

UNITED POWER, INC.  
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Colo. PUC No. 3  
Sheet No. Q-011  
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**RULES AND REGULATIONS**  
Rules, Regulations or Extension Policy

**Standard Service for Purchase of Power, Energy,  
or Both from Qualifying Facilities of 100 kW  
or Less Maximum Generating Capacity**

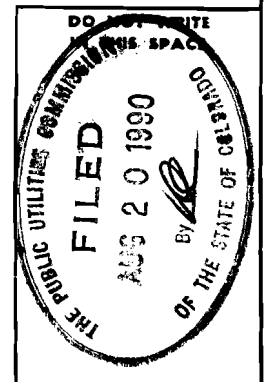
These Rules and Regulations shall apply to all qualifying facilities (QFs) generally defined as small power production or cogeneration facilities interconnecting with the Association's electric distribution systems and making available power, energy, or both to the Association.

**Definition**

Standard service for purchase from qualifying facilities (QFs) of 100 kW or less maximum generating capacity is defined for purposes herein as the purchase of all power, energy, or both made available to the Association by QFs interconnected with the Association's electric distribution system.

**1.0 General Definitions**

- 1.1 "Biomass" means any organic material not derived from fossil fuels.
- 1.2 "Waste" means by-product materials other than biomass.
- 1.3 "Purchase" means the purchase of electric energy or capacity or both from a qualifying facility by an electric utility.
- 1.4 "Sale" means the sale of electric energy or capacity or both by an electric utility to an qualifying facility.
- 1.5 "System emergency" means a condition on a utility's system which is likely to result in imminent significant disruption of service to customers or is imminently likely to endanger life or property.
- 1.6 "Rate" means any price, rate, charge, or classification made, demanded, observed or received with respect to the sale or purchase of electric energy or capacity, or any rule, regulation, or practice respecting any such rate, charge, or classification, and any contract pertaining to the sale or purchase of electric energy or capacity.



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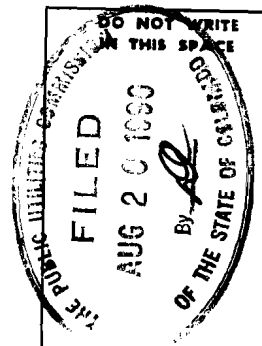
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- 1.7 "Avoided costs" means the incremental or marginal costs to an electric utility of electric energy or capacity or both which, but for the purchase of such energy and/or capacity from qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source.
- 1.8 "Interconnection costs" means the reasonable costs of connection, switching, metering, transmission, distribution, safety provisions and administrative costs incurred by the electric utility directly caused by the installation and maintenance of the physical facilities necessary to permit interconnected operations with a qualifying facility, including the costs of installing equipment elsewhere on the utility's system necessitated by the interconnection, to the extent such costs are in excess of the corresponding costs which the electric utility would have incurred if it had not engaged in interconnected operations, but instead generated or purchased an equivalent amount of electric energy itself.
- 1.9 "Supplementary power" means any electric energy or capacity supplied by an electric utility and regularly used by a qualifying facility.
- 1.10 "Backup-power" means electric energy or capacity supplied by an electric utility to replace energy ordinarily generated by a facility's own generation equipment during an unscheduled outage of the facility.
- 1.11 "Interruptible power" means electric energy or capacity supplied by an electric utility subject to interruption by the electric utility under specified conditions.
- 1.12 "Maintenance power" means electric energy or capacity supplied by an electric utility to a qualifying facility during scheduled outages of the qualifying facility.
- 1.13 "Supplementary firing" means an energy input to the cogeneration facility used only in the thermal process of a topping-cycle cogeneration facility, or only in the electric generating process of a bottoming-cycle cogeneration facility.
- 1.14 "Useful power output" of a cogeneration facility means the electric or mechanical energy made available for use, exclusive of any such energy used in the power production process.



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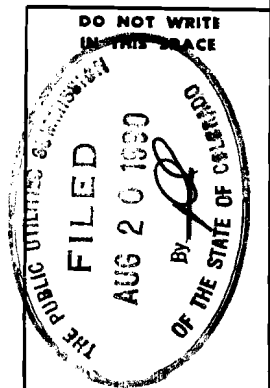
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- 1.15 "Useful thermal energy output" of a topping-cycle cogeneration facility means the thermal energy made available for use in any industrial or commercial process, or used in any heating or cooling application.
- 1.16 "Total energy output" of a topping-cycle cogeneration facility is the sum of the useful power output and useful thermal energy output.
- 1.17 "Total energy input" means the total energy of all forms supplied from external sources other than supplementary firing to the facility.
- 1.18 "Natural gas" means either natural gas unmixed or any mixture of natural gas and artificial gas.
- 1.19 "Oil" means crude oil, residual fuel oil, natural gas liquids, or any refined petroleum products; and
- 1.20 Energy input in the case of energy in the form of natural gas or oil is to be measured by the lower heating value of the natural gas or oil.
- 1.21 "Utility geothermal small power production facility" means a small power production facility which uses geothermal energy as the primary energy resource and of which more than 50% is owned either:
  - (1) By an electric utility, electric utility holding company, or any combination thereof; or
  - (2) By any company 50% or more of the outstanding voting securities of which are directly or indirectly owned, controlled, or held with power to vote by an electric utility, electric utility holding company, or any combination thereof.
- 1.22 "Cogeneration facility" means equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam), used for industrial, commercial, heating or cooling purposes, through the sequential use of energy.
- 1.23 "Topping-cycle cogeneration facility" means a cogeneration facility in which the energy input to the facility is first used to produce useful power output, and the reject heat from the power production is then used to provide useful thermal energy.



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1.24 "Bottoming-cycle cogeneration facility" means a cogeneration facility in which the energy input to the system is first applied to a useful thermal energy process, and the reject heat emerging from the process is then used for power production.

1.25 "Small power production facility" means equipment used to produce electrical energy and meets the requirements and criteria contained in these rules for small power production facilities.

**2.0 Definitions of Qualifying Facilities**

A "qualifying facility" (QF) is any small power production facility or cogeneration facility which is a qualifying facility under Subpart B of 18 CFR 292, Sections 201, 203, 204, 205, and 206 FERC Rules, and Section 201 of the Public Utility Regulatory Policies Act of 1978 (PURPA).

