



December 21, 2022
Applicability: Board and Management

BOARD AND MANAGEMENT POLICY NO. 503
Metering

I. PURPOSE

To establish a policy regarding metering of electric service.

II. PROCEDURE

A. Authority

Pursuant to the Electric Cooperative Act¹, the Board of Directors of Choptank Electric Cooperative has the authority to establish a metering policy.

B. Definitions

Any capitalized terms not defined in this policy shall have the meaning assigned in COMAR section 20.50.01.03.

C. Standard Watt-Hour Meters.²

1. Requirements. The utility shall have the following standard watt-hour meters for the purposes indicated:

(a) Secondary Standard. The utility shall have at least one portable secondary standard watt-hour meter to be used to check the accuracy of the working standard watt-hour meters.

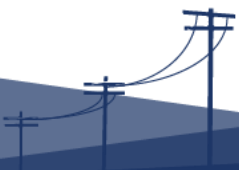
(b) Working Standard. The utility shall have at least one portable working standard watt-hour meter to be used to check the accuracy of watt-hour meters.

2. Accuracy. Each portable secondary and working standard watt-hour meter shall have a correction of not more than 0.5 percent at commonly used loads. If the correction percentage varies between successive tests by more than 0.25, a complete check shall be made to determine the cause of the variation. If the cause of variation cannot be corrected, the use of the instrument should be discontinued.

3. Calibration. The accuracy of the standard watt-hour meters shall be checked as indicated

¹ Maryland Code, Corporations and Associations Article, Title 5, Subtitle 6, Part VI: Member-Regulated Cooperatives.

² Similar to COMAR 20.50.06.02



below:

(a) Secondary Standards. Secondary standards shall be checked at intervals not exceeding 13 months at the National Institute of Standards and Technology (NIST) or at a laboratory acceptable to the Cooperative.

(b) Working Standards. Working standards shall be checked at intervals not to exceed 13 months by comparison with a secondary standard in the utility's meter shop or other meter shop approved by the Cooperative.

4. Certificates. Each standard shall be accompanied at all times by a certificate or calibration card, duly signed and dated, on which are recorded the corrections required to compensate for errors found at the customary test points at the time of the last previous test.

5. Care In Handling. Extreme care shall be exercised in the use and handling of standards to assure that their accuracy is not disturbed.

D. Test Procedures and Accuracies³

1. Procedure. The following procedures shall apply to the testing and adjusting of meters and associated devices:

(a) General. The test of any unit of metering equipment shall consist of a comparison of its accuracy with the accuracy of a standard.

(b) Adjusted to Zero. All meters and associated devices, when tested, shall be adjusted as closely as practicable to the condition of zero error.

(c) Use of Tolerances. All tolerances are to be interpreted as maximum permissible variations from the condition of zero error. In making adjustments, no advantage of the prescribed tolerance limits shall be taken.

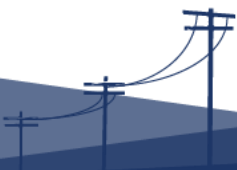
(d) Creep. Meters may not creep, that is, there shall be no continuous rotation of the moving element of a meter at a speed in excess of one revolution in 5 minutes when the meter load wires have been removed and voltage is applied to the potential elements of the meter.

2. Watt-Hour Meters. Watt-hour meters shall be tested at the loads and adjusted to the tolerances prescribed below:

(a) Shop Tests.

<i>Test Load</i>	<i>Power Factor</i>	<i>Adjusted to within</i>
approximately 100% of test current	1.0	1%
approximately 10% of test current	1.0	1%
approximately 100% of test current	.5	2%

³ Similar to COMAR 20.50.06.03



(b) Field Tests.

<i>Test Load</i>	<i>Power Factor</i>	<i>Adjusted to within</i>
approximately 100% of test current	1.0	1%
approximately 10% of test current	1.0	1%

3. Block Interval Demand Meters. Block interval demand meters shall be tested and adjusted as prescribed below:

(a) Test of Indicating Type. Demand meters shall be tested at a load point not less than 50 percent of full scale. However, they may be tested at a lower scale point if conditions warrant. Tests shall be continuous for at least one demand interval, or subinterval in the case of programmable demand register-equipped meters, and shall be started simultaneously with the demand interval of the demand meter.

