

## Chapter PSC 113

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**PSC 113.01 Application of rules.** (1) All public utilities, whether privately or municipally owned or operated, in respect to the supply of electric energy and provision of electric service in this state, shall comply with and conform to rules set forth in this order except insofar as exception may be made by order of the commission as hereinafter mentioned.

(2) Nothing in this chapter of the Wisconsin Administrative Code shall preclude special and individual consideration being given to exceptional or unusual situations and upon due investigation of the facts and circumstances therein involved, the adoption of requirements as to individual utilities or services which shall be lesser, greater, other, or different than those provided in said rules.

**History:** 1-2-56;am. (2), Register, October, 1965, No. 118, eff. 11-1-65.

**PART I****MISCELLANEOUS SERVICE REQUIREMENTS**

**PSC 113.015 General requirement.** Every utility shall furnish reasonably adequate service and facilities at the rates filed with the commission and subject to these rules and the rules of the utility applicable thereto and not otherwise. The energy shall be generated, transmitted, converted, and distributed by the utility, and utilized, whether by the utility or the customer, in such manner as to obviate so far as reasonably practicable undesirable effects upon the operation of standard services or equipment of the utility, its customers, or other utilities or agencies.

**Note:** As used in these rules the terms "rules of the utility" or "utility's rules" means the rules of the utility on file with the commission.

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**PSC 113.03 Inspection of structures and equipment.** Each pole, post, tower, structure, conductor, or guy used for the support or attachment of electrical conductors or lamps owned or used by a utility shall be inspected with reasonable frequency and all major equipment shall be inspected periodically by the utility to determine its fitness for service and the necessity for replacement or repair.

**PSC 113.04 Servicing utilization control equipment.** (1) Utilities shall service and maintain any equipment they use on customers' premises and shall adjust thermostats, clocks, relays, or time switches, if such devices must be so adjusted to provide service in accordance with the rate provisions.

(2) The time switches used by the utility for controlling equipment such as water heaters, street lights, etc., shall be of such quality that the timing mechanism may be adjusted so as to be accurate within 10 minutes per month. Time switches used by the utility for controlling street lighting or display lighting shall be inspected or operation observed at least once each 3 months and if in error, adjusted, and also adjusted

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information to the utility. If no request for a deposit is made within this period, no deposit shall be required, except under the provisions of sub.

(4) (a). If a request for a deposit is made, the applicant must be given at least 20 days to provide payment, or guarantee, or to establish an installment payment agreement.

(d) The deposit of a commercial customer shall be refunded after 24 consecutive months of prompt payment. Payment is considered prompt if made prior to notice of disconnection for nonpayment not in dispute.

(4) EXISTING COMMERCIAL SERVICE. (a) An existing commercial customer may be required to furnish a deposit if the customer has not made prompt payment of all bills within the last 24 consecutive months.

(b) When the utility requests a deposit of an existing commercial customer, the customer shall have 20 days to provide the deposit, guarantee, or to establish an installment payment agreement.

(c) Refund of the deposit of an existing commercial customer shall be made in accordance with s. PSC 113.131 (3) (d).

(5) CONDITIONS OF DEPOSIT. The maximum deposit for a new commercial or residential account shall not exceed the highest estimated gross bill for any 2 consecutive billing periods selected by the utility.

The maximum deposit for an existing commercial or residential account shall not exceed the highest actual gross bill for any 2 consecutive months within the preceding 12 month review period as determined by the utility.

(6) INTEREST. Deposits for commercial or residential service shall bear interest of at least 8% payable from the date of deposit to the date of refund or discontinuance of service, whichever is earlier.

(7) REVIEW. The utility shall review the payment record of each residential utility customer with a deposit on file at 12-month intervals. The utility shall not require or continue to require a cash deposit unless a deposit is required under the provisions of s. PSC 113.131 (2).

(8) REFUND. Any deposit or portion thereof refunded to a commercial or residential customer shall be refunded by check unless both the customer and the utility agree to a credit on the regular billing, or unless sub. (9) applies.

(9) ACCRUED INTEREST. Upon termination of service, the deposit, with accrued interest, shall be credited to the final bill and the balance shall be returned promptly to the customer.

(10) WRITTEN EXPLANATION. A utility shall not require any commercial or residential customer to pay a deposit or establish a guarantee in lieu of deposit without explaining, in writing if requested, why that deposit is being required.

(11) REFUSAL OF SERVICE. Commercial or residential service may be refused or disconnected for failure to pay a deposit request subject to the rules pertaining to disconnection and refusal of service. (s. PSC 113.132).

(12) GUARANTEE TERMS AND CONDITIONS. (a) The utility may accept, in lieu of a cash deposit, a contract signed by a guarantor satisfactory to

the utility whereby payment of a specified sum not exceeding the cash deposit requirement is guaranteed. The term of such contract shall be for no longer than 2 years, but shall automatically terminate after the commercial or residential customer has closed its account with the utility, or at the guarantor's request upon 30 days' written notice to the utility.

(b) Upon termination of a guarantee contract or whenever the utility deems same insufficient as to amount of surety, a cash deposit or a new or additional guarantee may be required upon reasonable 20-day written notice to the customer. The service of any customer who fails to comply with these requirements may be disconnected upon 8 days' written notice, subject to sub. (13) for a residential customer or the establishment of an installment payment agreement for a commercial customer.

(c) The utility shall mail the guarantor copies of all disconnect notices sent to the customer whose account he has guaranteed unless the guarantor waives such notice in writing.

(13) DEFERRED PAYMENT. (a) In lieu of cash deposit or guarantee, an applicant for new residential service who has an outstanding account accrued within the last 6 years with the same utility shall have the right to receive service from that utility under a deferred payment agreement as defined in s. PSC 113.133 for the outstanding account.

(b) A commercial customer or applicant for commercial service of which a deposit is requested shall have the right to receive service under an installment payment agreement.