**2.1 Small Power Production Facilities:**

**2.1.1 Maximum Size Criteria**

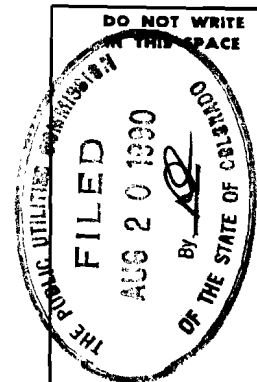
A facility where the power production capacity of the facility for which qualification is sought, together with the capacity of all other facilities which use the same energy resource, are owned by the same person, and are located at the same site, may not exceed 80 megawatts.

For purposes herein, facilities are considered to be located at the same site as the facility for which qualification is sought if they are located within one mile of the facility for which qualification is sought and, for hydroelectric facilities, if they use water from the same impoundment for power generation. The distance between facilities shall be measured from the electrical generating equipment of each facility.

If any qualifying facility obtains a waiver of the criteria of this paragraph 2.1.1 from the FERC, a copy of such written waiver shall be filed with the Association within 20 days of receipt of such by the qualifying facility.

**2.1.2 Fuel Use Criteria**

The primary energy source of the facility must be biomass, waste, renewable resources, geothermal resources, or any combination thereof, and 75% or more of the total energy input must be from these sources. The use of oil, natural gas, and coal by a facility may not in the aggregate, exceed 25% of its total energy input during any calendar year.



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Any primary energy source which, on the basis of its energy content, is 50% or more biomass shall be considered biomass.

**2.1.3 Ownership Criteria**

A qualifying small power production facility may not be owned by a person primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration or small power production facilities).

A qualifying small power production facility shall be considered to be owned by a person primarily engaged in the generation or sale of electric power, if more than 50% of the equity interest in the facility is held by an electric utility or utilities, or by a public utility holding company, or companies, or any combination thereof. If a wholly or partially owned subsidiary of an electric utility or public utility holding company has an ownership interest in a facility, the subsidiary's ownership interest shall be considered as ownership by an electric utility or public utility holding company.

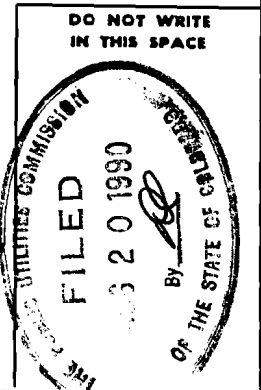
**2.1.4 Exceptions**

For purposes herein, a company shall not be considered to be an "electric utility" company if it:

- a. is a subsidiary of an electric utility holding company which is exempt by rule or order adopted or issued pursuant to Section 3(a)(3) or 3(a)(5) of the Public Utility Holding Company Act of 1935, 15 U.S.C. 79c(a)(3), 79c(a)(5); or
- b. is declared not to be an electric utility company by rule or order of The Securities and Exchange Commission pursuant to Section 2(a)(3)(A) of the Public Utility Holding Company Act of 1935, 15 U.S.C. subsection 79 b (a)(3)(A).

**2.2 Cogeneration Facilities**

"Cogeneration facility" means equipment which is used to produce electric energy and forms of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes, through the sequential use of energy. Both topping-cycle and bottoming-cycle cogeneration facilities may qualify.



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**2.2.1 Operating and Efficiency Standards for Topping and Bottoming-Cycle Facilities**

Any cogeneration facility must, in order to qualify, meet the following operating and efficiency standards:

**2.2.1.1 Topping-Cycle Cogeneration Facilities**

**Operating Standard**

For any topping-cycle cogeneration facility, the useful thermal energy output of the facility must, during any calendar year, be no less than 5% of the total energy output.

**Efficiency Standard**

For any topping-cycle cogeneration facility for which any of the energy input is natural gas or oil, and the installation of which began on or after March 13, 1980, the useful power output of the facility plus 1/2 the useful thermal energy output, during any calendar year period, must, subject to the remaining requirements of this paragraph, be no less than 42.5% of the total energy input of natural gas and oil to the facility; or if the useful thermal energy output is less than 15% of the total energy output of the facility, be no less than 45% of the total energy input of natural gas and oil to the facility. For any topping-cycle cogeneration facility not subject to the above provisions of this paragraph, there is no efficiency standard.

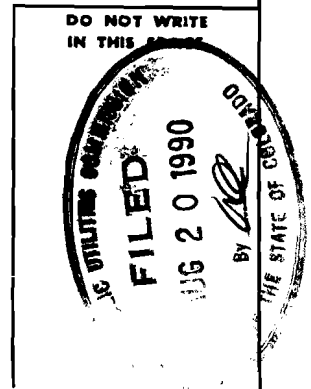
**2.2.1.2 Bottoming-Cycle Cogeneration Facilities**

**Efficiency Standards for Bottoming-Cycle Facilities**

For any bottoming-cycle cogeneration facility for which any of the energy input as supplementary firing is natural gas or oil, and the installation of which began on or after March 13, 1980, the useful power output of the facility must, during any calendar year period, be no less than 45% of the energy input of the natural gas and oil for supplementary firing. For any bottoming-cycle cogeneration facility not covered by the above provisions, there is no efficiency standard.

**2.2.1.3 Waiver**

The qualifying facility may apply to the Colorado Public Utilities Commission for a waive for the operations or efficiency standards upon a showing that the facility will produce sufficient energy savings. If such waiver is obtained, a copy shall be delivered to the Association within 20 days of its receipt.



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**2.2.2 Ownership Criteria**

A cogeneration facility may not be owned by a person primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration or small power production facilities).

A cogeneration facility shall be considered to be owned by a person primarily engaged in the generation or sale of electric power, if more than 50% of the equity interest in the facility is held by an electric utility or utilities, or by a public utility holding company, or companies, or any combination thereof. If a wholly or partially owned subsidiary of an electric utility or public utility holding company has an ownership interest of a facility, the subsidiary's ownership interest shall be considered as ownership by an electric utility or public utility holding company.

**2.2.3 Exceptions**

For purposes of these Rules and Regulations, a company shall not be considered to be an "electric utility" company if it:

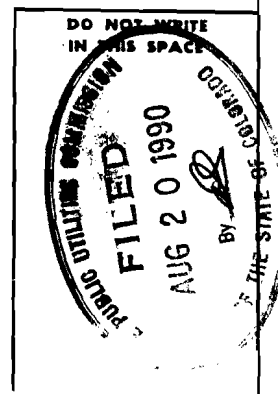
- a. is a subsidiary of an electric utility holding company which is exempt by rule or order adopted or issued pursuant to section 3(a)(3) or 3(a)(5) of The Public Utility Holding Company Act of 1935, 15 U.S.C. 79c(a)(3), 79c(a)(5); or
- b. is declared not to be an electric utility company by rule or order of the Securities and Exchange Commission pursuant to Section 2(a)(3)(A) of the Public Utility Holding Company Act of 1935, 15 U.S.C. subsection 79b(a)(3)(A). Copies of such declarations shall be delivered to the Association.

