

BOARD OF LIGHT AND POWER GRAND HAVEN, MICHIGAN

SUBJECT: Metering

POLICY: Metering

PROCEDURE:

I. General:

- A.** The customer shall provide, free of expense to the Board of Light & Power (BLP) and close to the point of service entrance, a space suitable to the BLP for the installation of any necessary metering equipment. The customer shall permit only authorized agents of the BLP or other persons lawfully authorized to do so, to inspect, test or remove the same. If the meters or metering equipment are tampered with, damaged or destroyed, the cost of discovery, investigation, unmetered usage and necessary repairs or replacements shall be paid by the customer.
- B.** The height of single line meter settings should not be less than (4) four feet nor more than five feet above ground level.
 - 1. When using stacked multiple meter sockets panels, the lowest meter should not be less than (24) inches from the floor for indoor locations. For outdoor locations the installed meter centerlines should be a minimum of thirty (30) inches from grade, and a maximum of seventy-two (72) inches from grade. Multi-tenant complexes where more than two meters are required shall be considered a commercial extension. The owner, developer, or contractor shall supply all entrance service equipment which shall include main panels, disconnect switches, and multiple meter socket service equipment.
 - 2. The metering and customer's service equipment for multiple occupancy buildings where several floors, apartments, stores, etc., are rented separately, should be grouped in a common meter room, public hallway or some other BLP - approved location where they will be accessible at all times to BLP authorized personnel or agents of the BLP. Metering equipment in multiple occupancy buildings shall be plainly marked with metal tags or neatly stenciled identifying the portion of the building served. Such identification shall be placed by the contractor at the time the equipment is installed. The property owner shall be responsible for correct identification of metering equipment. In case of incorrect the cost including but not limited to, discovery, investigation, necessary repairs and usage prior to discovery shall be paid by the property owner.
- C.** For transformer metered services, whether primary or secondary, the customer shall furnish the space and the provisions for mounting the current and potential transformers to meet BLP requirements. Inquiries regarding installation requirements and equipment approval should be directed to the Chief Engineer or the Technical Services Department.
- D.** In case the BLP is physically unable to read a meter for any reason beyond the control of the BLP, such as, but not limited to, premises being locked or the meter being inaccessible and said condition persists continuously for a period of (3) months or longer, then after written notice to the customer, the service will be disconnected until such time

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as arrangements have been made to permit access to the meter and a reconnection charge as provided in the paragraph I.F. of the Billing and Payment Standards has been paid.

- E.** BLP personnel will be reasonably careful in operation, maintenance, removal and replacement of BLP- owned equipment; however, it will be at the owner's expense and responsibility for moving inappropriate structures, shrubbery and landscaping and its replacement thereof, if the customer- owned structures interfere with access or service by BLP personnel.

II. Measuring Customer Service:

- A.** All energy sold to customers will be measured by commercially acceptable measuring devices owned and maintained by the BLP except where it is impracticable to meter loads, such as street lighting, temporary or special installations, in which case the consumption may be calculated.
- B.** Every reasonable effort shall be made to measure at one point all the electrical quantities necessary for billing a customer under a given rate.

III. Accuracy of Watthour Meters:

- A.** Watthour meters used for measuring electrical quantities supplied will:
 1. Be of proper design for the circuit on which they are used, be in good mechanical condition, have adequate insulation, correct internal connections and correct register.
 2. Not creep at "no load" with all load wires disconnected at a rate of one complete revolution of the moving element in 10 minutes or less when potential is impressed.
 3. Be accurate to within plus or minus 2.0 per cent, referred to the rotating standard as a base at 10 per cent and 100 per cent load per standard industry practice.

IV. Testing Equipment:

- A.** The BLP will maintain a sufficient meter testing shop, secondary standards, instruments and facilities to determine the accuracy of all types of meters and measuring devices used by the BLP.

V. Metering Equipment Records:

- A.** A complete record of the most recent test on all metering equipment will be maintained along with identification of the person making the test.