(14) APPLICABILITY. The rules in subs. (12) and (13) of this section are not applicable to deposits or guarantees made in connection with the financing of extensions or other equipment.

**History:** Emerg. cr. eff. 1-21-75; cr. Register, January, 1975, No. 229, eff. 2-1-75; am. (3) to (14), Register, November, 1980, No. 299, eff. 12-1-80.

**PSC 113.132 Disconnection and refusal of service.** (1) (a) In no circumstances will the cumulative time before notice of disconnection be less than 20 days after the date of issuance of the bill and an account may be deemed delinquent for the purpose of disconnection after such period has elapsed.

(b) At least 8 calendar days prior to disconnection, the utility shall give written disconnect notice upon a form which must be in the tariff of the utility filed with the public service commission and which conforms to the requirements of sub. (9) unless excepted elsewhere.

(c) When a customer, either directly or through the public service commission, disputes a disconnection notice the utility shall investigate any disputed issue and shall attempt to resolve that issue by negotiation. During this investigation and negotiation, utility service shall not be disconnected over this matter.

(d) If a disputed issue cannot be resolved pursuant to s. PSC 113.134 (1), the utility shall inform the customer of the right to contact the public service commission.

(2) Utility service may be disconnected for any of the following reasons, provided that if the commission declares a winter emergency to be in effect, there must be reasonable grounds to believe that such discon-

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nection will not, under the circumstances, endanger human health or life:

(a) Failure to pay a delinquent account or failure to comply with the terms of a deferred payment agreement. (See PSC 113.133).

(b) Violation of the utility's rules pertaining to the use of service in a manner which interferes with the service of others or to the operation of non-standard equipment, if the customer has first been notified and provided with reasonable opportunity to remedy the situation.

(c) Failure to comply with deposit or guarantee arrangements as specified in s. PSC 113.131.

(d) Diversion of service around the meter.

(e) Refusal or failure to permit authorized utility personnel to read the meter at least once every 6 months in order to determine actual usage. The six-month period begins with the date of the last meter reading.

(3) A public utility may disconnect utility service without notice where a dangerous condition exists for as long as the condition exists.

(4) Service may be denied to any customer for failure to comply with applicable requirements of this section, or of the utility's rules, or with s. 167.16, Stats.; or if the customer proposes to use a device that is not so designed that interference with communication and signal services is reasonably minimized.

(5) A utility is not required to furnish service under conditions requiring operation in parallel with generating equipment connected to the customer's system if such operation is hazardous or may interfere with its own operations or service to other customers or with service furnished by others. The utility may specify requirements as to connection and operation as a condition of rendering service under such circumstances.

(6) Utility service may not be disconnected or refused for any of the following reasons:

(a) Nonpayment of a delinquent account over 6 months old where collection efforts have not been made within that period of time unless the passage of additional time results from other provisions herein or from good faith negotiations or arrangements made with the customer.

(b) Delinquency in payment for service by a previous occupant of the premises to be served other than a member of the same household residing at the same premises.

(c) Failure to pay for merchandise or charges for non-utility service billed by the utility.

(d) Failure to pay for a different type or class of utility service.

(e) Failure to pay the account of another customer as guarantor thereof.

(f) Failure to pay charges arising from any underbilling occurring more than one year prior to the current billing and due to any misapplication of rates.

(g) Failure to pay charges arising from any underbilling occurring more than one year prior to the current billing and due to any faulty metering.

(h) Failure to pay an estimated bill other than a bill rendered pursuant to an approved bimonthly meter reading plan, unless the customer upon request refuses to permit the reading of the meter during normal business hours.

(7) A utility shall not disconnect any residential service without notifying the county department of health and social services at least 5 calendar days prior to the scheduled disconnection, if the customer or responsible person has made a written request for this procedure to the utility. The customer shall be apprised of this right upon application for service.

(8) Notwithstanding any other provision of this section, a utility may not disconnect service to a residential customer if disconnection will aggravate an existing medical emergency of the customer, a member of his family or other permanent resident of the premises where service is rendered and if the customer conforms to the procedures described in par. (a) below.

(a) A utility shall postpone the disconnection of service for 21 days to enable the customer to arrange for payment, if the customer produces a licensed Wisconsin physician's statement or notice from a public health or social services official which identifies the medical emergency and specifies the period of time during which disconnection will aggravate the circumstances. The postponement may be extended once by renewal of the certificate or notice. No further extension of time shall be granted except upon a showing by the customer of the existence of extraordinary circumstances and further that he has exercised due diligence in meeting the emergency as evidenced in part by close and continuous communication with the utility.

(b) During the period service is continued under the provisions of this subsection, the customer shall be responsible for the cost of residential utility service. However, no action to disconnect that service will be undertaken until expiration of the period of continued service.

(c) If there is a dispute concerning an alleged existing medical emergency, either party shall have the right to an informal review by the public service commission staff. Pending a decision after informal review, residential utility service shall be continued provided that the resident has submitted a statement or notice as set forth in par. (a) of this subsection.

(9) (a) A utility shall not disconnect service unless written notice by first class mail is sent to the customer or personally served at least 8 calendar days prior to the first date of the proposed disconnection. Notice shall be sent to the account name and address, and to the address where service is provided, if different. If disconnection is not accomplished on or before the 15th day after the first notice date, a subsequent notice must be left on the premises not less than 24 hours nor more than 48 hours prior to disconnection.

(b) The utility shall make a reasonable effort to have a personal or telephone contact with the customer prior to disconnection.



(c) Disconnection notice shall be given upon a form approved by the commission, and shall contain the following information:

1. The name and address of the customer and the address of the service, if different.

2. A statement of the reason (s) for the proposed disconnection of service and that disconnection will occur if the account is not paid, or if arrangement is not made to pay the account under deferred agreement, or if other suitable arrangements are not made, or if equipment changes are not made. If disconnection of service is to be made for default on a deferred payment agreement, the notice shall include an explanation of the acts of the customer which are considered to constitute default.