**3.0 Procedures For Obtaining Qualifying Status**

A small power production or cogeneration facility which meets the requirements and criteria for qualification set forth above and in Exhibit A of the Colorado Public Utilities Commission Decision Number C82-1438, and Section 292.203 FERC and Section 2.0 of these rules is a qualifying facility.

**3.1 Information To Be Filed**

The owner of any facility qualifying under these rules shall file the following information with the Colorado Public Utilities Commission and the Association:



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- o The name and address of all owners and operators, and location of the facility;
- o A brief description of the facility, including a statement indicating whether the facility is a small power production or cogeneration facility. If a cogeneration facility, whether it is a topping-cycle or bottoming-cycle facility;
- o The primary energy source used or proposed to be used by the facility, and the energy source mix of the facility;
- o The power production capacity of the facility; and
- o The percentage of ownership of the facility by any electric utility or by any public utility holding company or by any person, corporation or entity owned by either.

**3.1.1 Additional Information Required from Small Power Production Facilities**

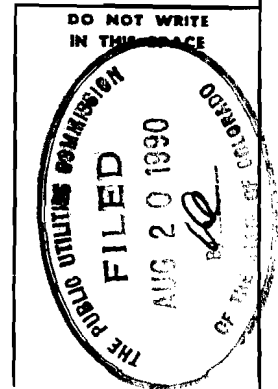
In addition to the information required in 3.1 above, small power production facilities shall file the following information with the Colorado Public Utilities Commission and the Association:

- o The location of the facility in relation to any other small power production facilities located within one mile of the facility, owned by the facility which use the same energy source; and
- o Information identifying any planned usage of natural gas, oil, or coal.

**3.1.2 Additional Information Required from Cogeneration Facilities**

In addition to the information required in paragraph 3.1 above, cogeneration facilities shall file the following additional information with the Colorado Public Utilities Commission and the Association:

- o A description of the cogeneration system, including whether the facility is a topping or bottoming-cycle and sufficient information to determine that any applicable operating and efficiency rules and criteria set forth in 2.2.1 and in Section 292.205, FERC regulations will be met; and
- o The date installation of the facility began or will begin.



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**3.1.3 Notification Requirements for Qualifying Facilities of 500kW or Larger Design Capacity**

The Association is not required to purchase electric power, energy, or both from a facility with a design capacity of 500 kW or more until 90 days after the facility notifies the Association that it is a qualifying facility, or until 90 days after the facility has applied to the Federal Energy Regulatory Commission for certification that the facility is a qualifying facility pursuant to Section 292.207(d), FERC rules. The Association and the qualifying facility may alter the above time periods by mutual agreement.

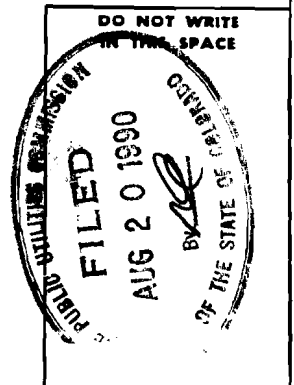
**3.1.4 Revocation of Qualifying Status**

In the event that any QF has its qualifying status revoked by the Federal Energy Regulatory Commission, in accordance with Section 292.207(d) of the FERC rules, the QF owner shall notify the Association within 30 days of receipt of such notification from the FERC.

**3.1.5 Substantial Alteration or Modification of the Qualifying Facility**

Any small power production or cogeneration facility which applies to the FERC, pursuant to Section 292.207(d)(2) FERC rules, for a determination that any proposed alteration or modification will not result in a revocation of qualifying status, shall file the FERC determination of the application with the Association within 30 days after receipt thereof. Any qualifying facility owner who incorporates changes in the QF design shall provide the Association with a revised informational filing (defined in Section 3.1) within twenty-five (25) days after such changes are incorporated.

Any alteration or modification of a small power production or cogeneration facility may result in revocation of qualifying status, as a consequence of a formal complaint or show cause proceeding before the Colorado Public Utilities Commission or if it is established that the facility, from the alteration or modification, is not operating in compliance with these Rules and Regulations, other applicable laws, or in accordance with the required contract for service.



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**3.1.6 Transmission of Qualifying Facility Power Energy, or Both to Other Electric Utilities**

If the QF owner agrees, the Association, which is otherwise obligated to purchase power, energy, or both from the qualifying facility, may transmit such power, energy, or both to any other electric utility. However, the rate for purchase of QF output by the electric utility to which such power, energy, or both, is transmitted shall be adjusted up or down to reflect line losses. Such adjustments shall be determined on a case-by-case basis by computation and shall reflect whether the energy and capacity displaces other energy and capacity. Charges, if any, for such transmission services, shall be subject to agreement between the transmitting utility and the qualifying facility owner and incorporated by reference into the associated contract for service required herein. Any adjustments determined necessary for line losses over the Association's system shall be billed or credited to the qualifying facility owner by the Association.

**3.1.7 Resale of Power, Energy, or Both Provided by the Association to the Qualifying Facility**

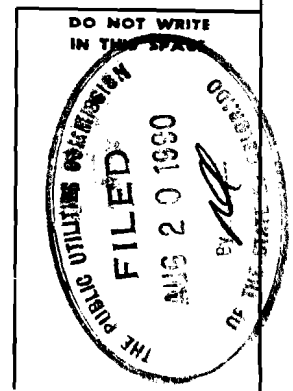
The qualifying facility owner shall not resell any power, energy, or both provided by the Association to the qualifying facility back to the Association. The Association may inspect the qualifying facility in accordance with these Rules and Regulations at any time to determine if any such power, energy, or both resales are occurring or have occurred.

**3.1.8 No Purchases Required When Excessive Costs Would Result**

The Association, giving notice in accordance with the paragraphs below, shall not be required to purchase electric power, energy, or both during any period which, due to operational circumstances, purchases from the qualifying facility will result in costs greater than those which the Association would incur if it did not make such purchases, but instead generated itself or purchased at wholesale an equivalent amount of energy or capacity.

