall be performed by the Applicant. Where new facilities can be constructed in a separate location, before abandonment or removal of any existing facilities, and Applicant requests to perform the new construction work, it can be performed under the applicable provisions of Section E, Applicant Installation.

   In all instances, the Utility shall abandon or remove its existing facilities at the option of the Utility. Applicant or Customer shall be responsible for the costs of all related relocation, rearrangement and removal work.

I. Definitions for Rule 15.

Advance: Cash payment made to the Utility prior to the initiation of any work done by the Utility.

Applicant: A person or agency requesting the Utility to deliver/supply electric service.

Betterment: Facilities installed by Applicant at the request of the Utility in addition to those required under Section B.1.a.

Cabling: Conductors (including cable-in-conduit, if used), connectors, switches, as required by the Utility for primary, secondary, and service installations.

Commercial Development: Two (2) or more enterprises engaged in trade or the furnishing of services, (e.g., shopping centers, sales enterprises, business offices, professional offices, and educational or governmental complexes) located on a single parcel or on two (2) or more contiguous parcels of land.

Conduit: Ducts, pipes or tubes of certain metals, plastics and other materials acceptable to the Utility (including pull wires and concrete encasement where required) for the installation and protection of electric wires or cables.

Contribution: In-kind services and the value of all property conveyed to the Utility at any time during the Utility's work on an extension which is part of the Utility's total estimated installed cost of its facilities, or cash payments.

Distribution Line Extension: A new distribution facility of the Utility that is a continuation of, or branches from, the nearest available existing permanent Distribution Line (including any facility rearrangements and relocations necessary to accommodate the Distribution Line Extension) to the point of connection of the last service. The Utility's Distribution Line Extension includes transmission under builds and converting an existing

single-phase line to three-phase in order to furnish three-phase service to an Applicant, but excludes service transformers, Meters and services.

Distribution Lines: Overhead and underground facilities which are operated at distribution voltages, and which are designed to supply two (2) or more services.

Excavation: All necessary Trenching, backfilling, and other digging to install Distribution Line Extension facilities, including furnishing of any imported backfill material and disposal of spoil as required, surface repair and replacement, landscaperepair and replacement.

Feeder Conduit: Conduit for such uses as part of a backbone system to provide for future anticipated load growth outside the subdivision involved, to provide for future anticipated load growth in the existing subdivision and the existing subdivisions in close proximity, to balance loads between substations, to interconnect the service to the subdivision with service to subsequent developments outside the subdivision, and to provide the flexibility and versatility of modifying or supplying emergency backup powerto the area involved.

Industrial Development: Two (2) or more enterprises engaged in a process which creates a product or changes material into another form or product and located on a singleparcel or on two (2) or more contiguous parcels of land.

Pole Line: Poles, cross-arms, insulators, conductors, switches, guy-wires, and other related equipment used in the construction of an electric overhead line.

Protective Structures: Fences, retaining walls (in lieu of grading), sound barriers, posts, or barricades and other structures as required by the Utility to protect distribution equipment.

Residential Development: Five (5) or more dwelling units in two (2) or more buildings located on a single parcel of land.

Residential Subdivision: An area of five (5) or more lots for residential dwelling units which may be identified by filed subdivision plans or an area in which a group of dwellings may be constructed about the same time, either by a builder or several builders working on a coordinated basis.

Seasonal Service: Electric service to establishments which are occupied seasonally or intermittently, such as seasonal resorts, cottages, or other part-time establishments.

Scenic Areas: An area such as a scenic highway, a state or national park or other area determined by a governmental agency to be of unusual scenic interest to the general public. Scenic highways are officially designated under the California Scenic Highway Program established pursuant to Paragraph 320 of the Public Utilities Code. State or national parks or other areas of unusual scenic interest to the general public are determined by the appropriate governmental agency. “In proximity to” shall mean within1,000 feet from each edge of the right-of-way of designated scenic highways and fromthe boundaries of designated parks and scenic areas. “Visible from” shall mean that overhead distribution

facilities could be seen by motorists or pedestrians traveling along scenic highways or visiting parks or scenic areas.

Substructures: The surface and subsurface structures which are necessary to contain or support the Utility's electric facilities. This includes, but is not limited to, such things as splice boxes, Pull Boxes, equipment vaults and enclosures, foundations or pads forsurface-mounted equipment.

Trenching: See Excavation.

Rule 16
Electric Service

APPLICABILITY: This rule is applicable to both (1) Utility Service Facilities[1] that extend from the Utility's Distribution Line facilities to the Service Delivery Point, and (2) service related equipment required of Applicant on Applicant's Premises to receive electric service.

A. General.

1. Design. The Applicant will be responsible for planning, designing, and engineering Service Extensions using the Utility approved standards for design, materials and construction in accordance with the Applicant design provisions of Rule 15.

2. Service Facilities. The Utility's Service Facilities shall consist of (a) primary or secondary underground or overhead service conductors, (b) poles to support overhead service conductors, (c) service transformers, (d) Utility-owned Metering equipment, and (e) other Utility-owned service related equipment.

3. Ownership of Facilities. Service Facilities installed under the provisions of this rule shall be owned, operated, and maintained by the Utility if they are (a) located in the street, road or a public right-of-way area, (b) installed by the Applicant under section D.2 below on Applicant's Premises for the purpose of the deliveryof electric energy to Applicant, or (c) installed by Applicant under the provisions of this rule, and conveyed to the Utility.

4. Private Lines. The Utility shall not be required to connect Service Facilities to or serve any Applicant from electric facilities that are not owned, operated, and maintained by the Utility.

5. Temporary Service Facilities. Service Facilities installed for Temporary Service or for operations of speculative character or questionable permanency shall be made in accordance with the fundamental installation and ownership provisions ofthis rule, except that all charges and refunds shall be made under the provisions ofRule 13.

6. Street Lights. Street light services and appurtenant facilities shall be installed in accordance with the service provisions of the applicable street light schedule.

[1] Certain words beginning with capital letters are defined either within the provisions of this rule or in Section H.

7. Contracts. Each Applicant requesting service may be required to execute awritten contract(s) prior to the Applicant performing its work to establish service. Such contract(s) shall be in the form provided by the Utility or otherwise acceptable and approved by the Utility.

8. Distribution Line Extension. Whenever the Utility's Distribution System is not complete to the point designated by the Utility where the Service Extension is to be connected to the Utility's Distribution System, the extension of Distribution Line facilities will be installed by the Applicant in accordance with Rule 15.

9. Rights-of-Way. Rights-of-way or easements may be required by the Service Facilities on Applicant's property to serve only Applicant.

   a. Service Facilities. If the Service Facilities must cross property owned by a third party to serve Applicant, the Utility may, at its option, install such Service Facilities after appropriate rights-of-way or easements, satisfactory to the Utility, are obtained without cost to the Utility; or

   b. Distribution Line Extensions. If the Utility's facilities installed on Applicant's property, or third-party property, will be or are designed to serve adjacent property, then the Utility may, at its option, install itsfacilities under Rule 15, after appropriate rights-of-way or easements,satisfactory to the Utility, are obtained without cost to the Utility.

   c. Clearances. Any necessary rights-of-way or easements for the Utility's facilities shall have provisions to maintain legal clearances from adjacent structures.

   d. The Customer shall exercise reasonable care to prevent the facilities of the Utility upon the premises from being damaged or destroyed, and shall not relocate or otherwise interfere with them and if, any defect is discovered, shall promptly notify the Utility.

10. Access to Applicant's Premises. The Utility shall, at all times, have the right to enter and leave Applicant's Premises for any purpose connected with the furnishing of electric service (Meter reading, inspection, testing, routine repairs, replacement, maintenance, emergency work, etc.) and the exercise of any and all rights secured to it by law, or under the Utility's Tariff Schedules. These rights include, but are not limited to:

    a. The use of a Utility-approved locking device, if Applicant desires toprevent unauthorized access to the Utility's facilities;

    b. Safe and ready access for Utility personnel free from unrestrained animals;

    c. Unobstructed ready access for the Utility's vehicles and equipment to install, remove, repair, or maintain its facilities;

d. Removal of any and all of its property installed on Applicant's Premises after the termination of service.

11. Service Connections. Only personnel duly authorized by the Utility are allowed to connect or disconnect service conductors to or from the Utility's Distribution Lines, remove Meters unless otherwise allowed pursuant to Utility Tariff Schedules, remove Utility-owned Service Facilities, or perform any work upon Utility-owned existing facilities.

12. Due to the long lead time for engineering, material acquisition, crew scheduling and construction, application for service must be made as far in advance aspossible. After receipt of fees, service charges and deposits and clearance from the inspection agency having jurisdiction, the Utility shall endeavor to complete within a reasonable time the inspection and approval of the necessary facilities installed by the Applicant. However, the Utility shall not be liable for any delays encountered in completing the installed facilities..

13. If, for any reason of the Applicant, installation of a service cannot be accomplished during standard working hours, the Applicant shall pay in advance the estimated cost of the Utility overtime, to the extent that it exceeds any costs included in other Applicant charges.

14. The Applicant shall be obligated to provide facilities adequate to serve only the load initially specified and connected, regardless of the rating of the service equipment, service switch or breaker. Increased loads will be considered as new installations and the Customer shall pay the net cost of any changes required in the Utility facilities in accordance with and may be required to make specified changes in the services facilities or equipment to accommodate the increased load or the type of service to be supplied by the Utility.

B. Metering Facilities.

1. General.

a. Meter All Usage. Delivery of all electric power and energy will bemetered, unless otherwise provided for by the Utility's Tariff Schedules orby other applicable laws.

b. Meter Location. All Meters and associated metering equipment shall be located at some protected location on Applicant's Premises as approved by the Utility.

2. Number of Meters. Normally only one Meter will be installed for a single-family residence or a single non-residential enterprise on a single Premises, except:

a. When otherwise required or allowed under the Utility's Tariff Schedules.

b. At the option of and as determined by the Utility, for its operating convenience, consistent with its engineering design; or

c. When required by law or local ordinance;

d. When additional services are granted by the Utility.

A single Meter is required for each single enterprise operating in one building or group of buildings or other development on a single Premises such as, but not limited to, a commercial business, school campus, industrial manufacturer, or recreational vehicle park, unless otherwise approved by the Utility.

3. Multiple Occupancy. In a building with two or more tenants, or where more than one Meter is furnished on the same Premises, the Meters normally shall begrouped at one central location, or as otherwise specified by the Utility, and each Meter position or socket shall be clearly and permanently marked by Applicant, Customer, or owner of the Premises to indicate the particular unit, occupancy, or load supplied by it.

a. Residential. For revenue billing, electric service shall be individually metered to every Residential Unit in a residential building or group of buildings or other development with multiple tenants such as, but not limited to, apartment buildings, mobile home parks, etc., except as may be specified in Rule 18 and applicable Rate Schedules.

b. Non-residential. For revenue billing, electric service shall be individually metered to each tenant in a non-residential building or group of buildings or other development on a single Premises with multiple tenants or enterprises (such as, but not limited to, an office building or shopping center complex). Alternative metering arrangements as determined by the Utility may be allowed only as specified in Rule 18 and applicable Rate Schedules.

C. Service Extensions.

1. General Location. The location of the Service Extension shall extend:

a. Public Right-of-way Area: From the point of connection at the Distribution Line to Applicant's nearest property line abutting upon any street, highway, road, or right-of-way, along which it already has, or willinstall distribution facilities; and

b. Private Party: On private property, along the shortest, most practical and available route (clear of obstructions) as necessary to reach a Service Delivery Point designated by the Utility.

2. Number of Service Extensions. The Utility will not normally provide more than one Service Extension, including associated facilities, either overhead or underground for any one building or group of buildings, for a single enterprise on

a single Premises, except:

a. Tariff Schedules. Where otherwise allowed or required under the Utility's Tariff Schedules; or

b. Utility Convenience. At the option of and as determined by the Utility, for its operating convenience, consistent with its engineering design for different voltage and phase classification, or when replacing an existing service; or

c. Ordinance. Where required by City of Corona ordinance or other applicable law, for such things as fire pumps, fire alarm systems, etc.

d. Other. The Utility may charge for additional services provided under this paragraph, as Special or Added Facilities.

3. Underground Installations. Underground Service Extensions will be installed:

a. Underground Required. Underground Service Extensions (1) shall be installed where required to comply with applicable Tariff Schedules, laws, City of Corona ordinances, or similar requirements of governmental authorities having jurisdiction, and (2) may be necessary as determined by the Utility where Applicant's load requires a separate transformer installation of 300 kVa or greater.

b. Underground Optional. An underground Service Extension may be installed in an area where it is not otherwise required and when requested by Applicant and agreed upon by the Utility.

4. Overhead Installations. Overhead Service Extensions are permitted except under the circumstances specified in Section C.3.a above.

5. Unusual Site Conditions. In cases where Applicant's building is located a considerable distance from the available Distribution Line or where there is an obstruction or other deterrent obstacle or hazard such as plowed land, ditches, or inaccessible security areas between the Utility's Distribution Line and Applicant's building or facility to be served that would prevent the Utility from prudently installing, owning, and maintaining its Service Facilities, the Utility may at its discretion, waive the normal Service Delivery Point location. In such cases, the Service Delivery Point will be at such other location on Applicant's property as may be mutually agreed upon; or, alternatively, the Service Delivery Point may be located at or near Applicant's property line as close as practical to the available Distribution Line.

D. Responsibilities for New Service Extensions.

1. Applicant Responsibility. In accordance with the Utility's design, specifications, and requirements for the installation of Service Extensions, subject to the Utility's

inspection and approval, Applicant is responsible for:

a. Service Extensions.

(1) Clear Route. Providing (or paying for) a route on any private property that is clear of obstructions which would inhibit the construction of either underground or overhead Service Extensions.

(2) Excavation. All necessary Trenching, backfilling, and other digging as required including permit fees.

(3) Conduit and Substructures.

(a) Furnishing, installing, owning, and maintaining all Conduits (including pull ropes) and Substructures on Applicant's Premises.

(b) Installing (or paying for) any Conduits and Substructures in Utility's Franchise Area (or rights-of-way, if applicable) as necessary to install the Service Extension.

(c) Conveying ownership to the Utility upon its acceptance of those Conduits and Substructures not on Applicant's Premises.

(4) Protective Structures. Furnishing, installing, owning, and maintaining all necessary Protective Structures as specified by the Utility for Utility's facilities on Applicant's Premises.

(5) Furnishing and installing all cables, transformers, electrical apparatus and terminating all required components to provide a complete, safe and reliable electrical service extension.

b. Applicant's Facility Design and Operation. Applicant shall be solely responsible to plan, design, install, own, maintain, and operate facilities and equipment beyond the Service Delivery Point (except for Utility-owned metering facilities) in order to properly receive and utilize the type of electric service available from the Utility. Refer to Rule 2 for a description, among other things, of:

(1) Available service delivery voltages and the technical requirements and conditions to qualify for them;

(2) Customer utilization voltages;

(3) Load balancing requirements;

(4) Requirements for installing electrical protective devices;

(5) Loads that may cause service interference to others; and

(6) Motor starting limitations.

c. Required Service Equipment. Applicant shall, at its sole liability, risk, and expense, be responsible to furnish, install, own, maintain, inspect, and keep in good and safe condition, all facilities of any kind or character on Applicant's Premises that are not the responsibility of the Utility but are required by the Utility for Applicant to receive service. Such facilities shall include but are not limited to the overhead or underground termination equipment, Conduits, service entrance conductors from the Service Delivery Point to the location of the Utility's metering facilities, connectors, Meter sockets, Meter and instrument transformer housing,service switches, circuit breakers, fuses, relays, wire ways, metered conductors, machinery and apparatus of any kind or character. Detailed information on the Utility's service equipment requirements will be furnished by the Utility.

d. Coordination of Electrical Protective Devices. When, as determined by the Utility, Applicant's load is of sufficient size as to require coordination of response time characteristics between Applicant's electrical protective devices (circuit breakers, fuses, relays, etc.) and those of the Utility, it shall be Applicant's responsibility to provide such coordination in accordance with Rule 2.

e. Liability. The Utility shall incur no liability whatsoever, for any damage, loss or injury occasioned by:

(1) Applicant-owned equipment or Applicant's transmission and delivery of energy; or

(2) The negligence, omission of proper protective devices, want of proper care, or wrongful act of Applicant, or any agents,employees, or licensees of Applicant, on the part of Applicant in installing, maintaining, using, operating, or interfering with any such conductors, lines, machinery, or apparatus.

f. Facility Tampering. Applicant shall provide a suitable means acceptable to the Utility for placing its seals on Meter rings and covers of service enclosures and instrument transformer enclosures which protect unmetered energized conductors installed by Applicant. All Utility-owned Meters and enclosure covers will be sealed only by the Utility's authorized employees and such seals shall be broken only by the Utility's authorized employees. However, in an emergency, the Utility may allow a public authority or other appropriate party to break the seal. Any unauthorized tampering with Utility-owned seals or connection of Applicant-owned facilities to unmetered conductors at any time is prohibited and is subject

to the provisions of Rule 11 for Unauthorized Use.

g. Transformer Installations on Applicant's Premises. Transformer installations on Applicant's Premises shall be as specified by the Utility and in accordance with the following applicable provisions:

(1) Space for Transformers. Applicant shall provide space on Applicant's Premises at a location approved by the Utility for a standard transformer installation including any necessary switches, capacitors, and electric protective equipment where required if (a) in an overhead area, the Utility determines that the load to be served is such that a separate transformer installation, or (b) if the Utility determines that the installation of a pad mounted or subsurface transformer of any size is required on Applicant's Premises to serve only Applicant.