3. A statement that the customer should communicate immediately upon receipt of the notice with the utility's designated office, listing a telephone number, if he disputes the notice of delinquent account, if he wishes to negotiate a deferred payment agreement as an alternative to disconnection, if any resident is seriously ill, or if there are other extenuating circumstances.

4. A statement that residential utility service will be continued for up to 21 days during serious illness if the account holder submits a statement or notice pursuant to sub. (8).

5. A statement that the customer may appeal to the public service commission staff in the event that the grounds for the proposed disconnection or the amount of any disagreement remains in dispute after the customer has pursued the available remedies with the utility.

(10) (a) Service shall not be disconnected on a day, or on a day immediately preceding a day, when the business offices of the utility are not available to the public for the purpose of transacting all business matters unless the utility provides personnel which are readily available to the customer 24 hours per day to evaluate, negotiate or otherwise consider the customer's objection to the disconnection as provided under s. PSC 113.134, and proper service personnel are readily available to restore service 24 hours per day.

(b) If a residential service which has been disconnected has not been restored to service within 24 hours after the time of the disconnection, the utility shall inform the local law enforcement department of the billing name and the service address and that threat to health and life might exist to persons occupying the premises.

**History:** Emerg. cr. eff. 1-21-75; cr. Register, January, 1975, No. 229, eff. 2-1-75; am. (1) (a) and (6) (a), Register, December, 1975, No. 240, eff. 1-1-76; emerg. am. (2) (a), eff. 1-19-76; emerg. am. (2), eff. 12-6-77; am. (2) (intro.), Register, March, 1979, No. 279, eff. 4-1-79; emerg. cr. (11), eff. 12-17-81; cr. (2) (e), Register, September, 1982, No. 321, eff. 10-1-82.

**PSC 113.133 Deferred payment agreement.** The utility is required to offer deferred payment agreements only to residential accounts.

(1) Every deferred payment agreement entered into due to the customer's inability to pay the outstanding bill in full shall provide that service will not be discontinued if the customer pays a reasonable amount of the outstanding bill and agrees to pay a reasonable portion of the remaining outstanding balance in installments until the bill is paid.

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(2) For purposes of determining reasonableness under these rules the parties shall consider the:

- (a) Size of the delinquent account.
- (b) Customer's ability to pay.
- (c) Customer's payment history.
- (d) Time that the debt has been outstanding.
- (e) Reasons why debt has been outstanding.
- (f) Any other relevant factors concerning the circumstances of the customer.

(3) A deferred payment agreement offered by a utility shall state immediately preceding the space provided for the customer's signature and in bold face print at least 2 typesizes larger than any other used thereon, that "IF YOU ARE NOT SATISFIED WITH THIS AGREEMENT, DO NOT SIGN. YOU HAVE THE RIGHT TO MAKE A COUNTER OFFER AND, IF IT IS REJECTED, YOU HAVE THE RIGHT TO APPEAL THIS PROPOSED AGREEMENT TO THE PUBLIC SERVICE COMMISSION OF WISCONSIN, DURING WHICH TIME THE UTILITY MAY NOT DISCONNECT YOUR SERVICE. THIS DOES NOT RELIEVE YOU FROM THE OBLIGATION TO PAY BILLS THAT ARE INCURRED AFTER COMMENCEMENT OF DISPUTE PROCEDURES. IF YOU DO SIGN THIS AGREEMENT YOU GIVE UP YOUR RIGHT TO DISPUTE THE AMOUNT DUE UNDER THE AGREEMENT EXCEPT FOR THE UTILITY'S FAILURE OR REFUSAL TO FOLLOW THE TERMS OF THIS AGREEMENT."

(4) A deferred payment agreement shall not include a finance charge.

(5) If an applicant for utility service has not fulfilled terms of a deferred payment agreement, the utility shall have the right to disconnect pursuant to disconnection of service rules (PSC 113.132) and under such circumstances it shall not be required to offer subsequent negotiation of a deferred payment agreement prior to disconnection.

(6) Payments made by a customer in compliance with a deferred payment agreement shall first be considered made in payment of the previous account balance with any remainder credited to the current bill.

(7) If a deferred payment agreement cannot be reached, and if the customer's proposed deferred payment agreement is unacceptable to the utility, the utility shall inform the customer in writing why the customer's offer was not acceptable.

**History:** Emerg. cr. eff. 1-21-76; cr. Register, January, 1976, No. 229, eff. 2-1-76; am. (3) and (6), cr. (7), Register, March, 1979, No. 279, eff. 4-1-79.

**PSC 113.134 Dispute procedures.** (1) Whenever the customer disputes the utility's request for a deposit or other guarantee, or advises the utility's designated office that all or any part of any billing as rendered is in dispute, or that any matter related to the disconnection or refusal of service is in dispute, the utility shall:

- (a) Investigate the dispute promptly and completely.

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- (b) Advise the customer of the results of the investigation.
- (c) Attempt to resolve the dispute.
- (d) Provide the opportunity for the customer to enter into a deferred payment agreement when applicable in order to settle the dispute.

(2) After the customer has pursued the available remedies with the utility, he may request that the public service commission staff informally review the disputed issue and recommend terms of settlement.

(a) A request for informal review may be made in any reasonable manner such as by written notice or telephoned request directed to the public service commission. By telephone or written notice the public service commission staff may request the utility to investigate the dispute.

(b) There must be at least 5 days between the date the commission staff telephones or mails written notice of terms of settlement after informal review, and any subsequent disconnection.

(3) Any party to the dispute after informal review may make a written request for a formal review by the commission. Such request must be made within 5 days of the date the commission staff telephones or mails written notice of terms of settlement after informal review. If written confirmation of the staff telephone notice is requested and mailed, the 5 day period begins from the date of that mailing.

(a) Within 10 days from the time such a request is made, the commission shall decide on the basis of the information it has received from the staff whether to hold hearing on the matter and shall inform both parties of its decision.