**3.1.9 Notice**

The Association, upon effecting a cessation of purchase due to operational circumstances causing increased costs, will use its best efforts to notify the interconnected qualifying facility owner in sufficient time for the qualifying facility owner to cease the delivery of power, energy, or both to the Association. Such notification will be by telephone and in written form to all known qualifying facilities affected. The Association will use its best efforts to make a telephone notification in advance of the



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proposed stoppage of purchases. Written notification will also be provided by the Association after the cessation of purchases and will specify the operational circumstances causing the situation. Such written notification shall be within one business day after the cessation of purchases.

**4.0 Interconnection Costs**

Each qualifying facility owner shall be obligated to pay the costs of interconnecting with the Association necessary to effectuate purchases of any power, energy, or both made available by the qualifying facility. The Association will establish, prior to the interconnection, to the extent possible, the total costs of interconnection necessary to effectuate such purchases from the qualifying facility and will advise the qualifying facility owner in writing of such costs. Where total interconnection costs cannot be determined in advance of interconnection, the Association will advise the qualifying facility owner promptly of such costs on a case-by-case basis. Unless otherwise set forth in the associated contract required by these Rules and Regulations, the qualifying facility owner shall make payment of such interconnection costs within 30 day of the invoice date.

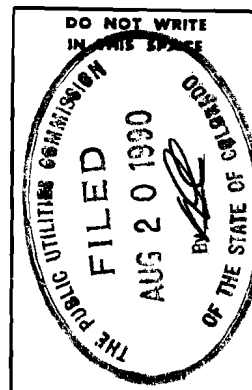
**4.1 Payment Schedule for Interconnection Costs**

Interconnection costs necessary by the Association prior to the agreed interconnection date shall be paid to the Association in full prior to interconnection equipment installation and receipt of service under this schedule unless agreed otherwise in the associated contract required in Section 5.22. Payment for interconnection costs incurred after the date of interconnection shall be paid within 30 days of the qualifying facility owner's receipt of invoice for same unless agreed otherwise in the associated contract.

**4.2 Typical Interconnection Costs**

Interconnection costs are generally defined as any costs which, but for the interconnection of the qualifying facility, would not have been incurred by the Association to accommodate the interconnection. Interconnection costs will typically include, but not be limited to the following:

- o On-site inspections prior to construction to verify safe setback and physical clearance distances
- o Pre-engineering costs accrued prior to interconnection to evaluate circuit protection equipment



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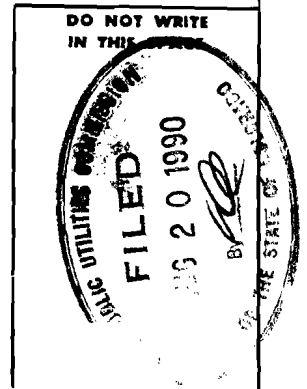
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- o Specific evaluations of qualifying facility interactions with the Association's installed regulation and circuit protection equipment
- o Replacement and recordination costs associated with the Association's equipment
- o The cost of performing any requested measurements to establish baseline quality of service or for subsequent measurements
- o Modifications to electrical grounding necessary to correct any operational or safety problems on the Association's system caused by the qualifying facility
- o Modifications of grounding to reduce electromagnetic interferences, improve radio and television reception, or operation of other electrical devices affected by the qualifying facility
- o The cost for interconnection at any secondary voltage other than presently established levels
- o Corrections of abnormal power factor caused by the qualifying facility. Such corrections shall be made by the Association on its system at the expense of the qualifying facility. Deleterious effects on power factor shall be corrected by the qualifying facility on its own system at the qualifying facility's expense.
- o Required disconnection equipment installed by the qualifying facility
- o Fused protection of switched interconnections between major components of equipment in the qualifying facility
- o The cost of protective relaying to confine the effects of faults, lightning strikes, or other abnormalities shall be installed by the QF at its expense
- o The cost of any equipment to correct phase voltage or load imbalances caused by the qualifying facility is an interconnection cost
- o Cost of meters to measure total qualifying facility generation required for billing purposes



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- o Liability insurance coverage for the qualifying facility in the amount the Association determines to be adequate and reasonable.

**5.0 Standards for Operating Reliability**

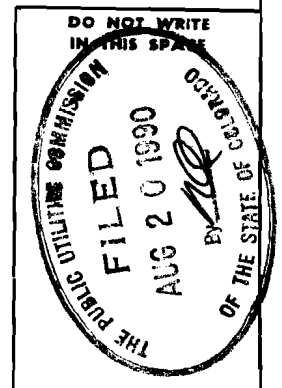
Qualifying facilities interconnecting with the Association's system shall comply with the following minimum standards, except for facilities of less than 10 kW design capacity which shall, as a minimum, comply with items 5.4, 5.5, 5.11, 5.13, 5.15, 5.20, 5.21, and 5.23.

**5.1 Filing of Design Information**

Any person seeking to establish interconnected operations of the qualifying facility shall first file detailed design information of the proposed facility with the Association to which it proposes to interconnect at least 150 days prior to the interconnection. In addition, the qualifying facility owner shall file one copy each of all available manufacturer's literature, equipment operating instructions, and recommendations for installation. If the information filed is not adequate for the Association to assess the impact of the proposed interconnection on its operations and/or system expansion, the Association will notify the qualifying facility owner (in writing) within 25 days of any additional information required. The qualifying facility owner shall submit any such additional information requested by the Association within 25 days after receiving the request.

**5.2 Conference**

At the earliest possible time after the prospective qualifying facility owner's filing of the required design information, a conference shall be held at the Association's facility at which time the Association will inform the proposed qualifying facility in its opinion of those governmental agencies and departments having requirements for interconnection of the qualifying facility. Also, at the time of the conference, the Association will inform the proposed QF owner in its opinion of the interconnection requirements needed to assure a safe interconnection and operation. After the conference and review of the design information, the Association may agree to an interconnection sooner than 150 days after the conference. If such is the case, the Association will notify the qualifying facility owner of such finding in writing.



Advice Letter No. 118

James Boyd Jr.  
 Signature of Issuing Officer  
 President

Issue Date July 20, 1990

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**5.3 No Interconnection Until Compliance**

The proposed qualifying facility shall not be interconnected with the Association's system until it has established, to the satisfaction of the Association, that it complies with and has met all applicable rules set forth herein. In the event of a disagreement regarding the applicability of certain standards, the qualifying facility may file a pleading using appropriate procedures with the Colorado Public Utilities Commission.

**5.4 Code Certification**

Each prospective qualifying facility owner shall obtain, at no cost to the Association, all appropriate certifications and present them to the Association to establish that the QF has met all applicable codes and construction standards. If, in the Association's opinion, additional inspections or certifications must be obtained for the qualifying facility, the Association will notify the qualifying facility owner in writing within 25 days of such needed additional certifications. In expressing its opinion regarding such certification, the Association makes no warranty, either express or implied, as to the adequacy of such codes or certifications and accepts no liability for any deficiencies on the part of the qualifying facility owner, his or her agents, representatives, or assigns.