(2) Pad Mounted Equipment. In the Applicant's standard installation, Applicant shall furnish, install, own, and maintain, at its expense, Substructures and any required Protective Structures as specified by the Utility for the proper installation of the transformer, switches, capacitors, etc., as determined by the Utility.

(3) Single Utility-Owned Customer Substation. When the Utility elects for its operating convenience to supply Applicant from a transmission line and install a Utility-owned substation on Applicant's Premises, Applicant shall furnish, install, own and maintain at its expense the necessary site improvements as specified by the Utility for the proper installation of the transformer. Such improvements shall include but are not limited to a concrete pad or foundation, grounding system, fences and gates, access road, grading, and paving as required, etc. Detailed information on the Utility's requirements for a single Customer substation will be furnished by the Utility.

(4) Transformer Room or Vault. Where Applicant requests and the Utility approves the installation of the transformer(s) in a vault or room on Applicant's Premises, rather than the Utility's standard pad mounted installation:

(a) The room or vault on Applicant's Premises shall be furnished, installed, owned, and maintained by Applicant and shall meet the Utility's specifications for such things as access, ventilation, drainage, grounding system, etc.

(b) If space cannot be provided on Applicant's Premises for the installation of a transformer on either a pad or in a room or vault, a vault will be installed at Applicant's expense in the

street near the property line. It shall be Applicant's responsibility to install (or pay for) such vault if not restricted by governmental authority having jurisdiction,and Applicant shall convey ownership of the vault to the Utility upon its acceptance. The additional facilities shall be treated as Special or Added Facilities under theprovisions of Rule 2.

(c) If the Applicant's installed cost for the transformer in the room or vault is more costly than the standard pad mounted transformer installation, the additional costs shall be paid by Applicant.

(5) Transformer Lifting Requirements. Where the Applicant has installed or agrees to install, transformers at locations where the Applicant cannot use its standard transformer lifting equipment and special lifting facilities are required to install or remove the transformers on Applicant's Premises, Applicant shall, at its expense, (a) furnish, install, own, and maintain permanent lifting facilities and be responsible for lifting the transformer to and from its permanent position, or (b) provide (or pay for) portable lifting facilities acceptable to the Utility for installing or removing the transformers. Rights-of-way and space provisions shall be provided by Applicant such that access and required clearances from adjacent structures can be maintained.

(6) Overhead Transformers. In remote areas or in areas not zoned for residential or commercial use or for underground services, pad mounted transformers are preferred for installation on Applicant's Premises; however, where the Utility determines that it is not practical to install a transformer on a pad, in a room or vault, the Applicant may furnish a pole-type structure for an installation not exceeding 500 kVA.

h. Building Code Requirements. Any service equipment and other related equipment owned by Applicant, as well as any vault, room, enclosure, or lifting facilities for the installation of transformers shall conform with applicable laws, codes, and ordinances of all governmental authorities having jurisdiction.

i. Reasonable Care. Applicant shall exercise reasonable care to prevent the Utility's Service Extension, other Utility facilities, and Meters owned by the Utility or others on the Applicant's Premises from being damaged or destroyed, and shall refrain from interfering with the Utility's operation of the facilities and shall notify the Utility of any obvious defect. Applicant may be required to provide and install suitable mechanical protection (barrier posts, etc.) as required by the Utility.

2. Utility Responsibility.

a. Service, Meter and Transformers. The Utility will operate, own, and maintain the following Service Facilities as applicable after Applicantmeets all requirements to receive service:

(1) Underground Service. A set of service conductors to supply Permanent Service from the Distribution Line source to the Service Delivery Point approved by the Utility.

(2) Riser Materials. Any necessary pole riser material for connecting underground services to an overhead Distribution Line.

(3) Overhead Service. A set of overhead service conductors and support poles to supply permanent service from a Distribution Linesource to a suitable support at the Service Delivery Point approved by the Utility. Such support shall be of a type and located such that service wires may be installed in accordance with good engineering practice and in compliance with all applicable laws, ordinances, rules, and regulations including those governing clearances and points of attachment.

(4) Metering. When the Meter is owned by the Utility, the Utility will be responsible for the necessary instrument transformers where required, test facilities, Meters, associated metering equipment,and the metering enclosures when the Utility elects to locate metering equipment at a point that is not accessible to Applicant.

(5) Transformer. The transformer where required, including any necessary switches, capacitors, electrical protective equipment, etc. When either a pad mounted or overhead transformer is installed on Applicant's Premises, the Service Extension shall include the primary conductors from the connection point at the distribution supply line to the transformer and the secondary conductors, if any, from the transformer to the Service Delivery Point.

b. Special Conduit Installations. The Utility shall own and maintain service Conduits only if: (1) they are located in the same trench with distribution facilities, and (2) when it is necessary to locate Conduits on property other than that owned by Applicant, as determined by the Utility, or as may be required by local authorities.

c. Government Inspection. The Utility will establish electric service to Applicant following notice from the governmental authority having jurisdiction that the Applicant-owned facilities have been installed and inspected in accordance with any applicable laws, codes, ordinances, rules,

or regulations, and are safe to energize.

d. Applicant-Performed Work. The Applicant shall install that portion of the new Service Extension in accordance with the same provisions outlined in Rule 15.

E. Payments by Applicant.

1. Payments. Applicant is responsible to pay the Utility the following costs as applicable under this rule and in advance of the Applicant commencing its work:

a. All Plan Check Fees.

b. All Inspection Fees.

c. All Temporary Power Fees.

F. Existing Service Facilities.

1. Service Reinforcement.

a. Utility Owned. When the Utility determines that its existing Service Facilities require replacement, the existing Service Facilities shall be replaced as a new Service Extension under the provisions of this rule.

b. Applicant-Owned. When the Utility determines that existing Applicant-owned Service Facilities (installed under a prior rule) require replacement, such replacement shall be accomplished under the provisions for a new Service Extension, except that if the Utility determines that any portion of Applicant's existing service conductors can be utilized by the Utility, Applicant will convey any such usable part to the Utility.

Applicant will replace or reinforce that portion of the Service Extension which Applicant will continue to own under the provisions of this rule for new services.

2. Service Relocation or Rearrangement.

a. Utility Convenience. When, in the judgment of the Utility, the relocation or rearrangement of a service, including Utility-owned transformers, is necessary for the maintenance of adequate service or for the operating convenience of the Utility, the Utility normally will perform such work at its own expense, except as provided in Sections F.2.b. and F.5.

b. Applicant Convenience. Any relocation or rearrangement of the Utility's existing Service Facilities at the request of Applicant (aesthetics, building additions, remodeling, etc.) and agreed upon by the Utility shall be

performed in accordance with Section D above except that Applicant shall pay the Utility its total estimated costs.

In all instances, the Utility shall abandon or remove its existing facilities, at the option of the Utility, rendered idle by the relocation or rearrangement.

3. Impaired Access and Clearances. Whenever the Utility determines that:

   a. Access. Its existing Service Facilities have become inaccessible for inspecting, operating, maintenance, Meter reading, or testing; or

   b. Clearances. A hazardous condition exists or any of the required clearances between the existing Service Facilities and any object becomes impaired under any applicable laws, ordinances, Rules, or regulations of the Utility or other public authorities, then the following applies.

   c. Corrective Action. Applicant or owner shall, at Applicant's or owner's expense, either correct the access or clearance infractions to relocate its facilities to a new location which is acceptable to the Utility. Applicant or owner shall also be responsible for the expense to relocate any equipment which Applicant owns and maintains. Failure to comply with corrective measures within a reasonable time may result in discontinuance of service.

4. Overhead to Underground Service Conversions.

   a. Where an existing overhead Distribution Line is replaced by anunderground Distribution System, new underground services will be installed under Rule 16.

   b. Applicant Convenience Where overhead services are replaced by underground services for Applicant's convenience, Applicant shall perform all Excavation, furnish and install all Substructures, and pay the total cost to complete the new service and remove the overhead facilities.

5. Damaged Facilities. When the Utility's facilities are damaged by others, the repair will be made by the Utility at the expense of the party responsible for the damage. Applicants are responsible for repairing their own facilities.

6. Subdivision of Premises. When the Utility's Service Facilities are located on private property and such private property is subsequently subdivided into separate Premises with ownership divested to other than Applicant or Customer, the subdivider is required to provide the Utility with adequate rights-of-waysatisfactory to the Utility for its existing facilities and to notify property owners of the subdivided Premises of the existence of the rights-of-way.

When adequate rights-of-way are not granted as a result of the property subdivision, the Utility shall have the right, upon written notice to Applicant, to discontinue service without obligation or liability. The existing owner, Applicant,or Customer

shall pay to the Utility the total estimated cost of any required relocation or removal of the Utility's facilities. A new electric service will be re- established in accordance with the provisions of Section D above for new service and the provisions of any other applicable Utility Rules.

G. Definitions for Rule 16.

Applicant: A person or agency requesting the Utility to supply electric service.

Customer: The person in whose name service is rendered as evidenced by the signature on the Application, contract, or agreement for that service or, in the absence of a signed instrument, by the receipt and payment of bills or Summary Bills regularly issued in his or her name regardless of the identity of the actual user of the service. A Customer may also be a party with whom the Utility is doing business with or without a billing relationship.

Conduit: Ducts, pipes, or tubes of certain metals, plastics or other materials acceptable to the Utility (including pull wires and concrete encasement where required) for the installation and protection of electric wires and cables.
Distribution Lines: The Utility's overhead and underground facilities which are operated at distribution voltages as set forth in the Utility's Rule 2 and which are designed to supply two (2) or more services.

Excavation: All necessary Trenching, backfilling, and other digging as required to install Service Extensions including furnishing of any imported backfill material, concrete encasement to protect conduit, and disposal of spoil as required, surface repair and replacement, landscape repair and replacement.

Meter: The instrument used for measuring the electricity delivered to the Customer.

Permanent Service: Service which, in the opinion of the Utility, is of a permanent andestablished character. This may be continuous, intermittent, or seasonal in nature.

Premises: All of the real property and apparatus employed in a single enterprise on an integral parcel of land undivided, excepting in the case of industrial, agricultural, oil field, resort enterprises, and public or quasi-public institutions, by a dedicated street, highway or public thoroughfare or a railway. Automobile parking lots constituting a part of and adjacent to a single enterprise may be separated by an alley from the remainder of the Premises served.

Protective Structures: Fences, retaining walls (in lieu of grading), sound barriers, posts, barricades and other structures as required by the Utility.

Residential Unit: A residential dwelling unit consisting of a room or group of rooms which do not qualify as single-family dwellings. Residential units may be used as permanent primary dwellings, as transient tenant accommodations, and by organizations or groups of persons.When such unit is used by a transient tenant, an organization, or a group of persons, use shall be non-domestic service.

Service Delivery Point: Where the Utility's Service Facilities are connected to either Applicant's

conductors or other service termination facility designated and approved by the Utility.

Service Extension: The overhead and underground primary or secondary facilities (including, but not limited to Utility-owned Service Facilities and Applicant-owned service facilities) extending from the point of connection at the Distribution Line to the Service Delivery Point. When an underground Service Extension is supplied from a Utility-designated overhead pole, thebeginning point of connection to the Utility's Distribution Line shall be where the Service Extension is connected to the Utility's overhead Distribution Line conductors.

Substructures: The surface and subsurface structures which are necessary to contain or support the Utility's electric facilities. This includes but is not limited to splice boxes, Pull Boxes, equipment vaults and enclosures, foundations or pads for surface-mounted equipment.

Temporary Service: Service for enterprises or activities which are temporary in character or where it is known in advance that service will be of limited duration. Service, which in the opinion of the Utility, is for operations of a speculative character or the permanency of which hasnot been established, also is considered Temporary Service.

Trenching: See Excavation.

Rule 17
Adjustment of Bills and Meter Tests

A. General.

Estimated Usage: When regular, accurate Meter readings are not available or the electric usage has not been accurately measured, Utility may estimate the Customer's energy usage for billing purposes on the basis of information including, but not limited to, the physical condition of the metering equipment, available Meter readings, records of historical use, and the general characteristics of the Customer's load and operation.

B. Meter Tests.

1. Prior to Installation. Every Meter will be tested at or prior to the time of installation, and no Meter will be placed in service if found to register more than one percent (1%) fast or one percent (1%) slow.

2. On Customer Request. A Customer may, on notice of not less than one week, require the Utility to test the Meter for the Customer's service.

   No charge will be made for such test, but should a Customer demand a test within four (4) months after installation or more often than once in six (6) months, a deposit will be required to cover the cost of the test. This deposit will be returned if the Meter is found to register more than two percent (2%) fast or two percent (2%) slow. The amount of the deposit will be dependent on the type of Meter to be tested.

   A Customer shall have the right to require the Utility to conduct the test in the Customer's presence or in the presence of an expert or other representative appointed by the Customer. The results of the test will be furnished to the Customer within a reasonable time after completion of the test.

C. Adjustment of Bills for Meter Error.

A Meter Error is incorrect kilowatt-hour, kilovar-hour, or demand registration resulting from a malfunctioning or defective Meter. It does not include Billing Error, Unauthorized Use, or an error in registration caused by Meter tampering by an unauthorized person. It also does not include conditions such as grounds, shorts, incorrect Meter readings, Meter dial-overs, improper load wiring (including other Customers' circuits connected to the wiring), accounting errors, switched Meters, improper Customer wiring, blown fuse in one energized conductor, or incorrect Meter sizing.

Where, as the result of a Meter test, a Meter is found to be non-registering or incorrectly registering, Utility may render an adjusted bill to the Customer for the amount of the undercharge, and shall issue a refund or credit to the Customer for the amount of the overcharge, computed back to the date that Utility determines the Meter Error commenced, except that the period of adjustment shall not exceed three (3) years. Such adjusted bill

shall be computed in accordance with the following:

1. Fast Meters. When any Meter is tested and found to be registering more than two percent (2%) fast, the Utility will refund to the Customer the amount of the overcharge, based on corrected Meter readings or Utility's estimate of the energy usage either for the known period of Meter Error or, if the period of error is not known, for the period during which the Meter was in use, not to exceed three (3) months.

2. Slow Meters. If a Meter for residential service is found to be registering more than twenty-five percent (25%) slow, or any Meter for other class of service is found to be registering more than two percent (2%) slow, Utility may bill the Customer for the amount of the undercharge based on corrected Meter readings orUtility estimate of the energy usage either for the known period of Meter Error or,if the period of Meter Error is not known for the period the Meter was in use, not exceeding three (3) months in the case of a residential service to a Utility-meteredSingle-Family Dwelling or Accommodation as defined in Rule 1 and three (3) years for all other services.

3. Non-registering Meters. When any Meter is tested and found to be non- registering, the Utility may bill the Customer for the estimate of electricity consumed but not registered, not exceeding three (3) months in the case ofresidential service to a Utility-metered Single-Family Dwelling or Accommodation as defined in Rule 1 and three (3) years for all other service.Bills for this purpose will be estimated by the Utility.

D. Adjustment of Bills for Billing Error.

A Billing Error is an error by Utility which results in incorrect billing charges to the Customer. Billing Errors may include incorrect Meter reads or clerical errors by a Utility representative such as applying the wrong rate, wrong billing factor, or an incorrect calculation. Billing Error does not include a Meter Error or Unauthorized Use, nor any error in billing resulting from Meter dial over caused by other than Utility; switched or mismarked Meters by other than Utility; improper Customer wiring; blown fuse in one energized conductor; inaccessible Meter; failure of the Customer to notify Utility of changes in the Customer's equipment or operation; or failure of the Customer to take advantage of a rate or condition of service or which the Customer is eligible.