(b) If the commission decides to conduct formal hearing on the dispute, the customer shall be required to pay 50% of the bill or deposit in dispute to the utility or post bond for that amount on or before date of hearing. Such payment or bond may be waived by the commission for good cause shown. Failure to pay the specified amount before hearing will constitute waiver by the customer.

(c) Such a hearing shall conform to the procedures described in ss. 196.26 to 196.34, Stats.

(d) Any such hearing shall be held not less than 10 days following a notice of hearing and a decision thereon shall be rendered following the conclusion of the hearing.

(4) Utility service shall not be disconnected or refused because of any disputed matter while the disputed matter is being pursued in accordance with the provisions of this section. In no way does this relieve the customer from obligation of paying charges which are not in dispute.

**History:** Emerg. cr. eff. 1-21-75; cr. Register, January, 1975, No. 229, eff. 2-1-75; am. (1), (3) (b) and (4), Register, December, 1975, No. 240, eff. 1-1-76; am. (1), Register, March, 1979, No. 278, eff. 4-1-79; emerg. am. (2) (a) and (b) and (3), eff. 12-17-81; am. (2) (a) and (b) and (3), Register, July, 1982, No. 319, eff. 8-1-82.

**PSC 113.14 Limiting connected load.** If the utility maintains a rate based on connected load, provision shall be made in its rules whereby the customer may arrange his load or wiring in such manner as is reasonably acceptable to the utility, whether by the use of double-throw switches or such other devices as may be approved by the utility, so that

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only a portion of the load may be served at one time and whereby, in such cases, the connected load to be used for the computation of charges shall be the largest load which can be served at any one time.

### PART III

#### CHARGES AND BILLING

**PSC 113.15 Meter readings and billing periods.** Readings of all meters used for determining charges to customers shall be scheduled monthly, bimonthly, quarterly, or semiannually. An effort shall be made to read meters on corresponding days of each meter-reading period. The meter-reading date may be advanced or postponed not more than 5 days without adjustment of the billing for the period. Bills for service shall be rendered within 40 days from the reading of the meter except as may be otherwise specifically authorized by the commission. The utility may permit the customer to supply the meter readings on a form supplied by the utility, provided a utility representative reads the meter at least once each 6 months and when there is a change of customer. The utility shall make reasonable efforts to read the meters of customers who cannot be available during normal business hours.

**History:** 1-2-56; am. Register, September, 1982, No. 321, eff. 10-1-82.

**PSC 113.16 Billing.** (1) (a) Each bill, including the customer's receipt, provided by the following investor-owned utilities:

Lake Superior District Power Company  
Madison Gas and Electric Company  
Northern States Power Company  
Superior Water, Light and Power Company  
Wisconsin Electric Power Company  
Wisconsin Power and Light Company  
Wisconsin Public Service Corporation

shall show for each meter the following information:

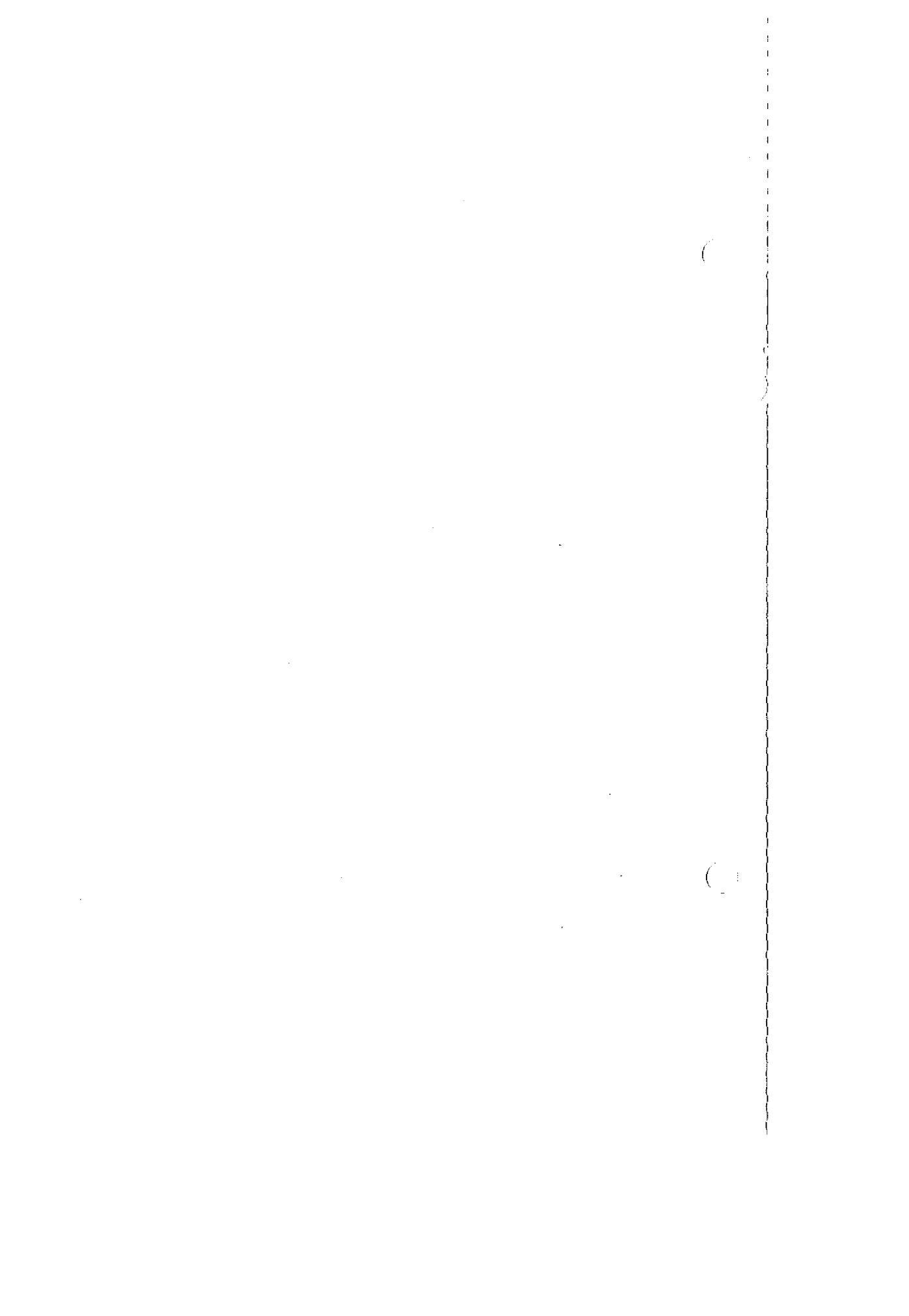
1. The customer name, billing address and service address (if different from the billing address).
2. For residential customers in multi-unit buildings, current meter identification information or number and account number.
3. The present and last preceding meter readings.
4. The present and last preceding meter reading dates.
5. The next scheduled meter reading date.
6. The number of days in the billing period.
7. The number of units consumed.
8. The class of service with clear explanation of codes and abbreviations.