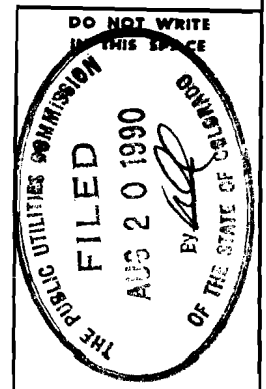
**5.5 Inspection and Access**

The Association may perform on-site inspection(s) on the site of the proposed qualifying facility prior to its construction to determine that minimum setback distances and physical clearances have been established. (Cost of these inspections shall be included as a qualifying facility interconnection cost.)

The Association's personnel shall have rights of access to the qualifying facility owner's premises to repair, maintain, or retrieve any of the Association's equipment which may be affected by the failure of either the Association's or the qualifying facility's equipment, or to make inspections at any time.

**5.6 Coordination of Circuit Protection Equipment**

Prior to the interconnection and at the time of filing complete design information, each qualifying facility owner shall submit to the Association a detailed electrical and mechanical plan so that the Association may determine the safety and adequacy of the Association's installed service drops and installed circuit protection equipment. Additional interconnection protective equipment needed shall be communicated in writing by the Association to the qualifying facility within 25 days.



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James Boyd  
Signature of Issuing Officer  
President

Issue Date July 20, 1990

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**5.7 Potential Effects of Operations of the Association's Equipment on the Qualifying Facility's Equipment**

The Association shall not be liable for the operational effects of the Association's equipment on equipment and/or systems of the qualifying facility. The Association will advise each potential qualifying facility owner within 25 days after receiving the qualifying facility's proposed design information of the necessity to install appropriate protection equipment to accommodate typical known operations of the Association's equipment.

**5.8 Quality of Service**

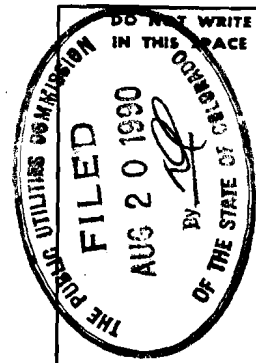
The Association, at the request of the qualifying facility owner, may measure the quality of service available on the premises of the proposed qualifying facility prior to interconnection. Cost of such measurements shall be included as interconnection costs. The Association will provide a quality of service after the interconnection equivalent to that existing prior to the interconnection. However, the costs for any changes requested by the qualifying facility owner to improve the quality of service shall be paid to the Association as interconnection costs in accordance with the contract for service.

**5.9 Grounding of Qualifying Facility Equipment**

The Association requires that the qualifying facility owner show that certificates establishing compliance with all appropriate grounding codes (subject to the Association's approval) have been obtained prior to the interconnection. Upon request, the Association will provide the qualifying facility owner with information and guidelines regarding grounding requirements, such to be made within 25 days of the qualifying facility's request for same. In the event that improper grounding of any of the qualifying facility equipment contributes to interferences or safety hazards of any kind, it shall be the responsibility of the qualifying facility owner to incorporate the necessary modifications at no expense to the Association.

**5.10 Standards for Harmonics and Frequency**

The Association will notify the qualifying facility owner in writing regarding limitations on any harmonic content of the voltage and current waveforms produced by the qualifying facility. Such notification will be in writing within 25 days after the Association receives the required design information specified in 3.1.



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*James Boyd Jr*  
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No interconnected qualifying facility shall generate power at frequencies other than 60 Hz plus or minus .1 Hz.

The Association shall not be responsible or liable for the effects of any on-site interferences caused by harmonics produced by the qualifying facility. The costs for any off-site system equipment needed to neutralize the effects of on-site harmonic production by the qualifying facility shall be paid by the qualifying facility owner to the Association as interconnection costs.

**5.11 Interconnected Voltage Levels**

The qualifying facility shall be interconnected only at presently available secondary voltage levels on the Association's system unless all costs for modified interconnections are paid as a cost of interconnection.

**5.12 Types of Generators and Inverting Equipment**

The Association encourages the use of induction generators, line-commutated inverters, or other equipment which provide for a power factor of at least 0.90 leading or lagging.

Any deleterious effects caused by the qualifying facility on the Association's system due to QF equipment power factor being less than 0.90 (lead or lag) will be corrected by the Association on its system at the expense of the qualifying facility. Deleterious effects on the qualifying facility's system caused by abnormal power factor of the qualifying facility's equipment shall be corrected by the qualifying facility owner at no expense to the Association.

**5.13 Disconnection Equipment**

Prior to interconnection, each qualifying facility owner shall install suitable disconnection equipment which will automatically and reliably disconnect the generating equipment of the qualifying facility from the Association's lines in the event of a line outage or failure of the generating equipment of the qualifying facility. At a minimum this equipment shall include a lockable disconnect switch which can be locked open by the Association. The Association may require additional protection devices which will be determined on a case-by-case basis.

The disconnection devices shall be accessible to both the Association and the qualifying facility owner. Either the Association or the qualifying facility owner shall have the right to operate the disconnection devices whenever, in the judgment of either party, that it is necessary to maintain the safe operating



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*James Boyd*  
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conditions and whenever the operations of the qualifying facility or Association adversely affects the equipment of either party. These isolating devices shall be lockable only by the Association in the open position for isolation of the qualifying facility's generation and the device which isolates the Association's supply shall be lockable only by the qualifying facility owner in the open position. Such devices shall be installed so that visual verification of the locking of the device in the open position can be accomplished by the Association and the qualifying facility owner.

**5.14 Fused Protection and Relaying Equipment**

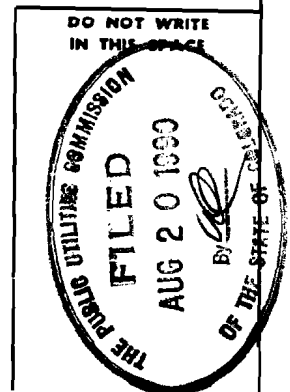
The qualifying facility owner shall install fused protection devices between major components of the equipment of the qualifying facility. Each qualifying facility owner shall install sufficient protective relaying equipment to confine the effects of faults, lightning strikes, or other abnormalities within the equipment of the qualifying facility and to protect the equipment of both the qualifying facility and the Association.