(b) Test of Pulse-Operated Type. Demand meters which are actuated by pulses shall be tested by transmitting enough pulses to cause the meter to register at a load point not less than 50 percent of full scale. If a pulse actuated demand meter is equipped with a device which records the number of pulses received by the meter, and if there is frequent and accurate comparison of the record with the number of kilowatt hours registered on the associated watt-hour meter, then it is not necessary to make a periodic field test of the demand meter.

(c) Check of Pulse Devices. Pulse devices associated with demand meters shall be checked for proper operation.

(d) Accuracy. The demand meter shall have an accuracy of within 1 percent of full scale.

(e) Time Interval Accuracy. The total time interval, including reset time, shall be accurate within 0.5 percent, except that when a timing element also serves to keep a record of the time of day at which the demand occurs, it shall be adjusted if it is found to be in error by more than +/- 2 minutes per day.

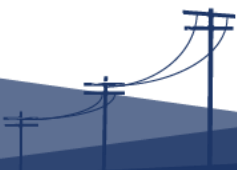
(f) Adjusted to Zero. Demand meters shall be adjusted to indicate zero under no-load conditions, and shall be checked to ascertain that the meter resets to zero.

4. Lagged-Demand Meters. Lagged-demand meters shall be tested and adjusted as prescribed below:

(a) Test Points. Lagged-demand meters shall be tested initially at 50 and 90 percent of full scale. Subsequent tests shall be at not less than 50 percent of full scale.

(b) Accuracy. The lagged-demand meter shall have an accuracy within 2 percent of full scale.

(c) Time Interval Accuracy. The interval rating of lagged-demand meters shall be checked before installation, and the time required for the demand meter to reach 90 percent of final indication, with a constant load suddenly applied, may not vary from the rated demand interval by more than +/- 2 percent.



(d) Adjusted to Zero. Lagged-demand meters shall be adjusted to indicate zero under no-load conditions.

5. Instrument Transformers. The following procedures and requirements shall apply to instrument transformers used for billing purposes:

(a) Standard for Testing. Unless otherwise specified by the Commission, all current and potential transformers shall be tested in accordance with the procedures prescribed in American Standard Requirements, Terminology and Test Code for Instrument Transformers, ANSI C57.13.

(b) Test Facilities. Any utility unable to perform the above test due to a lack of proper equipment may have its instrument transformers tested by another utility or approved meter shop whose testing equipment conforms to the requirements of the Commission.

(c) Test. In lieu of utility testing of instrument transformers, the Commission will accept the certificate of test as furnished by the manufacturer.

(d) Accuracy. Current or potential transformers may not be installed if their accuracy does not fall within the 0.6 accuracy class as defined in ANSI C57.13.

6. Meters. For Measurement of Purchased Electricity. Utilities purchasing electricity from non-utilities or from utilities outside the State shall see that the instruments and meters which are necessary to furnish complete and accurate information as to the energy purchased are installed and tested in accordance with the requirements of the Commission.

E. Preinstallation Inspections and Tests⁴

1. A meter may be installed for use for revenue-billing purposes if it meets the following conditions:

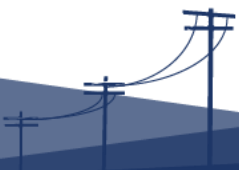
(a) Approved Type. Its type and design meet the requirements of COMAR 20.50.02.02.

(b) Accuracy. The registration of the meter is within the tolerances specified in Regulation .03 of this chapter. A representative of the Commission will check the condition of meters in the meter shop of the utility from time to time by testing random samples of meters ready for installation.

2. Test Required. Each meter and associated metering device shall be inspected and tested in the meter shop of the utility, or sample tested by the utility if 100 percent tested by the manufacturer, before being placed in service, except for instrument transformers tested in accordance with Regulation 20.50.06.03E(3).

3. Reinstallation. When a meter is removed from service, it shall be adjusted if necessary in order to conform to the accuracy tolerances specified in Regulation 20.50.06.03 before being placed in service again. However, it may be retired without test or returned to service without being tested if it is covered by an in-service sample or periodic test plan.

⁴ Similar to COMAR 20.50.06.04



F. Post-Installation Inspections⁵

Post-installation inspections on new or upgraded service installations which incorporate instrument transformers to determine proper operation and wiring connections shall be made within 60 days, or within a reasonable amount of time that allows the service to be fully in use and able to be verified, after installation by a qualified person who shall be someone other than the original installer. The inspection may also be performed remotely if applicable.