Where Utility overcharges or undercharges a Customer as the result of a Billing Error, Utility may render an adjusted bill for the amount of the undercharge, and shall issue a refund or credit to the Customer for the amount of the overcharge for the period of the billing error, but not exceeding three (3) years in the case of an overcharge, and, in the case of an undercharge, not exceeding three (3) months for residential service to a Utility-metered Single-Family Dwelling or Accommodation as defined in Rule 1 and three (3) years for all other service.

1. The Utility is authorized to refund a credit balance.

E. Adjustment of Bills for Unauthorized Use.

Unauthorized Use is the use of energy in noncompliance with Utility's tariffs or applicable law. It includes, but is not limited to Meter tampering, unauthorized connection or reconnection, theft, fraud, intentional use of energy whereby Utility is denied full compensation for electric service provided.

Where the Utility determines that there has been Unauthorized Use of electric service, Utility may bill the Customer for Utility's estimate of such Unauthorized Use. However, such estimated bill shall indicate Unauthorized Use for the most recent three (3) years and, separately, Unauthorized Use beyond the three-year period for collection as provided by law.

Nothing in this Rule shall be interpreted as limiting Utility's rights under any provision of any applicable law.

1. Actual Usage.

   If accurate Meter readings from a remote check Meter are available for the Unauthorized Use period, they will be used for billing purposes.

2. Estimated Usage.

   If the electric usage has not been accurately measured, Utility may estimate the energy usage for billing purposes. The basis for the estimate may include, without limitation, the physical condition of the Metering equipment, available Meter readings, records of historical use, or the general characteristics of the load and operation of the Customer or person being billed, with consideration of any appropriate seasonal adjustment.

   Estimated bills for the Unauthorized Use period may be determined by Utility based on one or more of the following, without limitation:

   a. Accurately-metered use from a remote check Meter during the Unauthorized Use period;

   b. The known percent error in metering attributable to the Unauthorized Use;

   c. Accurately-metered use prior to the onset of the Unauthorized Use;

   d. The equipment and hours of operation of the Customer or person being billed;

   e. Accurately-measured subsequent use of thirty (30) days or more (if available);

   f. Annual use profile of at least five (5) Customers with similar Connected Load, Premises load profiles, hours or energy use, etc. (percent of annual

use); or

g. Other reasonable and supportable billing methodology when none of the aforementioned billing techniques are appropriate under thecircumstances.

3. Recovery of Associated Costs.

Utility may recover from the Customer the associated costs resulting from the Unauthorized Use including both investigative and equipment damage costs. Investigative costs include time and material spent for investigation, bookkeeping, film and film development, and other costs of gathering evidence. Equipment damage costs include the cost of replacing the Utility-owned equipment damaged by the Customer.

4. Discontinuance of Service.

In accordance with the provisions of Rule 11, where Utility determines Unauthorized Use is occurring, Utility may refuse or discontinue service without further notice.

If any part of the Customer's wiring or any other equipment, or the use thereof, is determined by Utility or any other authorized public agency to be unsafe or in violation of applicable laws, ordinances, rules or regulations of public authorities, or is in such condition as to endanger Utility Service Facilities, Utility may discontinue service without further notice.

Utility may also discontinue service in accordance with the provisions of itstariffs, for nonpayment of a delinquent billing for Unauthorized Use and for associated costs, including nonpayment under an amortization agreement.

F. Limitation on Adjustment of Bills for Energy Use.

For any error in billing not defined as Billing Error, Meter Error, or Unauthorized Use, Utility is not required to adjust the bill. However, any billing adjustment not specifically covered in the tariffs for an undercharge or overcharge shall not exceed three (3) years.

Rule 18
Supply to Premises and Resale

A. Separate Metering.

Separate Premises will not be supplied through the same Meter, nor will the electric loads of such separately metered Premises be aggregated physically, electronically or otherwise except as may be specifically provided for in the Rate Schedule.

B. Other Uses or Premises.

A Customer shall not use electricity received from the Utility upon other Premises, except for Utility's operating convenience, nor for other purposes than those specified in the Customer's Application or in the Rate Schedule applied.

C. Customer with Multiple Service Accounts/Meters at a Single Premises.

When a Customer (single enterprise) occupies a single Premises with multiple service accounts/Meters, the readings of such Meters shall not be combined for billing purposes except as provided for in Rule 9. However, if the Customer physically aggregates the electric loads of such multiple service accounts/Meters into a single service account (master-Meter), the account will be provided service under an applicable Rate Schedule.

D. Use by Others.

A Customer shall not charge for electricity received from the Utility and used by any other person, except:

1. Where the charge to tenants is absorbed in the rental for the premises of space occupied; or

2. Where the charge to domestic or non-domestic tenants is absorbed in the rental for the Premises or space occupied, is not separately identified, and does not vary with electrical usage;

3. Where the Customer is the owner, lessee, or operator of a multifamily accommodation and electricity is submetered and resold to tenants at the same rates that the Utility would charge for the service if supplied directly. In such cases, the owner, lessee, or operator shall furnish, install, maintain, and test the submeters. This electrical usage applies only to the single-family dwelling and excludes other electrical usage, such as swimming pools, recreation rooms, or laundry facilities which are used in common by tenants; or

4. As provided in Section E below.

All energy use, including use by others, supplied through a single Utility Meter is the responsibility of the Customer of record.

E. Resale of Electricity.

Resale of electricity or submetering of electricity for the purpose of resale is prohibited, except as provided for under Section D.3 above.

Violation of any provision of this Rule shall result in discontinuance of electricity or refusal to provide service, in accordance with Rule 11.

Rule 19
Reserve for Future Use

Rule 20
Reserve for Future Use

Rule 21
Generating Facility Interconnection

A. APPLICABILITY

Applicability: This Rule describes the Interconnection, operating and Metering requirements for Generating Facilities to be connected to Corona Utilities Department's Electric Utility (CUD) Distribution System. Subject to the requirements of this Rule, CUD will allow the Interconnection of Generating Facilities with its Distribution System.

Definitions: Capitalized terms used in this Rule, and not defined in CUD's other rules, shall have the meaning ascribed to such terms in Section H of this Rule. The definitions set forth in Section H of this Rule shall only apply to this Rule and may not apply to CUD's other rules.

Consistent with IEEE 1547: This rule has been revised to be consistent with the requirements of ANSI/IEEE1 1547-2003 *Standard for Interconnecting Distributed Resources with Electric Power Systems* (IEEE 1547). In some cases, IEEE 1547 language has been adopted directly, in others, IEEE 1547 requirements were interpreted, and this rule's language was changed to maintain the spirit of both documents.

Language from IEEE 1547 that has been adopted directly (as opposed to paraphrased language or previous language that was determined to be consistent with IEEE 1547) is followed by a citation that lists the Clause from which the language derived. For example, IEEE 1547-4.1.1 is a reference to Clause 4.1.1.

In the event of any conflict between this rule and any of the standards listed herein, the requirements of this rule shall take precedence.

B. GENERAL RULES, RIGHTS AND OBLIGATIONS

1. AUTHORIZATION REQUIRED TO OPERATE: A Producer must comply with this Rule and receive CUD's express written permission before Parallel Operation of its Generating Facility with CUD's Distribution System. CUD shall apply this Rule in a non-discriminatory manner and shall not unreasonably withhold its permission for Parallel Operation of Producer's Generating Facility with CUD's Distribution System**.**

2. NO SEPARATE AGREEMENTS REQUIRED FOR OTHER SERVICES: A Producer requiring other electric services from CUD including, but not limited to, Distribution Service during periods of curtailment or interruption of the Producer's Generating Facility, will comply with these Rules and agrees to abide by all requirements as set forth by CUD for such services in accordance with CUD's City Council-approved rules.

3. SERVICE NOT PROVIDED WITH INTERCONNECTION: Interconnection with CUD's Distribution System under this Rule does not provide a Producer any rights to utilize CUD's System for the transmission, distribution, or wheeling of electric power.

4. COMPLIANCE WITH LAWS, RULES AND TARIFF SCHEDULES: A Producer shall ascertain and comply with applicable City Council-approved rules of CUD; applicable Federal Energy Regulatory Commission (FERC) approved rules, rules and regulations; and any local, state or federal law, statute or regulation which applies to the design, siting, construction, installation, operation, or any other aspect of the Producer's Generating Facility and Interconnection Facilities.

5. DESIGN REVIEWS AND INSPECTIONS: CUD shall have the right to review the design of a Producer's Generating and/or Interconnection Facilities and to inspect a Producer's Generating and/or Interconnection Facilities prior to the commencement of Parallel Operation with CUD's Distribution System. CUD may require a Producer to make modifications as necessary to comply with the requirements of this Rule. CUD's review and authorization for Parallel Operation shall not be construed as confirming or endorsing the Producer's design or as warranting the Generating and/or Interconnection Facilities' safety, durability, or reliability. CUD shall not, by reason of such review or lack of review, be responsible for the strength, adequacy, or capacity of such equipment**.**

6. RIGHT TO ACCESS: A Producer's Generating Facility and/or Interconnection Facilities shall be reasonably accessible to CUD personnel as necessary for CUD to perform its duties and exercise its rights under its rules approved by the City Council, and any Interconnection requirements of CUD.

7. CONFIDENTIALITY OF INFORMATION: Any information pertaining to Generating and/or Interconnection Facilities provided to CUD by a Producer shall be treated by CUD in a confidential manner. CUD shall not use information contained in the Application to propose discounted rates to the customer unless authorized to do so by the Customer or the information is provided to CUD by the Customer through other means.

8. PRUDENT OPERATION AND MAINTENANCE REQUIRED: A Producer shall operate and maintain its Generating Facility and Interconnection Facilities in accordance with Prudent Electrical Practices and shall maintain compliance with this Rule.

9. CURTAILMENT AND DISCONNECTION: CUD may limit the operation or disconnect or require the disconnection of a Producer's Generating Facility from CUD's Distribution System at any time, with or without notice, in the event of an Emergency, or to correct Unsafe Operating Conditions. CUD may also limit the operation or disconnect or require the disconnection of a Producer's Generating Facility from CUD's Distribution System upon the provision of reasonable written notice: 1) to allow for routine maintenance, repairs or modifications to CUD's Distribution System; 2) upon CUD's determination that a Producer's Generating Facility is not in compliance with this Rule; or 3) upon failure of Producer to meet the requirements of CUD. Upon the Producer's written request, CUD shall provide a written explanation of the reason for such curtailment or disconnection.

C. APPLICATION AND INTERCONNECTION PROCESS

1. APPLICATION PROCESS

a. Applicant Initiates Contact with CUD: Upon request, CUD will provide information and documents (such as requirements, Application, technical information, listing of Certified Equipment, Initial and Supplemental Review deposit information, applicable tariff schedules and Metering requirements and Rules) to a potential Applicant. Unless otherwise agreed upon, all such information shall normally be sent to an Applicant within three (3)

business days following the initial request from the Applicant. CUD will establish an individual representative as the single point of contact for the Applicant but may allocate responsibilities among its staff to best coordinate the Interconnection of an Applicant's Generating Facility**.**

b. Applicant Completes an Application: All Applicants shall complete and file an Application and supply any relevant additional information requested by CUD. CUD shall make a determination regarding the appropriate assigned schedule for the applicant based upon available capacity. If the applicant falls within five percent (5%) of CUD's maximum coincident peak demand in the 2023 fiscal year "Net Energy Metering (NEM) Capacity Value", the applicant shall fall under the NEM schedule. If the applicant falls outside of the NEM Capacity Value, they shall be assigned to the Eligible Renewable Generation (ERG) schedule. When applicable per Table C.1, an ~~$2,000~~ Initial Review deposit as listed in the Citywide Master Fee Recovery Schedule shall be included with the Application.

1) Normally, within 10 business days of receiving the Application, CUD shall acknowledge its receipt and state whether the Application has been completed adequately. If defects are noted, CUD and Applicant shall cooperate in a timely manner to establish a satisfactory Application.

2) The Initial Review deposit shall be waived for Net Energy Metering Applications requesting Interconnection.

3) The deposit associated with the Initial Review will be returned to the Applicant if the Application is rejected by CUD exactly as submitted or the Applicant retracts the Application.

4) Applications that are over one year old (from the date of CUD's acknowledgement) without a completed application, or a Generating Facility that has not been approved for parallel operation within one year of completion of all applicable review and/or studies are subject to cancellation by CUD; however, CUD may not cancel an Application if the Producer provides reasonable evidence that the project is still active.

5) The applicant may propose, and CUD may agree to reduced costs for reviewing atypical Applications, such as Applications submitted for multiple Generators, multiple sites, or otherwise as conditions warrant.

c. CUD Performs an Initial and Supplemental Review and Develops Preliminary Cost Estimates and Interconnection Requirements.

1) Upon receipt of a satisfactorily completed Application and any additional information necessary to evaluate the Interconnection of a Generating Facility, CUD shall perform an Initial Review using the process defined in Section I. The Initial Review determines if: (a) the Generating Facility qualifies for Simplified Interconnection; or (b) the Generating Facility requires a Supplemental Review.

2) CUD shall complete its Initial Review, absent any extraordinary circumstances, within 10 business days after its determination that the Application is complete. If the Initial Review determines the proposed Generating Facility can be Interconnected by means of a Simplified Interconnection, CUD will provide the

Applicant with an Interconnection Authorization. Upon completion of the Initial Review, the difference between the deposit and the actual cost of the Review will be refunded or billed to the Applicant as appropriate.

3) If the Generating Facility does not pass the Initial Review for Simplified Interconnection as proposed, CUD will notify the applicant and perform a Supplemental Review as described in Section I. Applicant shall pay an additional ~~$600~~ deposit for the Supplemental Review per the Citywide Master Fee Recovery Schedule, unless the Application is withdrawn. The Supplemental Review will result in CUD providing either: (a) Interconnection requirements beyond those for a Simplified Interconnection, and an Interconnection Authorization; or (b) a cost estimate and schedule for an Interconnection Study. The Supplemental Review shall be completed, absent any extraordinary circumstances, within 20 business days of receipt of a completed Application and fees. Upon completion of the Supplemental Review, the difference between the deposit and the actual cost of the Review will be refunded or billed to the Applicant as appropriate.

The Supplemental Review deposit shall be waived for Net Energy Metering Applications requesting Interconnection pursuant to Sections 2827, 2827.8, 2827.9, or 2827.10 of the Public Utilities Code.

d. When Required, Applicant and CUD Commit to Additional Interconnection Study Steps. When a Supplemental Review reveals that the proposed Generating Facility cannot be Interconnected to CUD's Distribution System by means of a Simplified Interconnection, or that significant Interconnection Facilities installed on CUD's system or Distribution System modifications will be needed to accommodate an Applicant's Generating Facility, CUD and Applicant shall enter into an agreement that provides for CUD to perform additional studies, facility design, and engineering and to provide detailed cost estimates for fixed price or actual cost billing to the Applicant at the Applicant's expense. The Interconnection Study agreement shall set forth CUD's estimated schedule and charges for completing such work. Generating Facilities eligible for Net Energy Metering under Public Utilities Code Section 2827, 2827.8, 2827.9, or 2827.10 are exempt from any costs associated with Interconnection Studies.

Table C.1 Summary of Deposits and Exemptions

Facility Type	Initial Review Deposit	Supplemental Review Deposit	Interconnection Study Deposit	Additional Commissioning Test Verification
Non-Net Energy Metering	See Citywide Master Fee Recovery Schedule ~~$2,000~~*	As Specified by CUD	As Specified by CUD	Actual cost

* Subject to refund pursuant to Section C.1.b.3

Table C.2 Summary of Producer Cost Responsibility for Multiple Tariff Interconnections

Existing Generator	New Generator	Initial Review Deposit		Supplemental Review Deposit		Detailed Interconnection Study Cost		Interconnection Facilities Cost		Distribution System Modifications Cost	
-	-	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
NEM	Non-NEM	X	-	X	-	X	-	X	-	Xa	-
NEM	NEM	-	X	-	X	-	X	X	-	-	X
Non-NEM	NEM	-	Xb	-	Xb	-	Xb	X	-	-	Xa,b
Simultaneous NEM and Non-NEM		X	-	X	-	X	-	X	-	Xa	-

a) Proration will be based upon the annual expected energy output (kWh) derived from the nameplate of the generator(s) modified by technology-specific capacity/availability factors of all NEM eligible versus non-NEM eligible generators for the costs that cannot be clearly assigned to either type of tariff.

b) Change of operating of a non-NEM eligible generator at any time to export is treated as a simultaneous NEM and non-NEM application, resulting in associated costs being allocated to the producer.