**5.15 Phasing**

The interconnections of the qualifying facility shall be at the present phasing available at the interconnection point unless the qualifying facility owner pays for the cost of any equipment to correct or modify circuit phasing at the point of interconnection. In the event that phase voltage unbalances greater than 7% (phase-phase), or phase power unbalances exceeding 15% from phase to phase are caused by the qualifying facility, the qualifying facility will modify its equipment to maintain phase loadings within 15% of each other at all times.

**5.16 Meters**

The Association will specify, supply, install, and maintain meters (at cost) suitable for the service rate schedule determined for the qualifying facility. The cost of such meters and their installation is an interconnection cost to be paid prior to interconnection. Costs for maintenance and calibration of the meters shall be paid by the qualifying facility owner as they are incurred and billed by the Association. Meter seals will be affixed by the Association and can be removed or reaffixed only by the Association. Service under this service schedule will be provided only while proper meter seals are installed and intact. The costs for specialized meter reading or data processing needed to provide service under the appropriate schedule shall be paid to the Association as they are incurred. Standard metering plans are shown in Exhibit 1.



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*James Boyd*  
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**5.17 Maintenance Schedule**

Prior to the interconnection of the qualifying facility, its owner shall file a planned maintenance schedule with the Association specifying the dates, times, means, and procedures planned. No interconnection will be allowed until the Association approves the proposed maintenance schedule.

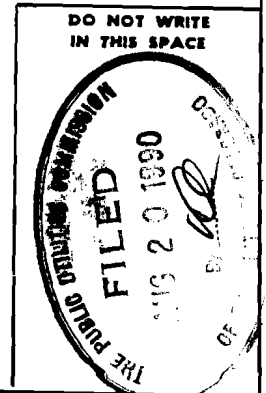
The Association may inspect the qualifying facility from time to time at the Association's convenience to insure compliance by the qualifying facility owner with the approved maintenance schedule and to verify proper operation of all protective equipment, including relays, circuit breakers at the interconnection, and tripping breakers at the protective relays.

If, from inspection, the Association finds that the qualifying facility owner has not complied with its maintenance schedule, has been reselling Association energy or capacity to the Association, or protective equipment is not operating properly, the Association may immediately disconnect the qualifying facility, or may give the qualifying facility a 30 day notice of disconnection.

All QF inspections, other than for safety reasons or to check for resale of Association power, energy, or both, shall be witnessed by the Association's and the qualifying facility's personnel at mutually agreeable times. However, Association inspections to determine whether the qualifying facility has been reselling Association energy or capacity to the Association, or for safety, may be accomplished without prior notice and without the presence of the QF owner. At an inspection to determine safety, or if the qualifying facility owner is reselling energy or capacity, the Association will invite the qualifying facility owner to witness the inspection, but such inspections may also be conducted without the presence of the qualifying facility owner should he or she decline to participate.

The qualifying facility owner shall maintain complete maintenance records, and the Association shall maintain complete inspection records. The qualifying facility owner and the Association shall provide copies of such records to the other party.

Any disconnection notice which the Association may issue shall specify the required maintenance to be performed, operational practices to be modified or terminated, and all repairs to be made to the protective equipment, prior to the impending disconnection. The qualifying facility owner shall perform the specified maintenance, modify or stop the stated dangerous operational practices, or repair the specified protective



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equipment, prior to the date of the proposed disconnection. Upon completion of all such maintenance, proof of modified or terminated operational practices, or protective equipment repairs, the qualifying facility owner shall notify the Association which shall reinspect the facility. If the Association finds compliance with the specified requirements, scheduled disconnection shall be cancelled. If the Association finds noncompliance with the specified requirements, the qualifying facility shall be disconnected as provided in the initial disconnection notice.

The Association and the qualifying facility owner may agree to a reasonable continuance of disconnection, or reconnection if the qualifying facility has been disconnected pursuant to these Rules and Regulations or if the Association determines that the qualifying facility is making bona fide efforts to perform the specified maintenance, modify or stop the specified operational practices, or repair the protective equipment. Where the qualifying facility owner has been served with notice of disconnection, or has been disconnected for reselling power, energy, or both to the Association, the agreement for reasonable continuance of disconnection or reconnection can be conditioned on the agreement of the qualifying facility owner to repay the Association for such resales.

**5.18 Qualifying Facility Generation Schedules**

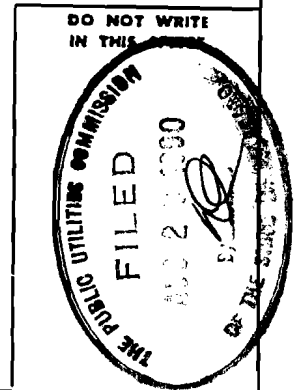
For all qualifying facilities other than those depending on intermittent sources of energy the QF owner shall file a planned generation schedule with the Association for its use in coordinating normal maintenance of the distribution facilities and for coordination with the Association's power supplier. This schedule shall be received by the Association prior to the qualifying facility's first interconnected operations.

**5.19 Siting of Qualifying Facility Equipment**

All QF equipment (including interconnection devices) shall be located such that the failure of any component will not cause abnormal or unsafe electrical contact with any of the Association's transmission, distribution, transformation, service drop, meters, or other utility equipment. The Association may inspect the qualifying facility equipment at any time to verify compliance with this requirement.

**5.20 Insurance**

The QF owner agrees, at no cost to the Association, to secure and maintain in effect during the life of this Agreement the following insurance to protect the QF owner and the Association during the performance of the qualifying facility operation hereunder:



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Comprehensive General Liability Insurance including Contractual Liability coverage for liability assumed by the QF owner in the amount of not less than \$1 million Combined Single Limit for Bodily Injury and Property Damage. Such liability insurance shall name the Association as additional insured and shall contain severability of interest or cross-liability clauses.

Property loss insurance in the amount of \$250,000 or greater.

Certificates of Insurance evidencing such coverages and provisions required above shall be furnished to the Association by the QF owner prior to the execution of this Agreement and shall provide that written notice be given to the Association at least thirty (30) days prior to cancellation or reduction of any coverage. The QF owner agrees to provide the Association with copies of renewals of the insurance coverage required hereunder. The Association shall have the right, but not the obligation, to inspect the original policies of such insurance.