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9. The rate schedule under which the bill is calculated including the itemized calculations of the rate schedule component including, but not limited to, such items as customer charge, energy blocks, demand charges, minimum bills, and all other billing factors necessary for the customer to check the calculation of the bill.

10. Clear itemized adjustment clause bill calculation.

11. Amount subject to tax, tax rate, and tax billed.



## PART VI

## GENERAL METERING REQUIREMENTS

**PSC 113.30 Measuring energy on system.** Where practical to do so, all electrical quantities required to be reported to the commission shall be metered. Quantities may be calculated when permitted by s. PSC 113.31.

**PSC 113.31 Measuring customer service.** All energy sold to customers shall be measured by commercially acceptable measuring devices owned and maintained by the utility, except where it is impracticable to meter loads, such as certain highway or area lighting, which may be billed at a flat rate based on lamp size and calculated consumption, or temporary or special installations in which case the consumptions may be calculated.

All other electrical quantities which the rates or utility's rules indicate are to be metered shall be metered by commercially acceptable instruments owned and maintained by the utility.

**History:** 1-2-56; am. Register, February, 1978, No. 266, eff. 3-1-78.

**PSC 113.315 Individual electric meters required for non-transient multi-dwelling unit residential buildings, mobile home parks, and for commercial establishments.** (1) Each dwelling and commercial unit in a multi-dwelling unit residential building, mobile home park and commercial building constructed after March 1, 1980 shall have installed a separate electric meter for each such dwelling or commercial unit. Dwelling unit means a structure or that part of a structure which is used to or intended to be used as a home, residence or a sleeping place by one or more persons maintaining a common household, and shall exclude transient multi-dwelling buildings and mobile home parks; for example, hotels, motels, campgrounds, hospitals, nursing homes, convalescent homes, college dormitories, fraternities, and sororities.

(2) For the purpose of carrying out the provisions of sub. (1), individual unit metering will not be required:

(a) Where commercial unit space requirements are subject to alteration with change in tenants as evidenced by temporary versus permanent type of wall construction separating the commercial unit spaces.

(b) For electricity used in central heating, ventilating and air conditioning systems.

(c) For electric back-up service to storage heating and cooling systems or when alternative renewable energy resources are utilized in connection with central heating ventilating and air conditioning systems.

**History:** Cr. Register, April, 1980, No. 292, eff. 5-1-80.

**PSC 113.32 One-point metering.** Every reasonable effort shall be made to measure at one point all the electrical quantities necessary for billing a customer under a given rate.

**History:** 1-2-56; am. Register, February, 1978, No. 266, eff. 3-1-78.

**PSC 113.33 Metering at point of interchange and for customers' operating generating equipment.** (1) Metering facilities located at

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any point where energy may flow in either direction and where the quantities measured are used for billing purposes shall consist of meters equipped with ratchets or other device to prevent reverse registration and be so connected as to meter separately energy flow in each direction. Reverse meter registration is permitted for installations with customer-owned generators served under a net billing energy rate through one meter in accordance with s. PSC 113.73.

(2) Reactive metering shall not be employed for determining average power factor where energy may flow in either direction or where customer may generate an appreciable amount of his requirements at any time unless suitable directional relays and ratchets are installed to obtain correct registration under all conditions of operation and unless the general plan of installation is approved by the commission.

**History:** 1-2-56; am. (1), Register, September, 1982, No. 321, eff. 10-1-82.

**PSC 113.34 Type of instruments.** All electric service of the same type rendered under the same rate schedule shall be metered with instruments having like characteristics, except that the commission may approve the use of instruments of different types if their use does not result in unreasonable discrimination. Either all of the reactive meters which may run backwards or none of the reactive meters used for measuring reactive power under one schedule shall be ratcheted.

**PSC 113.35 Multipliers and test constants.** (1) Meters which are not direct reading shall have the multiplier plainly marked on the dial of the instrument or otherwise suitably marked and all charts taken from recording meters shall be marked with the date of the record, the meter number, customer, and chart multiplier.

(2) The register ratio shall be marked on all meter registers.

(3) The watt-hour constant for the meter itself shall be placed on *each* watt-hour meter.

**History:** 1-2-56; am. Register, February, 1978, No. 266, eff. 3-1-78.

**PSC 113.36 Meter compensation.** (1) Metering equipment shall not be set "fast" or "slow" to compensate for supply transformer or line losses.

(2) Loss compensators designed to be used with meters and which accurately add iron and/or copper losses may be used. The compensator shall carry a tag identifying the compensation and shall be tested when the associated meter is tested and when the associated supply equipment or lines are changed.

**History:** 1-2-56; renum. to be (1) and cr. (2), Register, October, 1965, No. 118, eff. 11-1-65.

**PSC 113.37 Sealing meters and service entrance equipment.** (1) Meters and metering equipment enclosures which if open would permit access to live parts from which energy could be used without proper measurement, and utility-owned devices and equipment located on a customer's property for the control of his load shall be sealed.