Table C.2.A Summary of New Generator Cost Responsibility for Multiple Tariff Interconnections

Charge	NEM	Non-NEM	Simultaneous NEM and Non-NEM
Initial Review Deposit		X	X
Supplemental Review Deposit		X	X
Detailed Interconnection Study Cost		X	X
Interconnection Facilities Cost	X	X	X
Distribution System Modifications Cost		X	X

Table C.2.B Summary of Existing Generator Cost Responsibility for Multiple Tariff Interconnections

Charge	NEM to NEM	NEM to Non-NEM	Simultaneous NEM and Non-NEM
Initial Review Deposit		X	X
Supplemental Review Deposit		X	X
Detailed Interconnection Study Cost		X	X
Interconnection Facilities Cost	X	X	X
Distribution System Modifications Cost		X	X

Proration will be based upon the annual expected energy output (kWh) derived from the nameplate of the generator(s) modified by technology-specific capacity/availability factors of all NEM eligible versus non-NEM eligible generators for the costs that cannot be clearly assigned to either type of tariff.

Change of operating of a non-NEM eligible generator at any time to export is treated as a simultaneous NEM and non-NEM application, resulting in associated costs being allocated to the producer.

2. INTERCONNECTION PROCESS

a. Applicant shall comply with the Interconnection Requirements as stated in this Rule. CUD shall review with the Applicant all requirements for Interconnection and Net Energy Metering (or Eligible Renewable Generation) appropriate for the Applicant's Generating Facility and desired mode of operation. These requirements are detailed in Rule 21A,

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Interconnection Rules, Terms & Conditions. Rule 21A sets forth CUD's and the Applicant's responsibilities, completion schedules, and fixed price or estimated costs for the required work.

b. Where Applicable (for commercial systems greater than 1MW), CUD or Producer Installs Required Interconnection Facilities or Modifies CUD's Distribution System. After executing the applicable agreements, CUD or Producer will commence construction/ installation of CUD's Distribution System modifications or Interconnection Facilities which have been identified in the agreement and application. The parties will use good faith efforts to meet schedules and estimated costs as appropriate.

c. Producer Arranges for and Completes Commissioning Testing of Generating Facility and Producer's Interconnection Facilities. The Producer is responsible for testing new Generating Facilities and associated Interconnection Facilities according to Section J.5 to ensure compliance with the safety and reliability provisions of this Rule prior to being operated in parallel with CUD's Distribution System. For non-Certified Equipment, the Producer shall develop a written testing plan to be submitted to CUD for its review and acceptance. Alternatively, the Producer and CUD may agree to have CUD conduct the required testing at the Producer's expense. Where applicable, the test plan shall include the installation test procedures published by the manufacturer of the generation or Interconnection equipment. Facility testing shall be conducted at a mutually agreeable time, and depending on who conducts the test, CUD or Producer shall be given the opportunity to witness the tests.

d. CUD Authorizes Parallel Operation or Momentary Parallel Operation. CUD shall authorize the Producer's Generating Facility for Parallel Operation or Momentary Parallel Operation with CUD's Distribution System, in writing, within 5 calendar days of satisfactory compliance with the terms of all applicable Rules. Compliance may include, but not be limited to, provision of any required documentation and satisfactorily completing any required inspections or tests as described herein or in the agreements formed between the Producer and CUD. A Producer shall not commence Parallel Operation of its Generating Facility with CUD's system unless it has received CUD's express written permission to do so.

For Net Energy Metering Generating or Eligible Renewable Generation facilities, CUD authorization for Parallel Operation shall normally be provided no later than 30 business days following CUD's receipt of 1) a completed Net Energy Metering or Eligible Renewable Generation Application including all supporting documents and required payments; 2) a completed signed Net Energy Metering or Eligible Renewable Generation Interconnection Agreement; and 3) evidence of the Producer's final inspection clearance from the governmental authority having jurisdiction over the Generating Facility. If the 30-day period cannot be met, the CUD shall notify the Applicant and the Commission.

D. GENERATING FACILITY DESIGN AND OPERATING REQUIREMENTS

This section has been revised to be consistent with the requirements of ANSI/IEEE 1547-2003 *Standard for Interconnecting Distributed Resources with Electric Power Systems* (IEEE 1547).

1. General Interconnection and Protective Function Requirements

The Protective Functions and requirements of this Rule are designed to protect CUD's Distribution System and not the Generating Facility. A Producer shall be solely responsible for providing adequate protection for its Generating Facility and Interconnection Facilities. The Producer's Protective Functions shall not impact the operation of other Protective Functions utilized on CUD's Distribution System in a manner that would affect CUD's capability of providing reliable service to its Customers.

a. Protective Functions Required**:** Generating Facilities operating in parallel with CUD's Distribution System shall be equipped with the following Protective Functions to sense abnormal conditions on CUD's Distribution System and cause the Generating Facility to be automatically disconnected from CUD's Distribution System or to prevent the Generating Facility from being connected to CUD's Distribution System inappropriately:

1) Over and under voltage trip functions and over and under frequency trip functions;

2) A voltage and frequency sensing and time-delay function to prevent the Generating Facility from energizing a de-energized Distribution System circuit and to prevent the Generating Facility from reconnecting with CUD's Distribution System unless CUD's Distribution System service voltage and frequency is within the ANSI C84.1-1995 Table 1 Range B Voltage Range of 106V to 127V (on a 120V basis), inclusive, and a frequency range of 59.3 Hz to 60.5 Hz, inclusive, and are stable for at least 60 seconds; and

3) A function to prevent the Generating Facility from contributing to the formation of an Unintended Island and cease to energize the CUD's Distribution System within two seconds of the formation of an Unintended Island.

The Generating Facility shall cease to energize CUD's Distribution System for faults on CUD's Distribution System circuit to which it is connected (IEEE1547-4.2.1). The Generating Facility shall cease to energize CUD's Distribution circuit prior to re-closure by CUD's Distribution System equipment (IEEE1547-4.2.2).

b. Momentary Paralleling Generating Facilities. With CUD's approval, the transfer switch or scheme used to transfer the Producer's loads from CUD's Distribution System to Producer's Generating Facility may be used in lieu of the Protective Functions required for Parallel Operation.

c. Suitable Equipment Required. Circuit breakers or other interrupting equipment located at the Point of Common Coupling must be Certified or "Listed" (as defined in Article 100, the Definitions Section of the National Electrical Code) as suitable for their intended application. This includes being capable of interrupting the maximum available fault current expected at their location. Producer's Generating Facility and Interconnection Facilities shall be designed so that the failure of any single device or component shall not potentially compromise the safety and reliability of CUD's Distribution System. The Generating Facility paralleling-device shall be capable of withstanding 220% of the Interconnection Facility rated voltage (IEEE1547-4.1.8.3). The Interconnection Facility shall have the capability to withstand voltage and current surges in accordance with the environments defined in IEEE Std C62.41.2-2002 or IEEE Std C37.90.1-2002 as applicable

and as described in J.3.e (IEEE1547-4.1.8.2).

d. Visible Disconnect Required. When required by CUD's operating practices, the Producer shall furnish and install a ganged, manually-operated isolating switch (or a comparable device mutually agreed upon by CUD and the Producer) near the Point of Interconnection to isolate the Generating Facility from CUD's Distribution System. The device does not have to be rated for load break nor provide over-current protection.

The device must:

1) allow visible verification that separation has been accomplished. (This requirement may be met by opening the enclosure to observe contact separation.)

2) include markings or signage that clearly indicate open and closed positions.

3) be capable of being reached quickly and conveniently 24 hours a day by CUD personnel for construction, operation, maintenance, inspection, testing or reading, without obstacles or requiring those seeking access to obtain keys, special permission, or security clearances.

4) be capable of being locked in the open position.

5) be clearly marked on the submitted single line diagram and its type and location approved by the CUD prior to installation. If the device is not adjacent to the Point of Common Coupling, permanent signage must be installed at a~~n~~ CUD-approved location providing a clear description of the location of the device.

Generating Facilities with Non-Islanding inverters totaling one (1) kilovolt-ampere (kVA) or less are exempt from this requirement.

e. Drawings Required. Prior to Parallel Operation or Momentary Parallel Operation of the Generating Facility, CUD shall approve the Producer's Protective Function and control diagrams. Generating Facilities equipped with Protective Functions and a control scheme previously approved by CUD for system-wide application or only Certified Equipment may satisfy this requirement by reference to previously approved drawings and diagrams.

f. Generating Facility Conditions Not Identified. In the event this Rule does not address the Interconnection conditions for a Particular Generating Facility, CUD and Producer may agree upon other arrangements.

2. PREVENTION OF INTERFERENCE: The Producer shall not operate Generating or Interconnection Facilities that superimpose a voltage or current upon CUD's Distribution System that interferes with CUD operations, service to CUD customers, or communication facilities. If such interference occurs, the Producer must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by CUD. If the Producer does not take corrective action in a timely manner, or continues to operate the facilities causing interference without restriction or limit, CUD may, without liability, disconnect the Producer's facilities from CUD's Distribution System, in accordance with Section B.9 of this Rule. To eliminate undesirable interference caused by its operation, each Generating Facility shall meet the following criteria:

a. Voltage Regulation: The Generating Facility shall not actively regulate the voltage at the Point of Common Coupling while in parallel with CUD's Distribution System. The Generating Facility shall not cause the service voltage at other customers to go outside the requirements of ANSI C84.1-1995, Range A (IEEE1547-4.1.1).

b. Operating Voltage Range: The voltage ranges in Table D.1 define protective trip limits for the Protective Function and are not intended to define or imply a voltage regulation Function. Generating Facilities shall cease to energize CUD's Distribution System within the prescribed trip time whenever the voltage at the Point of Common Coupling deviates from the allowable voltage operating range. The Protective Function shall detect and respond to voltage on all phases to which the Generating Facility is connected.

1) Generating Facilities (30 kVA or less). Generating Facilities with a Gross Nameplate Rating of 30 kVA or less shall be capable of operating within the voltage range normally experienced on CUD's Distribution System. The operating range shall be selected in a manner that minimizes nuisance tripping between 106 volts and 132 volts on a 120-volt base (88%-110% of nominal voltage). Voltage shall be detected at either the Point of Common Coupling or the Point of Interconnection.

2) Generating Facilities (greater than 30 kVA). CUD may have specific operating voltage ranges for Generating Facilities with Gross Nameplate Ratings greater than 30 kVA and may require adjustable operating voltage settings. In the absence of such requirements, the Generating Facility shall operate at a range between 88% and 110% of the applicable interconnection voltage. Voltage shall be detected at either the Point of Common Coupling or the Point of Interconnection, with settings compensated to account for the voltage at the Point of Common Coupling, Generating Facilities that are Certified Non-Islanding or that meet one of the options of the Export Screen (Section I.3.b) may detect voltage at the Point of Interconnection without compensation.

3) Voltage Disturbances. Whenever CUD's Distribution System voltage at the Point of Common Coupling varies from and remains outside normal (nominally 120 volts) for the predetermined parameters set forth in Table D-1, the Generating Facility's Protective Functions shall cause the Generator(s) to become isolated from CUD's Distribution System:

Table D.1 Voltage Trip Settings

Voltage at Point of Common Coupling		Maximum Trip Time* # of Cycles	
(Assuming 120 V Base)	% of Nominal Voltage	(Assuming 60Hz Nominal)	Seconds
Less than 60 Volts	Less than 50%	10 Cycles	0.16 Seconds
	Greater than of equal to 50% but less than 88%	120 Cycles	2 Seconds
Greater than or equal to 106 volts but less than 132 volts	Greater than of equal to 88% but less than 110%	Normal Operation	

Greater than or equal to 132 volts but less than 144 volts	Greater than of equal to 110% but less than 120%	60 Cycles	1 Second
Greater than 144Volts	Greater than 120%	10 Cycles	0.16 Seconds

** "Maximum Trip time" refers to the time between the onset of the abnormal condition and the Generating Facility ceasing to energize CUD's Distribution System. Protective Function sensing equipment and circuits may remain connected to CUD's Distribution System to allow sensing of electrical conditions for use by the "reconnect" feature. The purpose of the allowed time delay is to allow a Generating Facility to "ride through" short-term disturbances to avoid nuisance tripping. Set points shall not be user adjustable (though they may be field adjustable by qualified personnel). For Generating Facilities with a Gross Nameplate Rating greater than 30 kVA, set points shall be field adjustable and different voltage set points and trip times from those in Table D.1 may be negotiated with CUD.*

c. Paralleling. The Generating Facility shall parallel with CUD's Distribution System without causing a voltage fluctuation at the Point of Common Coupling greater than ±5% of the prevailing voltage level of CUD's Distribution System at the Point of Common Coupling and meet the flicker requirements of Section D.2.d. Section J provides technology-specific tests for evaluating the paralleling Function. (IEEE1547-4.1.3)

d. Flicker. The Generating Facility shall not create objectionable flicker for other customers on CUD's Distribution System. To minimize the adverse voltage effects experienced by other customers (IEEE1547-4.3.2), flicker at the Point of Common Coupling caused by the Generating Facility should not exceed the limits defined by the "Maximum Borderline of Irritation Curve" identified in IEEE 519-1992 (IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems, IEEE STD 519-1992). This requirement is necessary to minimize the adverse voltage ~~affects~~effects experienced by other customers on CUD's Distribution System. Generators may be connected and brought up to synchronous speed (as an induction motor) provided these flicker limits are not exceeded.

e. Integration with CUD's Distribution System Grounding. The grounding scheme of the Generating Facility interconnection shall not cause over-voltages that exceed the rating of the equipment connected to the CUD's Distribution System and shall not disrupt the coordination of the ground fault protection on the CUD's Distribution System (IEEE1547-4.1.2) (See Section I.3.h).

f. Frequency: CUD controls system frequency, and the Generating Facility shall operate in synchronism with the CUD's Distribution System. Whenever CUD's Distribution System frequency at the Point of Common Coupling varies from and remains outside normal (nominally 60 Hz) by the predetermined amounts set forth in Table D.2, the Generating Facility's Protective Functions shall cease to energize CUD's Distribution System within the stated maximum trip time.

Table D.2 Frequency Trip Settings

	Frequency Range	Maximum Trip Time [1]
Generating Facility Rating	(Assuming 60Hz Nominal)	(Assuming 60 Cycles per Second)
Less or equal to 30kW	Less than 59.3 Hz Greater than 60.5 Hz	10 Cycles
Greater than 30kW	Less than 57 Hz	10 Cycles
	Less than an adjustable value between 59.8Hz and 57 Hz but greater than 57 Hz. [2]	Adjustable between 10 and 18,000 Cycles. [2, 3]
	Greater than 60.5 Hz	10 Cycles

[1] -"Maximum Trip time" refers to the time between the onset of the abnormal condition and the Generating Facility ceasing to energize CUD's Distribution System. Protective Function sensing equipment and circuits may remain connected to CUD's Distribution System to allow sensing of electrical conditions for use by the "reconnect" feature. The purpose of the allowed time delay is to allow a Generating Facility to "ride through" short-term disturbances to avoid nuisance tripping. Set points shall not be user adjustable (though they may be field adjustable by qualified personnel). For Generating Facilities with a Gross Nameplate Rating greater than 30 kVA, set points shall be field adjustable and different voltage set points and trip times from those in Table D.2 may be negotiated with CUD.

[2] - Unless otherwise required by CUD, a trip frequency of 59.3 Hz and a maximum trip time of 10 cycles shall be used

[3] - When a 10 cycle Maximum trip time is used, a second under frequency trip setting is not required.

g. Harmonics**.** When the Generating Facility is serving balanced linear loads, harmonic current injection into CUD's Distribution System at the PCC shall not exceed the limits stated below in Table D.3. The harmonic current injections shall be exclusive of any harmonic currents due to harmonic voltage distortion present in CUD's Distribution System without the Generating Facility connected (IEEE1547-4.3.3). The harmonic distortion of a Generating Facility located at a Customer's site shall be evaluated using the same criteria as for the Host Loads.

Table D.3 Maximum harmonic current distortion in percent of current (I) *[1,2]*

Individual harmonic order, h (odd harmonics) [3]	h < 11	11 ≤ h < 17	17 ≤ h < 23	23 ≤ h < 35	35 ≤ h	Total demand distortion (TDD)
Max Distortion (%)	4.0	2.0	1.5	0.6	0.3	5.0

[1] - IEEE1547-4.3.3

[2] - I = the greater of the maximum Host Load current average demand over 15 or 30 minutes without the Generating Facility, or the Generating Facility rated current capacity (transformed to the Point of Common Coupling when a transformer exists between the Generating Facility and the Point of Common Coupling).