G. Request Tests⁶

1. Request For Test.

- (a) Upon request by a customer and at no charge, the utility shall test the accuracy of the meter serving the customer.
- (b) A utility may not perform a customer-requested meter test more than once during an 18-month period without charging an appropriate fee.
- (c) A customer-requested test may be performed at:
 - (i) The metering location;
 - (ii) The utility's meter shop; or
 - (iii) An approved meter shop.

2. Customer May Observe. The customer, or his representative, may be present when the meter is tested.

3. Report to Customer. A report of the results of the test shall be made to the customer within a reasonable time after the completion of the test, and a record of the report, together with a complete record of the test, shall be kept on file at the office of the utility for at least 3 years.

H. Referee Tests⁷

1. Application for Test. Upon written application to the Commission by a customer or a utility, a test will be made of the customer's meter as soon as practicable by a representative of the Commission.

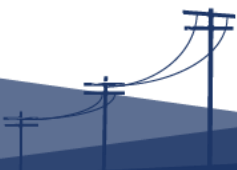
2. Deposit for Test. The application shall be accompanied by a deposit as indicated below:

- (a) Watt-hour meter ----- \$10;
- (b) Combination watt-hour and demand meter ----- \$20.

⁵ Similar to COMAR 20.50.06.05

⁶ Similar to COMAR 20.50.06.06

⁷ Similar to COMAR 20.50.06.07



3. Notice to Utility. On receipt of the request from a customer, the Commission will notify the utility and the utility may not knowingly remove or adjust the meter until instructed by the Commission. The utility shall furnish to the Commission's representative such reasonable assistance as may be required to make the test.

4. Customer May Observe. The customer, or his representative, may be present when the meter is tested.

5. Report to Customer. A written report of the results of the test will be sent to the customer and to the utility.

6. Disposition of Deposit. If the meter is found to over-register more than 2 percent, calculated in accordance with COMAR 20.50.04.05C, the deposit shall be refunded by the Commission and the utility billed the amount of the deposit. If the meter is found to be not more than 2 percent fast, the deposit will be retained and disposed of according to law.

I. As Found Tests⁸

Each meter shall be tested before the meter is adjusted or repaired.

J. In-Service Performance Tests⁹

1. Test Program. In-service performance tests shall be made in accordance with the requirements of COMAR 20.50.02.02.

2. Location of Tests. In-service performance tests may be made on the customer's premises, in the utility's meter shop, or in an approved meter shop.

3. Tests for Other Purposes. Tests, such as request or referee tests, which are made for purposes other than to determine the in-service performance of a group of meters, may not be counted as in-service performance tests, except for those groups of meters being tested under the Periodic Test Schedule.

4. Periodic Test Schedule. Periodic tests shall be scheduled in accordance with the requirements of COMAR 20.50.02.02.

K. Instrument Transformer Tests¹⁰

1. Preinstallation Test. All instrument transformers used for billing purposes shall conform to the requirements of Regulation 20.50.06.03E of this chapter before being placed in service.

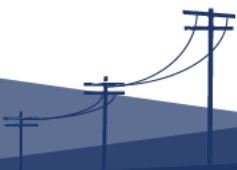
2. Current Transformers. Current transformers should be tested with a suitable variable burden device to determine if the windings of the secondary circuit have developed an open circuit, short circuit, or unwanted grounds.

3. Potential Transformers. Potential transformers should be tested by measuring the secondary

⁸ Mirrors COMAR 20.50.06.08

⁹ Mirrors COMAR 20.50.06.09

¹⁰ Mirrors COMAR 20.50.06.10



voltage to reveal defects in the transformer or secondary circuit which appreciably affect accuracies.

4. Performance Test. If there is any evidence that an instrument transformer is inaccurate or has been damaged to the extent that its performance has been impaired, it shall be tested to determine whether it should be replaced.

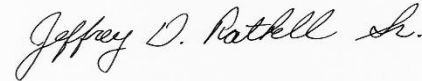
L. Generating Station Meter Tests¹¹

Generator output watt meters and watt-hour meters in the utility's generating station shall be tested according to a suitable schedule by comparison with the utility's standards but may not exceed the appropriate test intervals as required under COMAR 20.50.02.02.

III. RESPONSIBILITY

The President & CEO is responsible for administering this policy.

This policy supersedes all previous versions of the policy and all other instructions dated prior to this policy and in conflict with its provisions.



Jeffrey D. Rathell, Sr.
Chairman

REVISION HISTORY

Revision Number	Effective Date	Description of Changes
1	12/21/22	New document.

¹¹ Mirrors or similar to COMAR 20.50.06.11