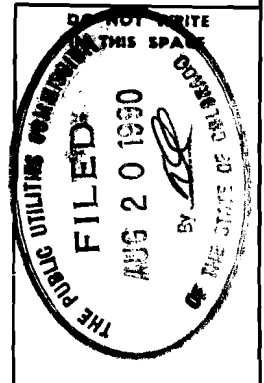
5.21 Indemnification

The QF owner shall indemnify and hold harmless the Association and its directors, officers, and employees or authorized agents from any and all liability, damages, costs, losses, claims, demand, action and causes of action, including attorney's fees and expenses for damage to the property of any person or entity, and liability arising from the death of or injury to any person or entity which is attributable in whole or in part, to the negligence or willful action of the QF owner in which directly or indirectly results from or arises out of or in connection with the operation of the qualifying facility operating in parallel with the Association's electrical systems.

5.22 Contract

The owner of the qualifying facility shall execute the standard Electric Service Agreement Contract prepared by the Association and applicable for electric service to qualifying facilities prior to interconnecting and receiving service under this schedule, and receiving payments for power, energy or both provided to the Association.

5.23 System Emergencies



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*James Boyd Jr.*  
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**5.23.1 Qualifying Facility Energy or Capacity During an Emergency**

The qualifying facility is required to provide power, energy, or both to the Association during a system emergency only to the extent:

- o Provided by agreement between the qualifying facility and the Association; or
- o Ordered under Section 202(c) of the Federal Power Act.

A system emergency means a condition on the Association's system which is likely to result in imminent significant disruption of service to customers or is imminently likely to endanger life or property.

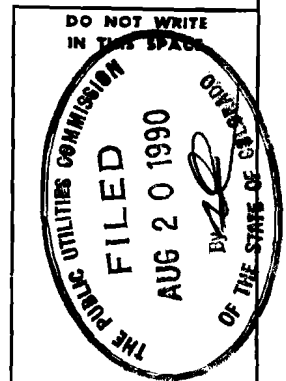
**5.23.2 Emergency Disconnections**

During any system emergency, as defined above, the Association may discontinue:

- o Purchases from a qualifying facility if such purchases would contribute to the emergency
- o Sales to the qualifying facility, if such sales would contribute to the emergency and provided that the discontinuance is on a nondiscriminatory basis

**5.23.3 Notification During Emergency Discontinuances**

Should a discontinuance of purchases or sales to the qualifying facility be necessary due to an emergency, the Association will use its best and reasonable efforts to notify the qualifying facility owner prior to the discontinuance. The qualifying facility owner shall be entitled to telephone notification under this rule only if a current telephone number is provided to the Association. The Association will also provide written notice of the emergency discontinuance no later than three business days subsequent to the termination of the emergency causing the discontinuance. The written notice shall describe the emergency, and its duration, and the reasons for the discontinuance. If the Association is unable to give telephone notice to the qualifying to the qualifying facility owner prior to the emergency discontinuance, the Association will notify the qualifying facility owner by telephone no later than the end of the next business day subsequent to the termination of the emergency, if the emergency occurs during after normal business hours. If the emergency is terminated during normal business hours, the Association will use its best efforts to notify the



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James Boyd Jr.  
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President  
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qualifying facility owner by telephone no later than 2 hours subsequent to the termination of the emergency.

Any qualifying facility owner discontinuing sales or purchases to the Association shall make reasonable efforts to notify the Association by telephone prior to such discontinuance. The written notification by the qualifying facility owner shall also be provided to the Association no later than 3 business days subsequent to the termination of the emergency causing the discontinuance.

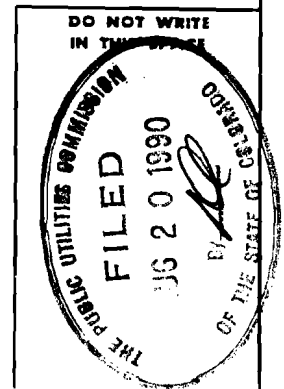
The written notice provided by the qualifying facility owner to the Association shall describe the emergency, its duration, and the reasons for discontinuance of operation. If the qualifying facility owner was unable to give prior telephone notice to the Association of such discontinuance, the qualifying facility owner shall notify the utility by telephone no later than 2 hours subsequent to the termination of the emergency during normal business hours, and by the end of and no later than one business day after the termination of the emergency, if the emergency occurs during outside of normal business hours.

5.23.4 Other Discontinuances

Prior to any other temporary discontinuance of purchases or sales, the Association or the qualifying facility owner shall notify the other party in the manner set forth in the paragraphs above. Such notification shall not be required if the discontinuance has been previously agreed upon by the parties, or is less than 15 minutes in duration. When discontinuances are 15 minutes or less, the Association or qualifying facility owner shall provide the information required above in this rule to the other party only upon written request.

In the process of restoring service during an unforeseen emergency due to, for example, acts of nature, vehicular accidents, or equipment failure, the Association may exercise its right to open the disconnect switch to the qualifying facility. If so, the Association will, to the best of its ability, notify the qualifying facility owner within 2 hours after the termination of the service discontinuance by telephone that the causes for the emergency have been remedied, and the Association will return its portion of the disconnect switch to the closed position.

In the event that the Association plans a service discontinuance of greater than 15 minutes in duration associated with scheduled maintenance, line improvements, construction, or other common utility operations, the Association will use its best efforts to advise all known qualifying facility owners in writing prior to the



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Signature of Issuing Officer: James Boyd Jr.

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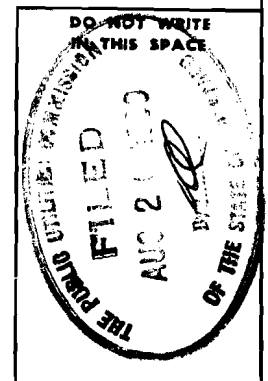
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discontinuance. Such notice shall include the expected duration of the discontinuance, the reasons therefore, and telephone number where a representative of the Association may be reached regarding status of the extended discontinuance. After service has been restored due to a foreseen or planned discontinuance of service, the Association will use its best efforts to advise all known qualifying facilities of service restoration within 2 hours of same, if the restoration occurs during normal business hours. For such scheduled discontinuances, the Association shall not be required to notify the known qualifying facility owners in writing of the restoration of service.