[3] - Even harmonics are limited to 25% of the odd harmonic limits above.

h. Direct Current Injection. Generating Facilities should not inject direct current greater than 0.5% of rated output current into CUD's Distribution System.

i. Power Factor. Each Generator in a Generating Facility shall be capable of operating at some point within a power factor range from 0.9 leading to 0.9 lagging. Operation outside this range is acceptable provided the reactive power of the Generating Facility is used to meet the reactive power needs of the Host Loads or that reactive power is otherwise provided under tariff by CUD. The Producer shall notify CUD if it is using the Generating Facility for power factor correction. Unless otherwise agreed upon by the Producer and CUD, Generating Facilities shall automatically regulate power factor, not voltage, while operating in parallel with CUD's Distribution System.

3. TECHNOLOGY SPECIFIC REQUIREMENTS

a. Three-Phase Synchronous Generators. For three-phase Generators, the Generating Facility circuit breakers shall be three-phase devices with electronic or electromechanical control. The Producer shall be responsible for properly synchronizing its Generating Facility with CUD's Distribution System by means of either manual or automatic synchronizing equipment. Automatic synchronizing is required for all synchronous Generators that have a Short Circuit Contribution Ratio (SCCR) exceeding 0.05. Loss of synchronism protection is not required except as may be necessary to meet Section D.2.d (Flicker) (IEEE1547-4.2.5). Unless otherwise agreed upon by the Producer and CUD, synchronous Generators shall automatically regulate power factor, not voltage, while operating in parallel with CUD's Distribution System. A power system stabilization function is specifically not required for Generating Facilities under 10 MW Net Nameplate Rating.

b. Induction Generators. Induction Generators (except self-excited Induction Generators) do not require a synchronizing Function. Starting or rapid load fluctuations on induction generators can adversely impact CUD's Distribution System's voltage. Corrective step-switched capacitors or other techniques may be necessary and may cause undesirable ferro-resonance. When these counter measures (e.g., additional capacitors) are installed on the Producer's side of the Point of Common Coupling, CUD must review these measures. Additional equipment may be required as determined in a Supplemental Review or an Interconnection Study.

c. Inverters. Utility-interactive inverters do not require separate synchronizing equipment. Non-utility-interactive or "stand-alone" inverters shall not be used for Parallel Operation with CUD's Distribution System.

d. Single-Phase Generators**.** For single-phase Generators connected to a shared single-phase secondary system, the maximum Net Nameplate Rating of the Generating Facilities shall be 20 kVA. Generators connected to a center-tapped neutral 240-volt service must be installed such that no more than 6 kVA of imbalanced power is applied to the two "legs" of the 240-volt service. For Dedicated Distribution Transformer services, the maximum Net

Nameplate Rating of a single-phase Generating Facility shall be the transformer nameplate rating.

4. SUPPLEMENTAL GENERATING FACILITY REQUIREMENTS

a. The maximum solar generation capacity that will be approved to be connected to each meter is up to 50% of the meter minimum daytime load. The meter minimum daytime load will be determined by analyzing one year of historic data, while ignoring any extraordinary events (outages, partial lights, etc.), unless there have been recent major changes to the daily demand schedule. In that case, the most recent information will be evaluated.

b. For 12kV distribution circuits with multiple solar projects connected, the maximum solar generation capacity that will be approved will be up to 50% of the total minimum daytime coincident circuit load, including any solar generation previously approved on the circuit. Capacity will be approved on a first come and first serve basis. 50% of the minimum daytime coincident circuit load will be determined by analyzing one year of historic data, while ignoring any extraordinary events (outages, partial lights, etc.), unless there have been recent major changes to the daily demand schedule. In that case, the most recent information will be evaluated.

c. Fault Detection. A Generating Facility with a short circuit contribution ratio exceeding 0.1 or one that does not cease to energize CUD's Distribution System within two seconds of the formation of an Unintended Island shall be equipped with Protective Functions designed to detect Distribution System faults, both line-to-line and line-to-ground and shall cease to energize CUD's Distribution System within two seconds of the initiation of a fault.

d. Transfer Trip. For a Generating Facility that cannot detect Distribution System faults (both line-to-line and line-to-ground) or the formation of an Unintended Island and cease to energize CUD's Distribution System within two seconds, CUD may require a Transfer Trip system or an equivalent Protective Function.

e. Reclose Blocking. Where the aggregate Generating Facility, capacity exceeds 15% of the peak load on any automatic reclosing device, CUD may require additional Protective Functions, including, but not limited to reclose-blocking on some of the automatic reclosing devices.

f. The Generating Facility may require additional approvals from other agencies before the Facility is allowed to begin construction.

E. INTERCONNECTION FACILITIES AND DISTRIBUTION SYSTEM MODIFICATIONS

1. SCOPE AND OWNERSHIP OF INTERCONNECTION FACILITIES AND DISTRIBUTION SYSTEM MODIFICATIONS

a. Scope. Parallel Operation of Generating Facilities may require Interconnection Facilities or modifications to CUD's Distribution System ("Distribution System modifications"). The type, extent and costs of Interconnection Facilities and Distribution System modifications shall be consistent with this Rule and determined through the Supplemental Review and/or Interconnection Studies described in

Section C.

b. Ownership. Interconnection Facilities installed on Producer's side of the Point of Common Coupling may be owned, operated and maintained by the Producer or CUD. Interconnection Facilities installed on CUD's side of the Point of Common Coupling and Distribution System modifications shall be owned, operated and maintained only by CUD.

2. RESPONSIBILITY OF COSTS OF INTERCONNECTING A GENERATING FACILITY

a. Review, Study, and Additional Commissioning Test Verification (pre-parallel inspections) Costs. A producer shall be responsible for the reasonably incurred costs of the review's studies, and additional Commissioning Test verifications (pre-parallel inspections) conducted pursuant to Section C of the Rule. If the initial Commissioning Test verification (pre-parallel inspection) is not successful through no fault of CUD, CUD may impose upon the Producer a cost-based charge for subsequent Commissioning Test verifications (pre-parallel inspections). All Costs for additional Commissioning Test verifications (pre-parallel inspections) shall be paid by Producer within thirty days of receipt of CUD's invoice. Additional costs, if any, will be specified on the invoice. If the initial Commissioning test (pre-paralleling inspection) is not successful through the fault of the CUD, that visit will not be considered the initial Commissioning Test (pre-parallel inspection).

b. Facility Costs. A Producer shall be responsible for all costs associated with Interconnection Facilities owned by the Producer. The Producer shall also be responsible for any costs reasonably incurred by CUD in providing, operating, or maintaining the Interconnection Facilities and Distribution System modifications required solely for the Interconnection of the Producer's Generating Facility with CUD's Distribution System. Generating Facilities eligible for Net Energy Metering under California Public Utilities Code Sections 2827**,** 2827.8**,** 2827.9, or 2827.10 are exempt from any costs associated with Distribution System modifications.

c. Separation of Costs. Should CUD combine the installation of Interconnection Facilities or Distribution System modifications required for the Interconnection of a Generating Facility with modifications to CUD's Distribution System to serve other Customers or Producers, CUD shall not include the costs of such separate or incremental facilities in the amounts billed to the Producer.

3. INSTALLATION OF INTERCONNECTION FACILITIES AND DISTRIBUTION SYSTEM MODIFICATIONS

a. Agreement Required. The costs for Interconnection Facilities and Distribution System modifications shall be paid by the Producer pursuant to the provisions contained in the Interconnection Agreement.

b. Interconnection Facilities and Distribution System Modifications. Except as provided for in Sections E.2.b. and E.3.c. of this Rule, Interconnection Facilities connected to CUD's side of the Point of Common Coupling and Distribution System modifications shall be provided, installed, owned and maintained by CUD at Producer's expense, or may be installed by a third party upon approval by CUD.

c. Third-Party Installations. Subject to the approval of CUD, a Producer may at its option employ a qualified contractor to provide -and install Interconnection Facilities or Producer paid Distribution System modifications, to be owned and operated by CUD, on CUD's side of the Point of Common Coupling. Such Interconnection Facilities and Distribution System modifications shall be installed in accordance with CUD's design and specifications. Upon final inspection and acceptance by CUD, the Producer shall transfer ownership of such Producer installed Interconnection Facilities or Distribution System modifications to CUD and such facilities shall thereafter be owned and maintained by CUD. The Producer shall pay CUD's reasonable cost of design, administration, and monitoring of the installation for such facilities to ensure compliance with CUD's requirements. The Producer shall also be responsible for all costs associated with the transfer of Producer installed Interconnection Facilities and Distribution System modifications to CUD.

F. METERING, MONITORING AND TELEMETRY

1. GENERAL REQUIREMENTS: All Generating Facilities shall be metered in accordance with this Section F and shall meet all applicable standards of CUD contained in CUD's applicable rules and published CUD manuals dealing with specifications.

2. METERING BY NON-CUD PARTIES: The ownership, installation, operation, reading and testing of revenue Metering Equipment for Generating Facilities shall be by CUD.

3. NET GENERATION OUTPUT METERING (NGOM): Generating Facilities' customers may be required to install NGOM for evaluation, monitoring and verification purposes, to satisfy applicable CAISO reliability requirements, and for Distribution System planning and operations.

   The relevant factors in determining the need for NGOM are as listed below:

   a. Data requirements in proportion to need for information;

   b. Producer's election to install equipment that adequately addresses CUD's operational requirements;

   c. Accuracy and type of required Metering consistent with purposes of collecting data;

   d. Cost of Metering relative to the need for and accuracy of the data;

   e. The Generating Facility's size relative to the cost of the Meter/monitoring;

   f. Other means of obtaining the data (e.g., Generating Facility logs, proxy data etc.);

   g. Requirements under any interconnection Agreement with the Producer.

The requirements in this Section may not apply to Metering of Generating Facilities operating under CUD's Net Energy Metering tariff pursuant to the California Public Utilities Cod Section 2827, et seq. Nothing in this Section F.3 supersedes Section B.4.

4. POINT OF COMMON COUPLING METERING: For purposes of assessing CUD charges for

retail service, the Producer's PCC Metering shall be a bi-directional meter so that power deliveries to and from the Producer's site can be separately recorded. Alternately, the Producer may, at its sole option and cost, require CUD to install multi-metering equipment to separately record power deliveries to CUD's Distribution System and retail purchases from CUD. Where necessary, such PCC Metering shall be designed to prevent reverse registration.

5. TELEMETERING: If the nameplate rating of the Generating Facility is 1 MW or greater, Telemetering equipment at the Net Generator Output Metering location may be required at the Producer's expense. If the Generating Facility is Interconnected to a portion of CUD's Distribution System operating at a voltage below 10 kV, then Telemetering equipment may be required on Generating Facilities 250 kW or greater. CUD shall only require Telemetering to the extent that less intrusive and/or more cost effective options for providing the necessary data in real time are not available.
6. LOCATION: Where CUD-owned Metering is located on the Producer's premises, Producer shall provide, at no expense to CUD, a suitable location for all such Metering Equipment.

7. COSTS OF METERING: The Producer will bear all costs of the Metering required by this Rule, including the incremental costs of operating and maintaining the Metering Equipment.

G. DISPUTE RESOLUTION PROCESS

The following procedures will apply for disputes arising from this Rule:

1. The City Council shall have jurisdiction to interpret, add, delete or modify any provision of this Rule or of any agreements entered into between CUD and the Producer to implement this tariff ("The Implementing Agreements") and to resolve disputes regarding CUD's performance of its obligations under its rules, the applicable agreements, and requirements related to the Interconnection of the Producer's Generating or Interconnection Facilities pursuant to this Rule.

2. The dispute shall be submitted in writing by the Producer to CUD. Authorized representatives from both Parties shall meet and confer to try to resolve the dispute. If the Parties cannot resolve the dispute, the dispute will be submitted to the City Council for resolution. Their decision shall be final.

3. Pending resolution of any dispute under this Section, the Parties shall proceed diligently with the performance of their respective obligations under this Rule and the Implementing Agreements, unless the Implementing Agreements have been terminated. Disputes as to the application and implementation of this Section shall be subject to resolution pursuant to the procedures set forth in this Section.

H. DEFINITIONS

The definitions in this Section H are applicable only to this Rule, the Application and Interconnection Agreements.

Anti-Islanding: A control scheme installed as part of the Generating Facility or Interconnection Facilities that senses and prevents the formation of an Unintended Island.
Applicant: The entity submitting an Application for Interconnection pursuant to this Rule.

Application: A Commission-approved standard form submitted to CUD for Interconnection of a Generating Facility**.**

Certification Test: A test pursuant to this Rule that verifies conformance of certain equipment with Commission-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 Testing.

Certified Equipment: Equipment that has passed all required Certification Tests.

Commissioning Test: A test performed during the commissioning of all or part of a Generating Facility to achieve one or more of the following:
• Verify specific aspects of its performance;
• Calibrate its instrumentation; and
• Establish instrument or Protective Function set-points.

Customer: The entity that receives or is entitled to receive Distribution Service through the CUD's Distribution System.

Dedicated Transformer; Dedicated Distribution Transformer: A transformer that provides electricity service to a single Customer. The Customer may or may not have a Generating Facility.

Device: A mechanism or piece of equipment designed to serve a purpose or perform a function. The term may be used interchangeably with the terms "equipment" and "function" without intentional difference in meaning. See also Function and Protective Function.

Distribution Service: All services required by, or provided to, a Customer pursuant to the approved rules of CUD other than services directly related to the Interconnection of a Generating Facility under this Rule.

Distribution System: All electrical wires, equipment, and other facilities owned or provided by CUD, other than Interconnection Facilities, by which CUD provides Distribution Service to its Customers.

Emergency: An actual or imminent condition or situation, which jeopardizes CUD's Distribution System Integrity.

Field Testing: Testing performed in the field to determine whether equipment meets CUD's requirements for safe and reliable Interconnection.

Function: Some combination of hardware and software designed to provide specific features or capabilities. Its use, as in Protective Function, is intended to encompass a range of implementations from a single-purpose device to a section of software and specific pieces of hardware within a larger piece of equipment to a collection of devices and software.

Generating Facility: All Generators, electrical wires, equipment, and other facilities owned or provided by Producer for the purpose of producing electric power.

Generator: A device converting mechanical, chemical or solar energy into electrical energy, including all of its protective and control Functions and structural appurtenances. One or more Generators 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).

Host Load: The electrical power, less the Generator auxiliary load, consumed by the Customer, to which the Generating Facility is connected.

Initial Review: The review by CUD, following receipt of an Application, to determine the following: (a) 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.

In-rush Current: The current determined by the In-rush Current Test.
Interconnection Agreement: The Interconnection Agreement has been replaced by Rule 21 A – Interconnection Responsibilities, Terms and Conditions. This rule details the rights and obligations to ~~ffect~~affect or end Interconnection. For the purposes of this Rule, Net Energy Metering or Power Purchase Agreements authorized by the Commission are also defined as Interconnection Agreements.
Interconnection; Interconnected: The physical connection of a Generating Facility in accordance with the requirements of this Rule so that Parallel Operation with CUD's Distribution System can occur (has occurred).

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

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

Line Section: That portion of CUD's Distribution System connected to a Customer bounded by automatic sectionalizing devices or the end of the distribution line.

Load Carrying Capability: The maximum electrical load that may be carried by a section of CUD's Distribution System consistent with reliability and safety under the circumstances being evaluated.

Metering: The measurement of electrical power in kW and/or energy in kWh, and, if necessary, reactive power in kVAR at a point, and its display to CUD, as required by this Rule.

Metering Equipment: All equipment, hardware, software including meter cabinets, conduit, etc., that are necessary for Metering.

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 this Rule.

Net Energy Metering: Metering for the receipt and delivery of electricity between the Producer and CUD pursuant to Section 2827, 2827.8, 2827.9, or 2827.10 of the Public Utilities Code.

Net Generation Output Metering: Metering of the net electrical power 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. For a Generator with no Host Load and/or Public Utilities Code Section 218 Load (Section 218 Load), Metering that is located at the Point of Common Coupling. For a Generator with Host Load and/or Section 218 Load, Metering that is located at the Generator but after the point of auxiliary load(s) and prior to serving Host Load and/or Section 218 Load.

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).

Network Service: More than one electrical feeder providing Distribution Service at a Point of Common Coupling.