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VI. Customer Requested Meter Testing:

- A.** A fee of \$15 for single phase meters and \$35 for polyphase meters will be charged to customers requesting testing of their meters. If the meter is found to be in error in excess of Rule III, the fee will be refunded and adjustment will be made in billing per Rule VIII.

VII. Determination of Average Meter Error:

- A.** Whenever a metering installation is found upon any test to be in error by more than 2 per cent at any test load, the average error will be determined in one of the following ways:
 - 1. If the metering installation is used to measure a load which has practically constant characteristics, such as a street lighting load, the meter will be tested under similar conditions of load and the accuracy of the meter "as found" shall be considered as the average accuracy.
 - 2. If a single phase metering installation is used on a varying load, the average error will be the weighted algebraic average of the error at light load and the error at heavy load, the latter being given a weighing of 4 times the former.
 - 3. If a polyphase metering installation is used on a varying load, the average error will be the weighted algebraic average of its error at light load given a weighing of 1, its error at heavy load and 100 percent power factor given a weighing of 4, and at heavy load and 50 per cent lagging power factor given a weighing of 2.
 - 4. If a load, other than the light, heavy, and low power factor load specified for routine testing, is more representative of the customary use of the metering equipment, its error at the load will also be determined. In this case the average error will be computed by giving the error at such load and power factor a weighing of 3 and each of the errors at the other loads (light, heavy, and 50 per cent lagging power factor) a weighing of 1. Each error will be assigned its proper sign.

VIII. Adjustment of Bills Because of Meter Errors:

- A.** Whenever a meter creeps or whenever a metering installation is found upon any test to have an average error of more than 2.0 percent an adjustment of bills for service for the period of inaccuracy will be made in the case of over registration and may be made in the case of under registration. The amount of the adjustment will be calculated on the basis that the metering equipment should be 100 per cent accurate with respect to the testing equipment used to make the test.
- B.** If the date when the error in registration began can be determined, such date will be the starting point for determination of the amount of the adjustment if 12 months or less.

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- C.** If the date when the error in registration began cannot be determined, it will be assumed that the error has existed for a period equal to one-half of the time elapsed since the meter was installed or one-half of the time elapsed since the last previous test, whichever is later, except as otherwise provided in Paragraph E below, covering error in registration due to creep and in no case more than 12 months.
- D.** Recalculation of bills will be on the basis of actual monthly consumption except that if the service has been measured by self-contained meters and involves no billing other than for kilowatt-hours, the recalculation of bills may be based on the average monthly consumption determined from the most recent 12 months consumption data.
- E.** The error in registration due to creep will be calculated by timing the rate of creeping and assuming that this creeping affected the registration of the meter for 25.0 per cent of the time since the meter was installed or since the last previous test, whichever is later.
- F.** When the average error cannot be determined by test because of failure of part or all of the metering equipment, it will be permissible to use the registration of check metering installations, if any, or to estimate the quantity of energy consumed based on available data. The customer must be advised of the failure and of the basis for the estimate of quantity billed. The same periods of error will be used as defined in paragraphs above.
- G.** Refunds will be made to the two most recent customers who received service through the meter found to be in error. In the case of a previous customer who is no longer a customer of the BLP a notice of the amount due will be mailed to such previous consumer at his last known address, and the BLP will upon demand made within 3 months thereafter refund the same.
- H.** If the recalculation of billing for an existing customer or for a previous consumer no longer a customer of the BLP indicates that the amount due such existing or previous customer is equal to or in excess of an average of \$.10 per month for the recalculated billing period, the full amount of the refund will be made; except that no refund less than \$1.00 need be made to an existing customer and no refund less than \$2.00 need be made to a previous consumer who is no longer a customer of the BLP.
- I.** If the recalculation of billing indicates that an amount due the BLP is equal to or in excess of amount set forth in Paragraph H above as minimum refunds, the BLP may bill the customer for the amount due.
- J.** Records of all consumption data and other data necessary for the administration of this rule will be maintained for a minimum of 12 months.

Adopted By The Board Of Light & Power On August 23, 2001

Effective September 1, 2001