(2) Where the entrance switch is combined with meter-test facilities, or is installed on the supply side of the meter, the entrance switch boxes may be sealed by the utility. The customer may remove the seal from

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any fuse compartment to replace fuses if the utility is promptly notified that such seal has been broken.

(3) Where a utility supplies different classes of service at different rates to the same premises, such as lighting service and electric water heating service, the utility may seal the service switches.

(4) Sealing and resealing shall be without charge to the customer.

(5) This rule shall not require modernization of old installations or the sealing of installations which cannot practicably be sealed. Sealing shall not be such as to interfere with the operation of any switch or protective equipment.

History: 1-2-56; am. (1), Register, February, 1978, No. 266, eff. 3-1-78.

**PSC 113.38 Installation of metering equipment.** (1) The customer or his agent should confer with the utility as one of the first steps in planning an electrical installation. The watt-hour meter should be located where it will be readily accessible for reading, testing and repairs and where it will not be subjected to adverse operating conditions or cause inconveniences to the customer. Normally, the utility shall determine the location and type of metering equipment to be installed.

(2) The utility should have available for distribution to customers, architects, contractors and electricians copies of rules, specifications and requirements that may be in force relative to meter installations. Installations should conform to such specifications and to applicable codes and safety requirements.

(3) Whether installed indoors or outdoors, meters should not be located where they will be subject to vibration or mechanical damage and should be mounted without tilt.

(4) Meters and associated equipment used on outdoor installations shall be designed specifically for such use or shall be suitably housed for outdoor service. Meters installed outdoors should not be located where they may be damaged, such as on buildings where unguarded meters will extend into alleys, walkways or driveways.

(5) Meters installed outdoors should not be more than 6 feet or less than 4 feet above final ground level (measured from the center of the meter cover) except in the case of meters on pedestals or pad-mounted transformers where they shall be placed as high as practicable, and meters on underground services which may, when practicable, be placed as low as 2½ feet above final ground level (measured from the center of the meter cover). On individual installations indoors the meter should be not more than 6 feet or less than 4 feet above floor level (measured from the center of the meter cover). On group installations of meters indoors no meter should be more than 6 feet or less than 2 feet above floor level (measured from the meter cover). When a number of meters are placed on the same meter panel the distance between centers should be not less than 8½ inches vertically or 7½ inches horizontally. For meters installed both indoors and outdoors there should be a minimum of 3 feet of unobstructed space in front of the meter from the surface on which it is mounted.

(6) When there is more than one meter at a location, each shall be so tagged or marked as to indicate the circuit metered. Where similar types

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of meters record different quantities (for example, kilowatt-hours and reactive power) the meters shall be tagged to indicate what they are recording.

(7) Test facilities shall be placed in enclosures of sufficient size and of such construction as to make it possible for meter testers to perform the tests required by these rules with safety.

*History:* 1-2-66; am. (1) (c), Register, October, 1965, No. 118, eff. 11-1-65; r. and recr. Register, February, 1978, No. 266, eff. 3-1-78.

**PSC 113.39 Rental charge for metering equipment.** The utility may charge a rental for equipment installed to furnish additional metering information to a customer for his use or because of governmental requirements.

## PART VII

## ACCURACY OF METERS AND AUXILIARY DEVICES

**PSC 113.40 Accuracy of watthour meters.** (1) Watthour meters used for measuring electrical quantities supplied to customers shall:

(a) Be of proper design for the circuit on which they are used, be properly connected and installed, be in good mechanical condition, have adequate insulation, correct internal connections, and correct register.

(b) Not creep at "no load" a full revolution of the disk in 10 minutes or less when the load wires are disconnected and potential is impressed or in a test in the shop where the load wires are disconnected and the permissible voltage variation impressed. If the rate of creep can be determined in a shorter interval, it is not necessary to wait the full 10-minute period.

(c) If they are designed for use on alternating current circuits, be accurate to within plus or minus 1.0% at 2 unity power factor loads, one equal to approximately 10% and the other approximately 100% (plus or minus 10%) of the reference test current; and shall register correctly within 2.0% plus or minus at a power factor of approximately 50% lagging and at a load between 75% and 100% of the reference test current of the meter. For self-contained meters the reference test current shall be the ampere or test ampere rating of the meter, whichever is shown on the nameplate. For meters used with current transformers the reference test current shall be the test-ampere rating of the meter or the secondary rating of the current transformers.

*Note:* See s. PSC 113.73 (2) for accuracy requirements for meters operating in the reverse-registration mode.

(2) Polyphase meters shall have their stators in balance within 2% at 100% load at unity and at approximately 50% lagging power factor.

(3) Meters used with instrument transformers shall be adjusted, if necessary, so that the overall accuracy of the metering installation will meet the requirements of this rule.

(4) Prepayment meters shall be maintained at the same accuracy and read at the same periods as regular meters.

*History:* 1-2-66; am. (1) (a), (b), (c), (d) and (2), Register, October 1965, No. 118, eff. 11-1-65; am. (1) (c) and (3), r. (1) (d), Register, February, 1978, No. 266, eff. 3-1-78.

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**PSC 113.41 Accuracy of demand meters.** (1) A demand meter, demand register, or demand attachment used to measure customer's service shall:

- (a) Be in good mechanical and electrical condition.
- (b) Have proper constants, indicating scale, contact device, and resetting device.
- (c) Not register at no load.
- (d) Be accurate to the following degrees:

1. Curve drawing meters which record quantity time curves, and integrated-demand meters shall be accurate to within plus or minus 2.0% of full scale throughout their working range. Timing elements measuring specific demand intervals shall be accurate to within plus or minus 2.0% and the timing elements which serve to provide a record of the time of day when the demand occurs shall be accurate to within plus or minus 4 minutes in 24 hours.