Non-Export; Non-Exporting: Designed to prevent the transfer of electrical energy from the Generating Facility to CUD's Distribution System.

Non-Islanding: Designed to detect and disconnect 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.

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

Paralleling Device: An electrical device, typically a circuit breaker, operating under the control of a synchronization function or by a qualified operator to connect an energized generator to an energized electric power system or two energized power systems to each other.

Periodic Test: A test performed on part or all of a Generating Facility/ Interconnection Facilities at pre-determined time or operational intervals to achieve one or more of the following: (1) Verify specific aspects of its performance; (2) Calibrate instrumentation; and (3) Verify and re-establish instrument or Protective Function set-points.

Point of Common Coupling (PCC): The transfer point for electricity between the electrical conductors of CUD 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 and/or Section 218 Load.

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

Producer: The entity that executes an Interconnection Agreement with CUD. 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.

Production Test: A test performed on each device coming off the production line to verify certain aspects of its performance.

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.

Prudent Electrical Practices: Those practices, methods, and equipment, as changed from time to time, that are commonly used in prudent electrical engineering and operations to design and operate electric equipment lawfully and with safety, dependability, efficiency and economy.

Scheduled Operation Date: The date specified in the Interconnection Agreement when the Generating Facility is, by the Producer's estimate, expected to begin operation pursuant to this Rule.

Secondary Network: A network supplied by several primary feeders suitably interlaced through the area in order to achieve acceptable loading of the transformers under emergency conditions and to provide a system of extremely high service reliability. Secondary networks usually operate at 600 V or lower.

Section 218 Load: Electrical power that is supplied in compliance with California Public Utilities Code Section 218. Public Utilities Code Section 218 defines an "Electric Corporation" and provides conditions under which a transaction involving a Generating Facility would not classify a Producer as an Electric Corporation. These conditions relate to "over-the-fence" sale of electricity from a Generating Facility without using CUD's Distribution System.

Short Circuit (Current) Contribution Ratio (SCCR): The ratio of the Generating Facility's short circuit contribution to the short circuit contribution provided through CUD's Distribution System for a three-phase fault at the high voltage side of the distribution transformer connecting the Generating Facility to CUD's system.

Simplified Interconnection: Interconnection conforming to the Initial Review requirements under this Rule, as determined by Section I.

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.

Special Facilities: As defined in CUD's Rules governing Special Facilities.

Starting Voltage Drop: The percentage voltage drop at a specified point resulting from In-rush Current. The Starting Voltage Drop can also be expressed in volts on a particular base voltage, (e.g., 6 volts on a 120-volt base, yielding a 5% drop).

Supplemental Review: A process wherein CUD further reviews an Application that fails one or more of the Initial Review Process steps. 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 CUD's Distribution System is deemed safe and can reliably perform its intended functions in accordance with the safety and reliability rules of CUD.

Telemetering: The electrical or electronic transmittal of Metering data in real-time to CUD.

Transfer Trip: A Protective Function that trips a Generating Facility remotely by means of an automated communications link controlled by CUD.

Type Test: A test performed on a sample of a particular model of a device to verify specific aspects of its design, construction and performance.

Unintended Island: The creation of an island, usually following a loss of a portion of CUD's Distribution System, without the approval of CUD.

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.

I. REVIEW PROCESS FOR APPLICATIONS TO INTERCONNECT GENERATION FACILITIES

1. INTRODUCTION

This Review Process allows for rapid approval for the interconnection of those Generating Facilities that do not require an Interconnection Study. The review process includes a screening to determine if a Supplemental Review is required.

Note: Failure to pass any step of the review process means only that further review and/or studies are required before the Generating Facility can be approved for Interconnection with CUD's Distribution System. It does not mean that the Generating Facility cannot be Interconnected. Though not explicitly covered in the Initial Review Process the Generating Facility shall be designed to meet all of the applicable requirements in Section D.

2. PURPOSE

The review determines the following:

a. If a Generating Facility qualifies for Simplified Interconnection;

b. If a Generating Facility can be made to qualify for Interconnection with a Supplemental Review determining any additional requirements; or

c. If an Interconnection Study is required, the cost estimate and schedule for

performing the Interconnection Study.

3. REVIEW PROCESS DETAILS

Step 1: Is the PCC on a Networked Secondary System?

- If yes, the Generating Facility does not qualify for Simplified Interconnection. Perform Supplemental Review.
- If No, continue to next step.

Significance: Special considerations must be given to Generating Facilities proposed to be installed on networked secondary Distribution Systems because of the design and operational aspects of network protectors. There are no such considerations for radial Distribution Systems.

Step 2: Will power be exported across the PCC?

- If yes, the Generating Facility does not qualify for Simplified Interconnection. Perform Supplemental Review.
- If No, the Generating Facility must incorporate one of the following four options:

Option 1 ("Reverse Power Protection"): To ensure that power is not exported across the PCC, a reverse power Protective Function may be provided. The default setting for this Protective Function, when used, shall be 0.1% (export) of the service transformer's rating, with a maximum 2.0 second time delay.

Option 2 ("Minimum Power Protection"): To ensure that at least a minimum amount of power is imported across the PCC at all times (and therefore, that power is not exported), an under-power Protective Function may be provided. The default setting for this Protective Function, when used, shall be 5% (import) of the Generating Facility's total Gross Nameplate Rating, with a maximum 2.0 second time delay.

Option 3 ("Certified Non-Islanding Protection"): To ensure that the incidental export of power across the PCC is limited to acceptable levels, this option, when used, requires that all of the following conditions be met: (a) the total Gross Nameplate Capacity of the Generating Facility must be no more than 25% of the nominal ampere rating of the Producer's service equipment; (b) the total Gross Nameplate Capacity of the Generating Facility must be no more than 50% of the Producer's service transformer capacity rating (this capacity requirement does not apply to customers taking primary service without an intervening transformer); and (c) the Generating Facility must be certified as Non-Islanding.

The ampere rating of the Customer's Service Equipment to be used in this evaluation will be that rating for which the customer's utility service was originally sized or for which an upgrade has been approved. It is not the intent of this provision to allow increased export simply by increasing the size of the customer's service panel, without separate approval for the resize.

Option 4 ("Relative Generating Facility Rating"): This option, when used, requires Net

Nameplate Rating of the Generating Facility to be so small in comparison to its host facility's minimum load, that the use of additional Protective Functions is not required to ~~insure~~ensure that power will not be exported to CUD's Distribution System. This option requires the Generating Facility capacity to be no greater than 50% of the Producer's verifiable minimum Host Load over the past 12 months.

Significance:

1) If it can be ensured that the Generating Facility will not export power, CUD's Distribution System does not need to be studied for Load-Carrying Capability or Generating Facility power flow effects on CUD voltage regulators.

2) This step permits the use of reverse-power or minimum-power relaying as a Non-Islanding Protective Function (Options 1, 2 and 3).

3) This step allows, under certain defined conditions, for Generating Facilities that incorporate Certified Non-Islanding protection to qualify for Simplified

Step 3: Is the Interconnection Facilities Equipment Certified for the application or does the Interconnection Facilities Equipment have interim CUD approval?

- If Yes, continue to next step.
- If No, the Generating Facility and/or Interconnection Facilities does not qualify or Simplified Interconnection. Perform Supplemental Review.

Interim approval allows the CUD to treat equipment that has not completed the Rule 21 certification requirements as having met the intent of this screen. Interim approval is granted, at CUD's discretion, on a case by case basis, and approval for one Generating Facility does not guarantee approval for any other Generating Facility

Significance: If the Generating Facility and/or Interconnection Facilities has been Certified or previously approved by CUD, CUD does not need to repeat its full review and/or test of the Generating and/or Interconnection Facilities' Protective Functions. Site Commissioning Testing may still be required to ensure that the Protective Functions are working properly.

Certification indicates that the criteria in Section J, as appropriate, have been tested and verified.

Step 4: Is the aggregate Generating Facility capacity on the Line Section less than 15% of Line Section peak load?

• If Yes, continue to next step.
• If No, the Generating Facility does not qualify for Simplified Interconnection. Perform Supplemental Review to determine cumulative impact online Section.

Significance:

1) Low penetration of Generating Facility installations will have a minimal impact on

the operation and load restoration efforts of CUD's Distribution System.

2) The operating requirements for a high penetration of Generating Facilities may be different since the impact on CUD's Distribution System will no longer be minimal, therefore requiring additional study or controls.

Step 5: Is the Starting Voltage Drop within acceptable limits?

• If Yes, continue to next step.
• If No, the Generating Facility does not qualify for Simplified Interconnection. Perform Supplemental Review.

Note: This Step only applies to Generating Facilities that start by motoring the Generator(s).

CUD has two options in determining whether Starting Voltage Drop is acceptable. The option to be used is at CUD's discretion:

Option 1: CUD may determine that the Generating Facility's starting In-rush Current is equal to or less than the continuous ampere rating of the customer's service equipment.

Option 2: CUD may determine the impedances of the service distribution transformer (if present) and the secondary conductors to Customer's service equipment and perform a voltage drop calculation. Alternatively, CUD may use tables or nomographs to determine the voltage drop. Voltage drops caused by starting a Generator as a motor must be less than 2.5% for primary interconnections and 5% for secondary interconnections.

Significance:

1) This step addresses potential voltage fluctuation problems that may be caused by Generators that start by motoring.

2) When starting, Generating Facilities should have minimal impact on the service voltage to other CUD Customers.

3) Passing this step does not relieve the Producer from ensuring that its Generating Facility complies with the flicker requirements of this Rule, Section D.2.d.

Step 6: Is the Gross Nameplate Rating of the Generating Facility 11 kVA or less?

• If Yes, the Generating Facility qualifies for Simplified Interconnection. Skip remaining steps.
• If No, continue to next step.

Significance:

The Generating Facility will have a minimal impact on fault current levels and any potential line overvoltage's from loss of CUD's Distribution System neutral grounding.

Step 7: Is the Short Circuit Current Contribution Ratio within acceptable limits?

- If Yes, continue to next step.
- If No, the Generating Facility does not qualify for Simplified Interconnection. Perform Supplemental Review.

The Short Circuit Current Contribution Ratio Screen consists of two criteria; both of which must be met when applicable:

1) When measured at primary side (high side) of a Dedicated Distribution Transformer serving a Generating Facility, the sum of the Short Circuit Contribution Ratios of all generating facilities connected to CUD's Distribution System circuit that serves the Generating Facility must be less than or equal to 0.1, and

2) When measured at the secondary side (low side) of a shared distribution transformer, the short circuit contribution of the proposed Generating Facility must be less than or equal to 2.5% of the interrupting rating of the Producer's Service Equipment.

Significance:
If the Generating Facility passes this screen it can be expected that it will have no significant impact on CUD's Distribution System's short circuit duty, fault detection sensitivity, relay coordination or fuse-saving schemes.

Step 8: Is the Line Configuration compatible with the Interconnection type?

• If Yes, the Generating Facility qualifies for Simplified Interconnection.

• If No, then the Generating Facility does not qualify for Simplified Interconnection. Perform Supplemental Review. Identify primary distribution line configuration that will serve the Generating Facility. Based on the type of Interconnection to be used for the Generating Facility, determine from the Table I.1 if the proposed Generating Facility passes the step.

Table I.1

Primary Distribution Line Type Configuration	Type of Interconnection to be made to Primary Distribution Line	Results/Criteria
Three-phase, three wire	Any type	Pass Step
Three-phase, four wire	Single-phase, line-to neutral	Pass Step

Three-phase, four wire (For any line that has such a section OR mixed three wire and four wire)	All others	To pass, aggregate GF Nameplate Rating must be less than or equal to 10% of Line Section peak load

Significance: If the primary distribution line serving the Generating Facility is of a "three-wire" configuration, or if the Generating Facility's distribution transformer is single-phase and connected in a line-to-neutral configuration, then there is no concern about overvoltages to CUD's, or other Customer's equipment caused by loss of system neutral grounding during the operating time of the Non-Islanding Protective Function.

J. CERTIFICATION AND TESTING CRITERIA

1. INTRODUCTION

This Section describes the test procedures and requirements for equipment used for the Interconnection of Generating Facilities to CUD's Distribution System. Included are Type Testing, Production Testing, Commissioning Testing and Periodic Testing. The procedures listed rely heavily on those described in appropriate Underwriters Laboratory (UL), Institute of Electrical and Electronic Engineers (IEEE), and International Electrotechnical Commission (IEC) documents—most notably UL 1741 and IEEE 929, as well as the testing described in *May 1999 New York State Public Services Commission Standardized Interconnection Requirements.* As noted in Section A, this rule has been revised to be consistent with ANSI/IEEE 1547-2003 *Standard for Interconnecting Distributed Resources with Electric Power Systems.*

The tests described here, together with the technical requirements in Section D of this Rule, are intended to provide assurance that the Generating Facility's equipment will not adversely affect CUD's Distribution System and that a Generating Facility will cease providing power to CUD's Distribution System under abnormal conditions. The tests were developed assuming a low level of Generating Facility penetration or number of connections to CUD's Distribution System. At high levels of Generating Facility penetration, additional requirements and corresponding test procedures may need to be defined.

Section J also provides criteria for "Certifying" Generators or inverters. Once a Generator or inverter has been Certified per this Rule, it may be considered suitable for Interconnection with CUD's Distribution System. Subject to the exceptions described in Section J, CUD will not repeat the design review or require retesting of such Certified Equipment. It should be noted that the Certification process is intended to facilitate Generating Facility Interconnections. Certification is not a prerequisite to interconnect a Generating Facility.

The revisions made to this rule relative to IEEE 1547-2003 have resulted in changes in set points, test criteria, test procedures, and other requirements that will impact previously certified or listed equipment as well as equipment currently under evaluation. These changes were made to provide consistency with IEEE 1547. Equipment that is certified or that has been submitted to a Nationally Recognized Testing Laboratory (NRTL) for testing

prior to the adoption of the revised Underwriters Laboratories (UL) 1741 titled Inverters, Converters, Controllers and Interconnection Systems Equipment for use with Distributed Energy Resources and that subsequently meet the provisions Rule 21 certification requirements will continue to be accepted as Certified Equipment for Interconnection Applications submitted through May 7, 2007, the effective date of the revised UL 1741. [this change will be incorporated by Advice Letter in Dec. 2005]

2. CERTIFIED AND NON-CERTIFIED INTERCONNECTION EQUIPMENT

a. Certified Equipment

Equipment tested and approved (e.g., "Listed") by an accredited NRTL as having met both the Type Testing and Production Testing requirements described in this document is considered to be Certified Equipment for purposes of Interconnection with CUD's Distribution System. Certification may apply to either a pre-packaged system or an assembly of components that address the necessary functions. Type Testing may be done in the manufactures' factory or test laboratory, or in the field. At the discretion of the testing laboratory, field-certification may apply only to the particular installation tested. In such cases, some or all of the tests may need to be repeated at other installations.
When equipment is certified by a NRTL, the NRTL shall provide to the manufacturer, at a minimum, a Certificate with the following information for each device:

Administrative:

1) The effective date of Certification or applicable serial number (range or first in series), and/or other proof that Certification is current;

2) Equipment model number(s) of the Certified Equipment;

3) The software version utilized in the equipment, if applicable;

4) Test procedures specified (including date or revision number); and

5) Laboratory accreditation (by whom and to what standard).

Technical (as appropriate):

1) Device ratings (kW, kVA, Volts, Amps, etc.);

2) Maximum available fault current in Amps;

3) In-rush Current in Amps;

4) Trip points, if factory set (trip value and timing);

5) Trip point and timing ranges for adjustable settings;

6) Nominal power factor or range if adjustable;

7) If the equipment is Certified for Non-Exporting and the method used (reverse power or under power); and

8) If the equipment is Certified Non-Islanding.

It is the responsibility of the equipment manufacturer to ensure that Certification information is made publicly available by the manufacturer, the testing laboratory or by a third party.

b. Non-Certified Equipment

For non-Certified Equipment, some or all of the tests described in this Rule may be required by CUD for each Generating Facility and/or Interconnection Facilities. The manufacturer or a laboratory acceptable to CUD may perform these tests. Test results for Non-Certified Equipment must be submitted to CUD for the Supplemental Review. Approval by CUD for equipment used in a particular Generating Facility and/or Interconnection Facilities does not guarantee CUD's approval for use in other Generating Facility and/or Interconnection Facilities.

3. TYPE TESTING

a. Type Tests and Criteria for Interconnection Equipment Certification. Type Testing provides a basis for determining that equipment meets the specifications for being designated as Certified Equipment under this Rule. The requirements described in this Section cover only issues related to Interconnection and are not intended to address equipment safety or other issues.