Advice Letter No. 778

James Boyd Jr  
Signature of Issuing Officer

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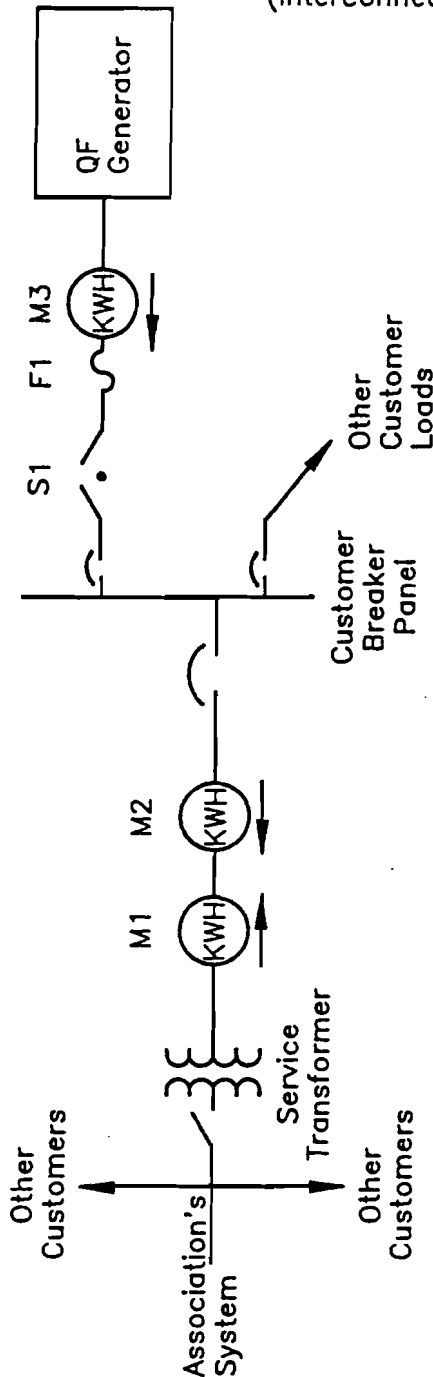
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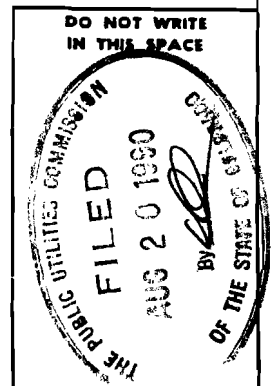
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RULES AND REGULATIONS
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EXHIBIT 1-A STANDARD METERING REQUIREMENT FOR QUALIFYING FACILITIES OF 100 KW OR LESS MAXIMUM GENERATING CAPACITY PROVIDING ENERGY ONLY (Interconnection at 600 Volts or Less)



M1, M2, M3: KWH (energy) meters with detents as indicated
S1: Accessible disconnect switch lockable by either party
F1: Fuse(s) at no more than 125% of maximum in-rush current



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Signature of Issuing Officer: James Boyd Jr.
Title: President

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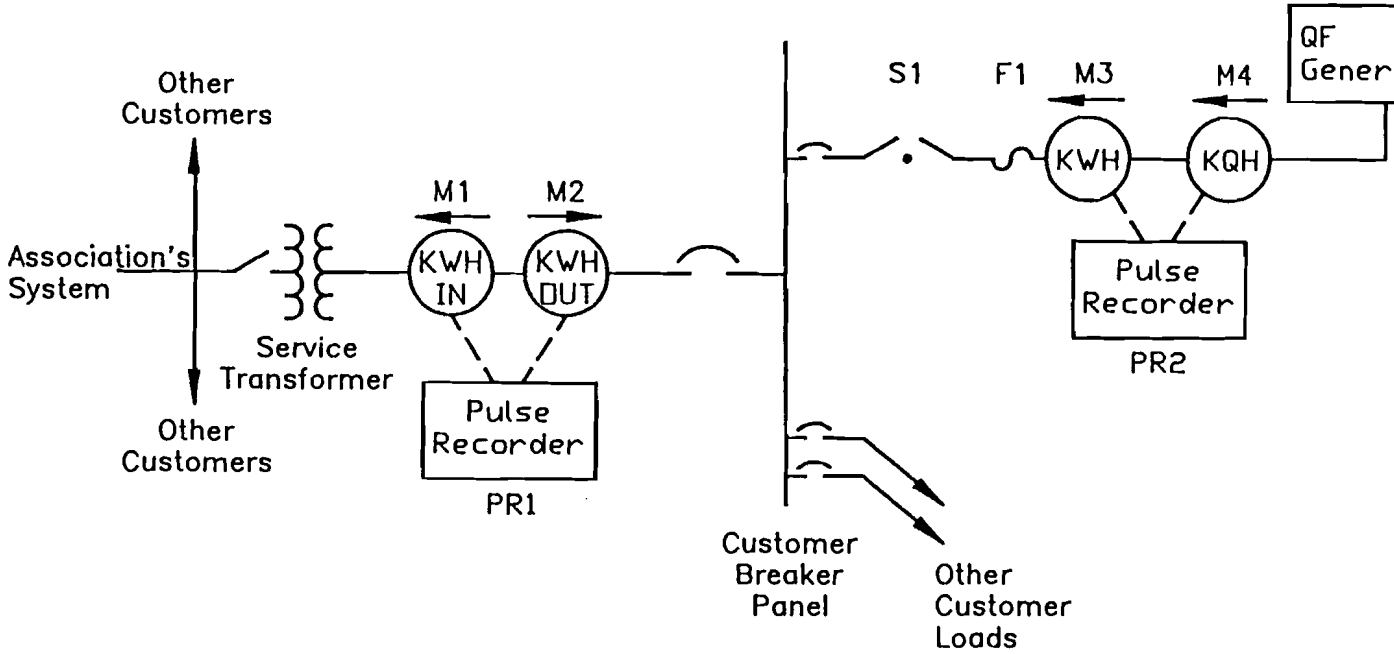
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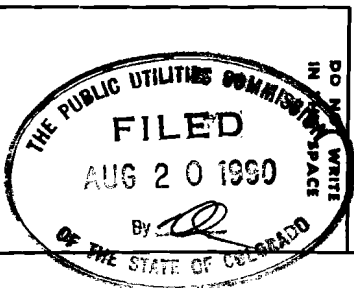
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**RULES AND REGULATIONS**  
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**EXHIBIT 1-B STANDARD METERING REQUIREMENT FOR QUALIFYING FACILITIES OF 100 KW OR LESS MAXIMUM GENERATING CAPACITY PROVIDING BOTH ENERGY AND POWER GENERATING CAPACITY**  
(Interconnection at 600 Volts or Less)



- M1, M2, M3: Detented KWH meters with pulse initiators and detents as indicated
- F1: Fuse(s) rated at no more than 125% of maximum in-rush current
- S1: Accessible disconnect switch lockable by either party
- M4: KQH meter for QF detented as shown
- PR1, PR2: Pulse recorders for monitoring supply, backfeed, and total QF production



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 Title: President  
 Issue Date: July 20, 1990  
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