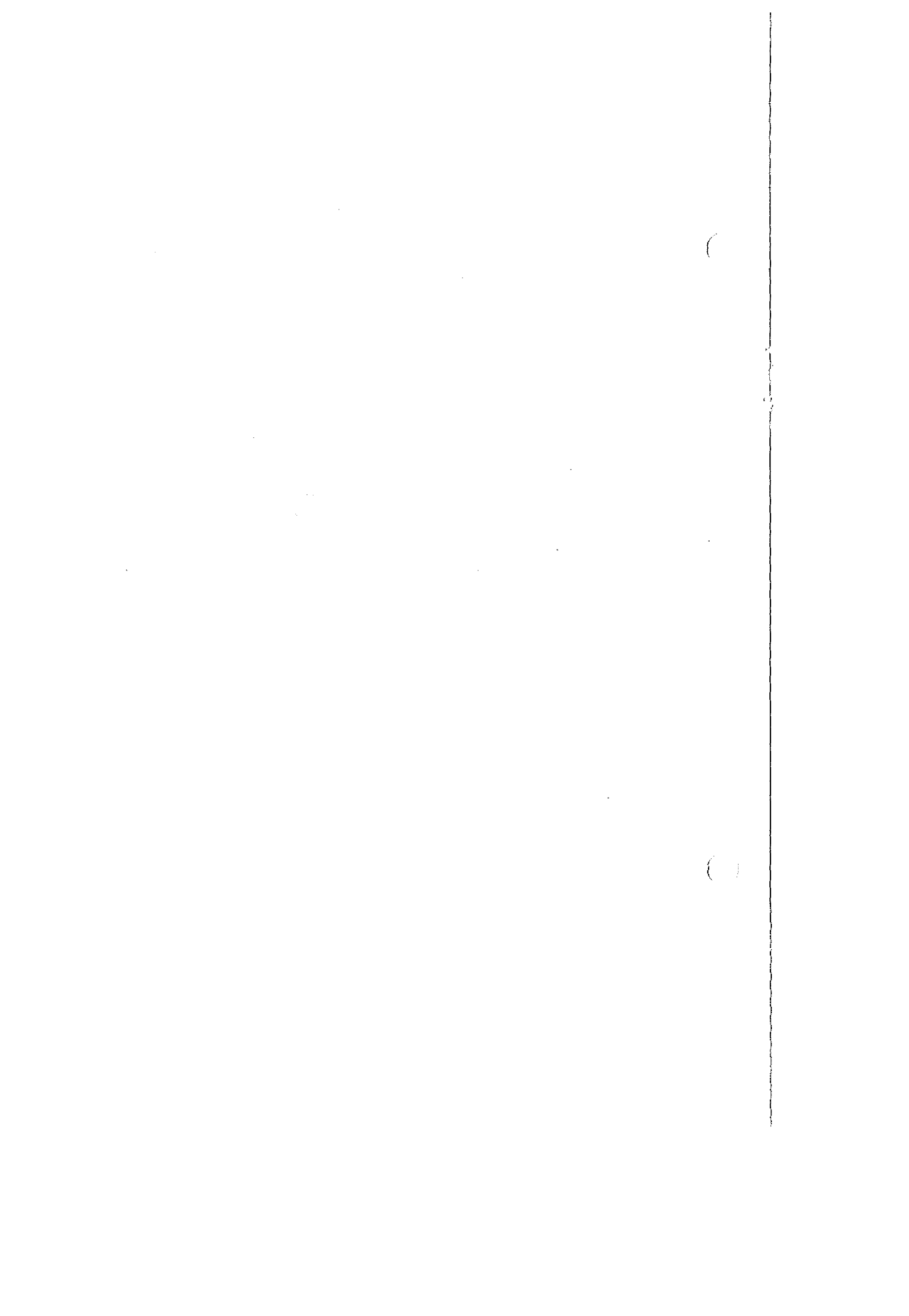
2. Lagged-demand meters shall be accurate to within plus or minus 4% of full scale at final indication.

(2) The overall accuracy of demand metering installations utilizing pulse-initiator and pulse-recorder equipment shall be acceptable when the monthly kilowatt-hours calculated from the pulse count do not differ from the corresponding kilowatt-hour meter registrations by more than the kilowatt-hour constant of the meter, or 2%, whichever is greater. The timing element error shall not be more than plus or minus 4 minutes per day.

(3) When a timing element also serves to keep a record of the time of day at which the demand occurs, it shall be corrected if it is found to be in error by more than plus or minus 4 minutes per day.

**History:** 1-2-56; cr. (2) and (3), Register, February, 1978, No. 266, eff. 3-1-78.

**PSC 113.42 Requirements as to instrument transformers.** (1) Instrument transformers used in conjunction with metering equipment to measure customers' service shall:



**PART X****AUXILIARY METERING DEVICES**

**PSC 113.60 Phase-shifting transformers.** (1) For phase-shifting transformers in service, all terminal connections shall be in such condition as to provide good electrical contact and the terminal designations shall be clearly visible. Where there is evidence of physical damage or evidence of thermal overload the unit shall be replaced.

(2) Phase-shifting transformers shall be tested on the same schedule and at the same time as the meters with which they are associated. The test shall consist of a single-phase test to be performed as follows: With the approximate rated voltage applied to the input terminals and no burdens connected to the tap terminals all tap voltages, converted to percentage of input voltage, shall agree within plus or minus 2.0% of the theoretical values given in the manufacturer's published data.

(3) In addition, all units shall be tested before use and when returned to the utility's meter laboratory. For these tests the output-voltage values in terms of percentage of input voltage and under the conditions of (2) immediately above shall agree within plus or minus 1.0%.

*History:* Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**PSC 113.61 Transformer-loss compensators.** (1) For transformer-loss compensators in service all terminal connections shall be in such condition as to provide good electrical contact and the terminal designations shall be clearly visible. Where there is evidence of physical damage to the component parts, their adjustments, or to the internal wiring or evidence of thermal overload on the insulation, resistors, terminals, etc., the affected parts shall be replaced or the entire transformer-loss compensator replaced.