Table J.1. defines the test criteria by Generator or inverter technology. While UL 17411 was written specifically for inverters, the requirements are readily adaptable to synchronous Generators, induction Generators, as well as single/multi-function controllers and protection relays. Until a universal test standard is developed, CUD or NRTL shall adapt the procedures referenced in Table J.1 as appropriate and necessary for a Generating Facility and/or Interconnection Facilities or associated equipment performance and its control and Protective Functions. The tests shall be performed in the sequence shown in Table J.2 below.

Table J.1 Type Tests and Requirements for Interconnection Equipment Certification

Type Test	Reference (1)	Inverter	Synchronous Generator	Induction Generator
Utility Interaction	UL 1741 – 39	X	X	X
DC Isolation	UL 1741 – 40.1	X	-	-
Simulated PV Array (Input) Requirements	UL 1741 – 41.2	X	-	-
Dielectric Voltage Withstand	UL 1741 – 44	X	X	X
Power Factor	UL 1741 – 45.2.2	X	X	X
Harmonic Distortion	UL 1741 – 45.4	X	X	X
DC Injection	UL 1741 – 45.5	X	-	-

Utility Voltage and Frequency Variation	UL 1741 – 46.2	X	X	X
Reset Delay	UL 1741 – 46.2.3	X	X	X
Loss of Control Circuit	UL 1741 – 46.4	X	X	X
Short Circuit	UL 1741 – 47.3	X	X	X
Load Transfer	UL 1741 – 47.7	X	X	X
Surge Withstand Capability	J.3.e	X	X	X
Anti-Islanding	J.3.b	(2)	(2)	(2)
Non-Export	J.3.c	(3)	(3)	(3)
In-rush Current	J.3.d	-	-	(4)
Synchronization	J.3.f	(5)	X	(5)

Table Notes: (1) References are to section numbers in either UL 1741 (Inverters, Converters and Charge Controllers for use in Independent Power Systems) or this Rule. References in UL 1741 to "photovoltaics" or "inverter" may have to be adapted to the other technologies by the testing laboratory to appropriately apply in the tests to other technologies.
(2) Required only if Non-Islanding designation
(3) Required only if Non-Export designation is desired.
(4) Required for Generators that use CUD power to motor to speed.
(5) Required for all self-excited induction Generators as well as Inverters that operate as voltage sources when connected to CUD's Distribution System.
X = Required , - = Not Required

Table J.2 Type Tests Sequence for Interconnection Equipment Certification

Test No.	**Type Test**
1	Utility Voltage and Frequency Variation
2	Synchronization
3	Surge Withstand Capability
4	Utility Voltage and Frequency Variation
5	Synchronization
6	Other Required and Optional Tests
Tests 1, 2, and 3, must be done first and in the order shown. Tests 4 and on follow in order convenient to the test agency.	

b. Anti-Islanding Test:
Devices that pass the Anti-Islanding test procedure described in UL 1741 Section 46.3 will be considered Non-Islanding for the purposes of these interconnection requirements. The test is required only for devices for which a Certified Non-Islanding designation is desired.

c. Non-Export Test:
Equipment that passes the Non-Export test procedure described in Section J.7.a. will be considered Non-Exporting for the purposes of these Interconnection requirements. This test is required only for equipment for which a Certified Non-Export designation is desired.

d. In-rush Current Test:
Generation equipment that utilizes CUD power to motor up to speed will be tested using the procedure defined in Section J.7.b. to determine the maximum current drawn during this startup process. The resulting In-rush Current is used to estimate the Starting Voltage Drop.

e. Surge Withstand Capability Test:

The interconnection equipment shall be tested for the surge withstand requirement in D.1.c in all normal operating modes in accordance with IEEE Std C62.45-2002 for equipment rated less than 1000 V to confirm that the surge withstand capability is met by using the selected test level(s) from IEEE Std C62.41.2-2002. Interconnection equipment rated greater than 1000 V shall be tested in accordance with manufacturer or system integrator designated applicable standards. For interconnection equipment signal and control circuits, use IEEE Std C37.90.1-2002. These tests shall confirm the equipment did not fail, did not misoperate, and did not provide misinformation (IEEE1547-5.1.3.2). The location/exposure category for which the equipment has been tested shall be clearly marked on the equipment label or in the equipment documentation. External surge protection may be used to protect the equipment in harsher location/exposure categories.

f. Synchronization Test:
This test is applied to synchronous Generators, self-excited induction generators, and inverters capable of operating as voltage-source while connected to CUD's Distribution System. The test is also applied to the resynchronization Function (transition from stand-alone to parallel operation) on equipment that provides such functionality. This test may not need to be performed on both the synchronization and re-synchronization functions if the manufacturers can verify to the satisfaction of the testing organization that monitoring and controls hardware and software are common to both functions. This test is not necessary for induction generators or current-source inverters. Instead, the ln-rush Current test Section J.3.d shall be applied to those generators.

This test shall demonstrate that at the moment of the paralleling-device closure, all three synchronization parameters in Table J.3 are within the stated limits. This test shall also demonstrate that if any of the parameters are outside of the limits stated in the table, the paralleling-device shall not close (IEEE 1547- 5.1.2A). The test will start with only one of the three parameters: (1) voltage difference between Generating Facility and CUD's Distribution System; (2) frequency difference; or (3) phase angle outside of the synchronization specification. Verify that the Generating Facility is brought within specification prior to synchronization. Repeat the test five times for each of the three parameters. For manual synchronization with synch check or manual control with auto synchronization, the test must verify that paralleling does not occur until the parameters are brought within specifications.

Table J.3. Synchronization Parameter Limits *[1]* Aggregate Rating

Aggregate Rating of Generator Units (kVA)	Frequency Difference (Δf, Hz)	Voltage Difference (ΔV, %)	Phase Angle Difference (Δφ, □)
0-500	0.3	10	20
> 500-1,500	0.2	5	15
> 1,500-10,000	0.1	3	10

[1] – IEEE 1547-5.1.1B

g. Paralleling Device Withstand Test

The di-electric voltage withstand test specified in Section J.1 shall be performed on the paralleling device to ensure compliance with those requirements specified in Section D.1.c (IEEE 1547-5.1.3.3).

4. Production Testing:
As a minimum, each interconnection system shall be subjected to the Utility Voltage -and Frequency Variation Test procedure described in UL1741 under Manufacturing and Production Tests, Section 68 and the Synchronization test specified in Section J.3.f Interconnection systems with adjustable set points shall be tested at a single set of set points as specified by the manufacturer. This test may be performed in the factory or as part of a Commissioning Test (Section J.5.).

5. Commissioning Testing:

a. Commissioning Testing, where required, will be performed on-site to verify protective settings and functionality. Upon initial Parallel Operation of a Generating Facility, or any time interface hardware or software is changed that may affect the functions listed below, a Commissioning Test must be performed. An individual qualified in testing protective equipment (professional engineer, factory–certified technician, or licensed electrician with experience in testing protective equipment) must perform Commissioning Testing in accordance with the manufacturer's recommended test procedure to verify the settings and requirements per this Rule.

CUD may require written Commissioning test procedure be submitted to MVU at least 10 working days prior to the performance of the Commissioning Test. CUD has the right to witness Commissioning Test, CUD may also require written certification by the installer describing which tests were performed and their results. Protective Functions to be tested during commissioning, particularly with respect to non-Certified equipment, may consist of the following:

(1) Over and under voltage
(2) Over and under frequency
(3) Anti-Islanding function (if applicable)
(4) Non-Exporting function (if applicable)
(5) Inability to energize dead line
(6) Time delay on restart after utility source is stable
(7) Utility system fault detection (if used)
(8) Synchronizing controls (if applicable)
(9) Other Interconnection Protective Functions that may be required as part of the Interconnection Agreement

Commissioning Test shall include visual inspections of the interconnection equipment and protective settings to confirm compliance with the interconnection requirements.

b. Other checks and tests that may need to be performed include:

(1) Verifying final Protective Function settings

(2) Trip test (J.5.f)
(3) In-service tests (J.5.g)

c. Certified Equipment

Generating Facilities qualifying for Simplified Interconnection incorporate Certified Equipment that have, at a minimum, passed the Type Tests and Production Tests described in this Rule and are judged to have little or no potential impact on CUD's Distribution System. For such Generating Facilities, -it is necessary to perform only the following tests:

(1) Protective Function settings that have been changed after Production Testing will require field verification. Tests shall be performed using injected secondary frequencies, voltages and currents, applied waveforms, at a test connection using a Generator to simulate abnormal utility voltage or frequency, or varying the set points to show that the device trips at the measured (actual) utility voltage or frequency.

(2) The Non-Islanding function shall be checked by operating a load break disconnect switch to verify the Interconnection equipment ceases to energize CUD's Distribution System and does not re-energize it for the required time delay after the switch is closed.

(3) The Non-Exporting function shall be checked using secondary injection techniques. This function may also be tested by adjusting the Generating Facility output and local loads to verify that the applicable Non-Exporting criteria (i.e., reverse power or underpower) are met.

The Supplemental Review or an Interconnection Study may impose additional components or additional testing.

d. Non-Certified Equipment
Non-certified Equipment shall be subjected to the appropriate tests described in Type Testing (Section J.3.) as well as those described in Certified Equipment Commissioning Tests (Section J.5.c.). With CUD's approval, these tests may be performed in the factory, in the field as part of commissioning, or a combination of both. CUD, at its discretion, may also approve a reduced set of tests for a particular Generating Facility or, for example, if it determines it has sufficient experience with the equipment.

e. Verification of Settings

At the completion of Commission testing, the Producer shall confirm all devices are set to CUD-approved settings. Verification shall be documented in the Commissioning Test Certification.

f. Trip Tests:
Interconnection Protective Functions and devices (e.g. reverse power relays) that have not previously been tested as part of the Interconnection Facilities with their associated interrupting devices (e.g. contactor or circuit breaker) shall be trip tested during commissioning. The trip test shall be adequate to prove that the associated interrupting devices open when the protective devices operate. Interlocking circuits between Protective

Function devices or between interrupting devices shall be similarly tested unless they are part of a system that has been tested and approved during manufacturing.

g. In-service Tests:
Interconnection Protective Functions and devices that have not previously been tested as part of the Interconnection Facilities with their associated instrument transformers or that are wired in the field shall be given an in-service test during commissioning. This test will verify proper wiring, polarity, CT/PT ratios, and proper operation of the measuring circuits. The in-service test shall be made with the power system energized and carrying a known level of current. A measurement shall be made of the magnitude and phase angle of each Alternating Current (AC) voltage and current connected to the protective device and the results compared to expected values. For protective devices with built-in Metering Functions that report current and voltage magnitudes and phase angles, or magnitudes of current, voltage, and real and reactive power, the metered values may be used for in-service testing. Otherwise, portable ammeters, voltmeters, and phase-angle meters shall be used.

6. Periodic Testing:
Periodic Testing of Interconnection-related Protective Functions shall be performed as specified by the manufacturer, or at least every four years. All Periodic Tests prescribed by the manufacturer shall be performed. The Producer shall maintain Periodic Test reports or a log for inspection by CUD. Periodic Testing conforming to CUD test intervals for the particular Line Section may be specified by CUD under special circumstances, such as high fire hazard areas. Batteries used to activate any Protective Function shall be checked and logged once per month for proper voltage. Once every four years, the battery must be either replaced or a discharge test performed.

7. Type Testing Procedures Not Defined in Other Standards:
This Section describes the additional Type Tests necessary to qualify a device as Certified under this Rule. These Type Tests are not contained in Underwriters Laboratories UL 1741 Standard *Inverters, Converters and Controllers for Use in Independent Power Systems,* or other referenced standards.

a. Non-Exporting Test Procedures

The Non-Exporting test is intended to verify the operation of relays, controllers and inverters designed to limit the export of power and certify the equipment as meeting the requirements of Screen 2, Options 1 and 2, of the review process. Tests are provided for discrete relay packages and for controllers and inverters with the intended Functions integrated.

(1) Discrete Reverse Power Relay Test:

This version of the Non-Exporting test procedure is intended for discrete reverse power and underpower relay packages provided to meet the requirements of Options 1 and 2 of Screen 2. It should be understood that in the reverse power application, the relay will provide a trip output with power flowing in the export (toward CUD's Distribution System) direction.

Step 1: Power Flow Test at Minimum, Midpoint and Maximum Pickup Level Settings

Determine the corresponding secondary pickup current for the desired export power

flow of 0.5 secondary watts (the minimum pickup setting, assumes 5 amp and 120V CT/PT secondary). Apply nominal voltage with minimum current setting at zero (0) degrees phase angle in the trip direction. Increase the current to pickup level. Observe the relay's (LCD or computer display) indication of power values. Note the indicated power level at which the relay trips. The power indication should be within 2% of the expected power. For relays with adjustable settings, repeat this test at the midpoint, and maximum settings. Repeat at phase angles of 90, 180 and 270 degrees and verify that the relay does not operate (measured watts will be zero or negative).

Step 2: Leading Power Factor Test

Apply rated voltage with a minimum pickup current setting (calculated value for system application) and apply a leading power factor load current in the non-trip direction (current lagging voltage by 135 degrees). Increase the current to relay rated current and verify that the relay does not operate. For relays with adjustable settings, this test should be repeated at the minimum, midpoint, and maximum settings.

Step 3: Minimum Power Factor Test

At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees. Increase the current level to pickup (about 10 times higher than at 0 degrees) and verify that the relay operates. Repeat for phase angles of 90, 180 and 270 degrees and verify that the relay does not operate.

Step 4: Negative Sequence Voltage Test

Using the pickup settings determined in Step 1, apply rated relay voltage and current at 180 degrees from tripping direction, to simulate normal load conditions (for three-phase relays, use Ia at 180, Ib at 60 and Ic at 300 degrees). Remove phase-1 voltage and observe that the relay does not operate. Repeat for phases-2 and 3.

Step 5: Load Current Test

Using the pickup settings determined in Step 1, apply rated voltage and current at 180 degrees from the tripping direction, to simulate normal load conditions (use Ia at 180, Ib at 300 and Ic at 60 degrees). Observe that the relay does not operate.

Step 6: Unbalanced Fault Test

Using the pickup settings determined in Step 1, apply rated voltage and 2 times rated current, to simulate an unbalanced fault in the non-trip direction (use Va at 0 degrees, Vb and Vc at 180 degrees, Ia at 180 degrees, Ib at 0 degrees, and Ic at 180 degrees). Observe that the relay, especially single phase, does operate properly.

Step 7: Time Delay Settings Test

Apply Step 1 settings and set time delay to minimum setting. Adjust the current source to the appropriate level to determine operating time~~,~~ and compare against calculated values. Verify that the timer stops when the relay trips. Repeat at midpoint and maximum delay settings.

Step 8: Dielectric Test

Perform the test described in ICUD 414 using 2 kV RMS for 1 minute.

Step 9: Surge Withstand Test

Perform the surge withstand test described in IEEE C37.90.1.1989 or the surge withstand capability test described in J.3.e.

(2) Discrete Underpower Relay Test

This version of the Non-Exporting test procedure is intended for discrete underpower relay packages and meets the requirements of Option 2 of Screen 2. A trip output will be provided when import power (toward the Producer's load) drops below the specified level.

Note: For an underpower relay, pickup is defined as the highest power level at which the relay indicates that the power is less than the set level.

Step 1: Power Flow Test at Minimum, Midpoint and Maximum Pickup Level Settings

Determine the corresponding secondary pickup current for the desired power flow pickup level of 5% of peak load minimum pickup setting. Apply rated voltage and current at 0 (zero) degrees phase angle in the direction of normal load current. Decrease the current to pickup level. Observe the relay's (LCD or computer display) indication of power values. Note the indicated power level at which the relay trips. The power indication should be within 2% of the expected power. For relays with adjustable settings, repeat the test at the midpoint, and maximum settings. Repeat at phase angles of 90, 180 and 270 degrees and verify that the relay operates (measured watts will be zero or negative).

Step 2: Leading Power Factor Test

Using the pickup current setting determined in Step 1, apply rated voltage and rated leading power factor load current in the normal load direction (current leading voltage by 45 degrees). Decrease the current to 145% of the pickup level determined in Step 1 and verify that the relay does not operate. For relays with adjustable settings, repeat the test at the minimum, midpoint, and maximum settings.

Step 3: Minimum Power Factor Test

At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees. Decrease the current level to pickup (about 10% of the value at 0 degrees) and verify that the relay operates. Repeat for phase angles 90, 180 and 270 degrees and verify that the relay operates for any current less than rated

current.

Step 4: Negative Sequence Voltage Test

Using the pickup settings determined in Step 1, apply rated relay voltage and 25% of rated current in the normal load direction, to simulate light load conditions. Remove phase 1 voltage and observe that the relay does not operate. Repeat for Phases-2 and 3.

Step 5: Unbalanced Fault Test

Using the pickup settings determined in Step 1, apply rated voltage and two times rated current, to simulate an unbalanced fault in the normal load direction (use Va at 0 degrees, Vb and Vc at 180 degrees, Ia at 0 degrees, Ib at 180 degrees, and Ic at 0 degrees). Observe that the relay (especially single-phase types) operates properly.

Step 6: Time Delay Settings Test

Apply Step 1 settings and set time delay to minimum setting. Adjust the current source to the appropriate level to determine operating time~~,~~ and compare against calculated values. Verify that the timer stops when the relay trips. Repeat at midpoint and maximum delay settings.

Step 7: Dielectric Test

Perform the test described in IEC 414 using 2 kV RMS for 1 minute.

Step 8: Surge Withstand Test

Perform the surge withstand test described in IEEE C37.90.1.1989 or the surge withstand test described in Section J.3.e.

(3) Tests for Inverters and Controllers with Integrated Functions

Inverters and controllers designed to provide reverse or underpower functions shall be tested to certify the intended operation of this function. Two methods are acceptable:

Method 1: If the inverter or controller utilizes external current/voltage measurement to determine the reverse or underpower condition, then the inverter or controller shall be functionally tested by application of appropriate secondary currents and potentials as described in the Discrete Reverse Power Relay Test, Section J.7.a.(1) of this Rule.

Method 2: If external secondary current or voltage signals are not used, then unit-specific tests must be conducted to verify that power cannot be exported across the PCC for a period exceeding two seconds. These may be factory tests, if the measurement and control points are integral to the unit, or they may be performed in the field.

(4) In-rush Current Test Procedures:

This test will determine the maximum In-rush Current drawn by the Generator.

(1) Locked-Rotor Method

Use the test procedure defined in NEMA MG-1 (manufacturer's data is acceptable if available).

(2) Start-up Method

Install and setup the Generating Facility equipment as specified by the manufacturer. Using a calibrated oscilloscope or data acquisition equipment with appropriate speed and accuracy, measure the current draw at the Point of Interconnection as the Generating Facility starts up and parallels with CUD's Distribution System. Startup shall follow the normal, manufacturer-specified procedure. Sufficient time and current resolution and accuracy shall be used to capture the maximum current draw within 5%. In-rush Current is defined as the maximum current draw from CUD during the startup process, using a 10-cycle moving average. During the test, the utility source, real or simulated, must be capable of maintaining voltage within +/- 5% of rated at the connection to the unit under test. Repeat this test five times. Report the highest 10-cycle current as the In-rush Current. A graphical representation of the time-current characteristic along with the certified In-rush Current must be included in the test report and made available to CUD.

Rule 21A

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Applicability
The former CUD Net Energy Metering ~~2.0~~/Interconnection Agreement has been replaced by Rule 21A. This rule applies to all interconnections between CUD and the generation Producer providing for the Interconnection of a Generating Facility that gives certain rights and obligations to effect or end Interconnection.

Applicable to Customer-Generators, as defined in Section 2827 of the California Public Utilities Code, operating a renewable electrical generation facility, as therein defined, located on the customer's owned, leased, or rented premises, is a vendor/contractor owned PV system that is leased or rented (includes a purchase power agreement) to a~~n~~ CUD electric customer or a customer owned system that is intended primarily to offset part or all of the customer's own electrical requirements and which is interconnected and operates in parallel with CUD's power system as authorized by CUD.

CUD shall make a determination regarding the appropriate assigned schedule for the applicant based upon available capacity. If the applicant falls within five percent (5%) of CUD's maximum coincident peak demand in the 2023 fiscal year "Net Energy Metering (NEM) Capacity Value", the applicant shall fall under the NEM schedule. If the applicant falls outside of the NEM Capacity Value, they shall be assigned to the Eligible Renewable Generation (ERG) schedule.

Territory
Within the entire territory served by City of Corona, Utilities Department.

Net Energy Metering (NEM) Customers Terms and Conditions

~~**Net Surplus Compensation Rate**~~
~~The net surplus compensation rate per kWh applied to any net surplus energy remaining at the end of the customer's relevant period based on the CUD rate under which the customer is billed and all the conditions thereof.~~

Special Conditions
1. ~~As determined in each billing period, when a customer is a net consumer of energy, the resulting net consumed energy will be used in the calculation of all applicable energy charges.~~ All special conditions related to billing and metering shall be addressed in the Electric Energy Schedule of User/Service fees under NEM.

~~2. As determined in each billing period, when a customer is a net producer of energy, the resulting net produced energy will be used in the calculation of a monetary value that shall only be applied to the customer's monthly bill, including any minimum charges and applicable taxes. The customer acknowledges that no incentive is available for the installed PV system.~~

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~~3.A customer is a net producer of energy when the amount of generated kilowatt-hours (kWh) of energy that is exported to CUD's system exceeds the amount that the customer receives from CUD.~~

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~~4. The monetary value calculated is the product of the net kWh produced multiplied by the Net Surplus~~

~~Compensation Rate (NSCR).~~ I

~~5.~~

~~The NSCR value is established by CUD to reflect the costs CUD avoids in procuring power during the time period net surplus generators are likely to produce excess power.~~

~~6~~2. CUD shall retain any net surplus energy generated by the NEM customer, including any associated environmental attributes or renewable energy credits ("REC").

~~3~~7. To be eligible for service under this Schedule, generating facilities must meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules regarding safety and reliability (i.e., CUD's Electric Rule 21). All generating facilities must have a warranty of at least 10 years for all equipment and the associated installation from the system provider (not from CUD). All major solar system components (including PV panels and other generation equipment, inverters and meters) must be on the verified equipment list maintained by the CEC. Any other equipment, as determined by CUD, must be verified as having safety certification from a Nationally Recognized Testing Laboratory.

~~4~~8. To be eligible for service under this Schedule, the customer's generating facilities must be sized to offset part or all of the customer's own electrical requirements and cannot be oversized. This means that the estimated output of the generating facility, using the CEC-AC nameplate rating for inverter-based generating facilities must not exceed the customer's previous annual usage in kWh. In the event that there is less than 12 months of previous recorded usage data, the standard of 2 watts per square foot of the premises will apply.

~~5~~9. Customers seeking to interconnect their generating facilities for the purpose of receiving service under this Schedule are subject to the interconnection requirements and interconnection cost responsibility provisions as established in CUD's Electric Rule 21.

~~6~~10. A new customer of record who owns, rents, or leases a premise that includes a generating facility that was approved by CUD for parallel operation prior to the new customer moving in and/or taking electric service with CUD will take service under this Schedule as long as the requirements of this Schedule are met. This provision also applies to premises where the developer/contractor establishes the interconnection.

~~7~~11. Existing generating facilities currently under Schedule NEM that are modified such that: (1) the generating capacity or output increases by 10% or more; or (2) adding battery storage will be placed under Schedule ~~NEM 2.0~~ERG.

~~8~~12. ~~Existing customers under Schedule NEM will remain under Schedule NEM for a period of fifteen (15) years from the original year in which their generating facility was interconnected to CUD's grid as determined from the date the customer received the permission to operate (PTO), and then will be switched to Schedule NEM 2.0 or any otherwise applicable rate schedule.~~ Existing customers under Schedule NEM can request to be placed under Schedule ~~NEM 2.0~~ERG at any time; the customer's account will be trued up at the time of the request. This means that any outstanding balance due or credit due will be applied to the next regular billing.

Eligible Renewable Generation (ERG) Customers Terms and Conditions

Special Conditions

1. ~~A.~~ All special conditions related to billing and metering shall be addressed in the Electric Energy Schedule of User/Service fees under ERG.

2. CUD shall retain any net surplus energy generated by the ERG customer, including any associated environmental attributes or renewable energy credits ("REC").

3. To be eligible for service under this Schedule, generating facilities must meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules regarding safety and reliability (i.e., CUD's Electric Rule 21). All generating facilities must have a warranty of at least 10 years for all equipment and the associated installation from the system provider (not from CUD). All major solar system components (including PV panels and other generation equipment, inverters and meters) must be on the verified equipment list maintained by the CEC. Any other equipment, as determined by CUD, must be verified as having safety certification from a Nationally Recognized Testing Laboratory.

4. To be eligible for service under this Schedule, the customer's generating facilities must be sized to offset part or all of the customer's own electrical requirements and cannot be oversized. This means that the estimated output of the generating facility, using the CEC-AC nameplate rating for inverter-based generating facilities must not exceed the customer's previous annual usage in kWh. In the event that there is less than 12 months of previous recorded usage data, the standard of 2 watts per square foot of the premises will apply.

5. Customers seeking to interconnect their generating facilities for the purpose of receiving service under this Schedule are subject to the interconnection requirements and interconnection cost responsibility provisions as established in CUD's Electric Rule 21.

6. A new customer of record who owns, rents, or leases a premise that includes a generating facility that was approved by CUD for parallel operation prior to the new customer moving in and/or taking electric service with CUD will take service under this Schedule as long as the requirements of this Schedule are met. This provision also applies to premises where the developer/contractor establishes the interconnection.

7. Existing generating facilities currently under Schedule NEM that are modified such that: (1) the generating capacity or output increases by 10% or more; or (2) adding battery storage will be placed under Schedule ERG.

Solar or Wind Generating Facility

1. Operating Option

1. Customer has elected to construct, design, install, operate, and maintain the Facility in a manner consistent with the normal and safe operation of the electrical distribution system owned and operated by CUD. The Facility is intended primarily to provide part or all of the Customer's own electrical energy requirements. If the facility is within the service territory of CUD, then by that fact the Customer understands, accepts, and agrees that connection and

operation of the Customer's Facility shall be subject to the terms and conditions set forth in in CUD's Electric Service Rules (the "Rules").

2. Pursuant to Electric Service Rule No. 21 and Rule 21A, based on facility type and size, an Interconnection Fee may be required.

2. Credits for Net Energy

1. NEM Customers. NEM ~~C~~customer is eligible to receive credits for energy if Customer's monthly energy generated by the Facility exceeds Customer's monthly energy requirements, calculated by the "Net Metering." Net Metering uses a non-demand, time differentiated meter or meters to measure the difference between the energy supplied by CUD and the energy generated by the Facility and supplied to CUD. Net metering account billing options, net energy carryover rules and restrictions, and energy costs are controlled by CUD's Net Metering Schedule in effect at the time of Customer's start of service.

2. ERG Customers. ERG Customer is eligible to receive credits for any energy generated by the Customer and delivered to the grid. Electricity delivered from CUD and consumed by the Customer shall be billed monthly on the Customer's otherwise applicable rate. Electricity supplied by the Renewable Electrical Generation Facility that is utilized on-site by the Customer will not be measured, charged, or credited by CUD. ERG account billing options and energy costs are controlled by CUD's Eligible Renewable Generation Schedule in effect at the time of Customer's start of service.

3. Interruption or Reduction of Deliveries

1. CUD shall not be obligated to accept, and CUD may require Customer to interrupt or reduce, deliveries of energy to CUD: (a) when necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any of CUD's equipment or part of the CUD system; or (b) if CUD determines that curtailment, interruption, or reduction of receipt of energy from Customer's Facility is necessary because of emergencies, forced outages, force majeure, or compliance with prudent electrical practices.

2. Notwithstanding any other provision of this Rule, if at any time CUD, in its sole discretion, determines that either (a)the Facility may endanger CUD personnel or members of the general public, or (b) the continued operation of Customer's Facility may impair the integrity of CUD's electric distribution system, CUD shall have the right to disconnect Customer's Facility from CUD's electric distribution system. Customer's Facility shall remain disconnected until such time as CUD is satisfied that the condition(s) referenced in (a) or (b) of this paragraph have been corrected, and CUD shall not be obligated to compensate Customer for any loss of use of generation or energy during any and all periods of such disconnection.

4. Interconnection

1. Customer shall deliver energy from the Facility to CUD at CUD's meter.

2. Customer, and not CUD, shall be solely responsible for all legal and financial obligations arising from the construction, installation, design, operation, and maintenance of the Facility in accordance with all applicable laws and regulations.

3. Customer, at Customer's sole expense, shall obtain and possess all permits and

authorizations in accordance with all applicable laws and regulations for the construction, installation, design operation and maintenance of the Facility.

4. CUD shall furnish and install one or more standard watt-hour meters to read energy generated by Customer's Facility. Customer shall provide and install a meter socket and connections in accordance with CUD's metering standards. If the Customer desires more detailed metering equipment, all associated costs will be incurred by the Customer.

5. CUD shall have the right to have its representatives present at the final inspection made by the governmental authority having jurisdiction to inspect and approve the installation of the Generating Facility or battery storage. For interconnections involving battery storage, Customer shall be responsible for all inspection and commissioning fees. Customer shall notify CUD in accordance with the terms of Section 12, herein, at least five (5) days prior to such inspection.

6. Customer shall not connect the Facility, or any portion of it, to CUD's distribution system, until written approval of Facility has been given to Customer by CUD. Such approval shall not be unreasonably withheld.

7. Customer may reconnect its Facility to the CUD system following normal operational outages and interruptions without notifying CUD unless CUD has disconnected service, or CUD notifies Customer that a reasonable possibility exists that reconnection would pose a safety hazard.

8. If CUD has disconnected Service to the Facility, or CUD has notified Customer that a reasonable possibility exists that reconnection would pose a safety hazard, Customer may call CUD's Customer Service Center to request authorization to reconnect the Facility.

5. Design Requirements

1. Customer's Facility, and all portions of it used to provide or distribute electrical power and parallel interconnection with CUD's distribution equipment shall be designed, installed, constructed, operated, and maintained in compliance with this Rule. Compliance with this section is mandatory.

2. Customer shall conform to all applicable solar or wind electrical generating system safety and performance standards established by CUD's Electric Service Rule No. 21, the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and accredited testing laboratories such as Underwriters Laboratories, and where applicable, rules of the Public Utilities Commission regarding safety and reliability, and applicable building codes.

6. Maintenance and Permits

1. Customer shall: (a) maintain the Facility and interconnection facilities in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, requirements of Section 5 above, and (b) to the extent that future requirements may require, obtain any governmental authorizations or permits required for the operation of the Facility. Customer shall reimburse CUD for any and all losses, damages, claims, penalties, or liability CUD incurs as a result of Customer's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of the

Customer's Facility.

7. Access to Premises

1. CUD may enter Customer's premises without prior notice (a) to inspect, at all reasonable hours, Customer's protective devices and read or test any meter for the Facility and (b) to disconnect, at any time, without notice, the Facility if, in CUD's sole opinion, a hazardous condition exists and that immediate action is necessary to protect persons, or CUD's facilities, or property of others from damage or interference caused by (1) Customer's Facility, or (2) Customer's failure to comply with the requirements of this Rule.

8. Indemnity and Liability by Customer

1. Customer shall indemnify and hold CUD, its directors, officers, agents and employees harmless against all loss, damages expense and liability to third persons for injury to or death of persons or injury to property caused by the Customer's engineering design, construction, installation, ownership, maintenance or operations of the Facility in connection with this Agreement by reason of omission or negligence, whether active or passive. Customer shall, on CUD's request, defend any suit asserting a claim covered by this indemnity. Customer shall pay all costs that may be incurred by CUD in enforcing this indemnity.

2. Neither CUD, its officers, agents or employees shall be liable for any claims, demands, costs, losses, causes of action, or any other construction, ownership, maintenance or operation of, or making of replacements, additions or betterment to, Customer's Facility except to the extent actually caused by the sole and gross negligence of the CUD.

3. Neither CUD, its officers, agents or employees shall be liable for damages of any kind to the Facility caused by any electrical disturbance of the CUD system or on the system of another, whether or not the electrical disturbance results from the negligence of CUD.

9. Insurance

1. To the extent that Customer has currently in force all risk property insurance and comprehensive personal or commercial general liability insurance, Customer agrees that it will maintain such insurance in force for the duration of this Agreement. CUD and the City shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operation. In the event the solar generating system is greater than 30 kW (CEC AC), such insurance shall, by endorsement to the policy or policies, provide for thirty (30) calendar days written notice to CUD prior to cancellation, termination, alteration, or material change of such insurance.