(2) Transformer-loss compensators shall be tested on the same schedule and at the same time as the meters with which they are associated.

(3) The tests shall be made at the normal service test points of the meter. Performance deviations from desired performance shall not exceed plus or minus 0.3%.

*History:* Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**PART XI****RULES FOR INTERCONNECTION OF SMALL CUSTOMER-OWNED GENERATION WITH UTILITY SYSTEM FACILITIES**

**PSC 113.70 Requirements for utility rules for interconnection of small customer-owned generation facilities with the utility system.** Each utility shall file with the commission services rules to ensure that interconnected customer-owned generation facilities are installed in a manner consistent with public and employee safety, adequate service to other customers and to ensure avoidance of communication interference problems. Requirements for the service rules follow:

(1) Interconnection of a generating facility with the utility system shall not be permitted until application has been made to and approval received from the electric utility. The utility may withhold approval only for good reason such as failure to comply with applicable utility or

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governmental rules or laws. The utility shall require a contract specifying reasonable technical connection and operating aspects for the parallel generating facility.

(2) The utility may require that for each generating facility there be provided between the generator or generators and the utility system a lockable load-break disconnect switch. For installations interconnected at greater than 600 volts a fused cutout switch may be substituted, where practicable. The switches shall be accessible to the utility for the purpose of isolating the parallel generating facility from the utility system when necessary.

(3) The utility shall require a separate distribution transformer for a customer having a generating facility where necessary, for reasons of public or employee safety or where the potential exists for the generating facility causing problems with the service of other customers. Ordinarily this requirement should not be necessary for an induction-type generator with a capacity of 5 kW or less, or other generating units of 10 kW or less that utilize line-commutated inverters.

(4) Where necessary, to avoid the potential for a facility causing problems with the service of other customers, the utility should limit the capacity and operating characteristics of single-phase generators in a manner consistent with its existing limitations for single-phase motors. Ordinarily single-phase generators should be limited to a capacity of 10 kW or less.

(5) The utility shall require that each generating facility have a system for automatically isolating the generator from the utility's system upon loss of the utility supply, unless the utility desires that the local generation be continued to supply isolated load. For synchronous and induction generators such protection against continued operation when isolated from the utility system will ordinarily consist of overcurrent protection, fuse or circuit breaker, plus a voltage or frequency controlled contactor which would automatically disconnect the unit whenever its output voltage or frequency drifted outside predetermined limits, such as plus or minus 10% of the rated values. Other suitable protective systems against abnormal voltages or frequencies may be accepted by the utility.

(6) The utility shall require that the customer discontinue parallel generation operation when it so requests and the utility may isolate the generating installation from its system at times:

1. When considered necessary to facilitate maintenance or repair of utility facilities.

2. When considered necessary during system emergencies.

3. When considered necessary during such times as the generating facility is operating in a hazardous manner, or is operating such that it adversely affects service to other customers or to nearby communication systems or circuits.

(7) The owner of the generating facility shall be required to make the equipment available and permit entry upon the property by electric and communication utility personnel at reasonable times for the purposes of testing isolation and protective equipment, and evaluating the quality of power delivered to the utility's system; and testing to determine whether

the local generating facility is the source of any electric service or communication systems problems.

(8) The power output of the generating facility shall be maintained such that frequency and voltage are compatible with normal utility service and do not cause that utility service to fall outside the prescribed limits of commission rules and other standard limitations.

(9) The generating facility shall be operated so that variations from acceptable voltage levels and other service impairing disturbances do not result in adverse effects on the service or equipment of other customers, and in a manner which does not produce undesirable levels of harmonics in the utility power supply.

(10) The owner of the generating facility shall be responsible for providing protection for the owner's installed equipment and for adhering to all applicable national, state and local codes. The design and configuration of certain generating equipment such as that utilizing line-commutated inverters sometimes requires an isolation transformer as part of the generating installation for safety and for protection of the generating facilities.

**History:** Cr. Register, September, 1982, No. 321, eff. 10-1-82.

**PSC 113.71 Right to appeal.** The owner of a generating facility interconnected or proposed to be interconnected with a utility system may appeal to the commission should any requirement of the utility service rules filed in accordance with the provisions of PSC 113.70 be considered to be excessive or unreasonable. Such appeal will be reviewed and the customer notified of the commission's determination.

**History:** Cr. Register, September, 1982, No. 321, eff. 10-1-82.

**PSC 113.72 Notice to communication firms.** Each electric utility shall notify telephone utility and cable television firms in the area when it knows that customer-owned generating facility is to be interconnected with its system. This notification shall be as early as practicable to permit coordinated analysis and testing in advance of interconnection, if considered necessary by the electric or telephone utility or cable television firm.

**History:** Cr. Register, September, 1982, No. 321, eff. 10-1-82.

**PSC 113.73 Metering with one meter for net energy billing.** (1) A single watthour meter may be used for net energy billing where reverse meter registration is intended to occur during reverse power flow through the meter and where the service is rendered under an authorized net-energy billing tariff.

(2) When the meter is operating in the reverse registration mode it shall be accurate within plus or minus 2.0% at 2 unity power factor loads, one equal to 10% and the other 100% of the test ampere rating of the meter. A test to determine compliance with this accuracy requirement shall be made by the utility either before or at the time the customer-owned generator is placed in operation in accordance with utility rules. Subsequent tests for accuracy in the reverse registration mode are required only when requested by the customer and shall be at customer cost.

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(3) Each utility shall maintain a record of the reverse-registration tests required in sub. (2) but for such tests the utility is not required to comply with ss. PSC 113.23, 113.50, 113.51, and 113.515 with respect to meter testing or meter records.

**History:** Cr. Register, September, 1982, No. 321, eff. 10-1-82.