



Montana-Dakota Utilities Co.

A Subsidiary of MDU Resources Group, Inc.

400 N 4th Street
Bismarck, ND 58501

State of Wyoming Gas Rate Schedule

W.P.S.C. Tariff No. 2
Original Sheet No. 170

RULE COVERING COMPANY METER TESTING PROGRAM Rate 136

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APPLICABILITY:

The policy of Montana-Dakota Utilities Co. for the testing of gas meters in compliance with Chapter 3, Section 18 of the Wyoming Public Service Commission's Rules.

NEW METERS:

1. This meter test schedule shall not apply to meters with capacity in excess of 650 cubic feet per hour (cfh) at 0.5 inch water column (wc). Such meters shall continue to be tested and adjusted or repaired, if necessary, at a periodic interval of at least once in ten years. Meter supplier(s) shall provide test data for all new meters.
2. New meters received from a manufacturer shall be subjected to testing on a random sample basis of five percent (5%) of the total received at full load and light load. If unsatisfactory, all meters in the shipment shall be tested, and repaired if necessary, or the shipment shall be returned to the manufacturer. As new or replacement equipment is placed into service, pertinent information describing and identifying such equipment will be submitted to the Wyoming Public Service Commission.

METER TEST PROGRAM:

1. All active meters, 650 cfh and smaller, will be combined into a single random test program. The population of meters shall come from the state of Wyoming, North Dakota, Montana and South Dakota. At the time the random selection is made, meters more than ten years old and active meters that have not been tested in the last ten years will be placed into an installation class defined model installation date lot to be part of a random population for testing.
2. All active meters will be assigned to lots on the basis of installation date. The meters to be sampled will be divided into lots based on manufacturer, type, and last install date in five year groups. The minimum number of samples taken from each lot will be as specified by Military Standard No. 414, Sample Procedures and Table for Inspection by Variables for Percent Defective, inspection level IV with specification limits of +/- 2.0%.

Date Filed: May 23, 2019

Effective Date: Service rendered on and after March 1, 2020

Issued By: Tamie A. Aberle
Director – Regulatory Affairs

Docket No.: 30013-351-GR-19



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3. The meters tested within the random test program will include meters selected via a computer generation random selection process and meters pulled from the customers' premises in correlation with service technicians being on-site for other service related work not including meter testing requested by the customer or initiated by the Company.
4. Lot acceptability will be determined by the standard deviation method based on single sample, double specification limit, variability unknown, for an acceptable quality level of 15% as follows:
 - a. A meter lot for which the sample is satisfactory will remain in service.
 - b. A meter lot for which the sample fails may remain in service if it passed the previous year and if no more than 10% of the sample registers over 102%.
 - c. A meter lot for which the sample fails will be removed if the lot failed the previous year or if more than 10% of the sample registers over 102%.
 - i. If evaluation determines the group is homogeneous, then the entire group will be removed.
 - ii. If group is not homogeneous and a subset of the group is found defective, that subset will be removed. A failed lot of meters will be removed from service for testing and repair within one year.
5. The Company will report the results of the meter test program annually. The test period will cover the fiscal year July 1 to June 30 with a report available to the Commission by December of each year.

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METER TEST EQUIPMENT:

<u>TYPE</u>	<u>MANUFACTURER</u>	<u>USED FOR</u>	<u>DEGREE OF ACCURACY</u>	<u>CALIBRATION INTERVAL</u>
Snap Series III	American (Ser. No. XU-3097)	Gas Meter Standard	±0.13%	36 Months
Snap Series III	American (Ser. No. XU-3403)	Gas Meter Standard	±0.13%	36 Months
Snap Series III	American (Ser. No. L61108-238)	Gas Meter Standard	±0.13%	36 Months
Model 6	Dresser (Ser. No. 9325089/9325158)	Gas Meter Standard	+0.55%	5 Years
Model 6	Dresser (Ser. No. 9390008/9390014)	Gas Meter Standard	+0.55%	5 Years

1. The interval for the calibration of above listed test equipment is 3 years for the Snap provers and 5 years for the Model 6 prover. The test equipment is either sent to the factory to be calibrated or a factory representative comes on site to calibrate the test equipment.
2. The factors that influence the accuracy are temperature and humidity. Since the testing is conducted indoors where temperature is maintained well within the range of 55 and 85 degrees F° and humidity is maintained below 90%, the test equipment maintains accuracy during the testing of meters.
3. All apparatus used for test and calibration purposes shall be cared for and maintained as recommended in the manufacturer's operating and

Date Filed: May 6, 2020

Effective Date: Service rendered on and after July 9, 2020

Issued By: Travis R. Jacobson
Director – Regulatory Affairs

Docket No.: 30013-363-GT-20



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maintenance manuals. Appropriate carrying cases designed for the purpose shall be used when such equipment is transported to or from its normal service location for the purposes of performing tests, normal maintenance repairs, or recalibration.

4. Meters and other equipment which will be used as a reference standard to certify other equipment shall be kept in a temperature stable environment, and shall be calibrated annually except as otherwise stated herein. Bell provers, transfer provers or sonic nozzles shall be recertified at not more than five-year intervals and after being moved or dimensionally altered. Recertification shall be accomplished by use of standard-cubic foot bottles, by strapping or by optical measurement techniques, the latter being the preferable method.
5. Meters and other equipment which are used as a reference standard shall only be used for calibration purposes, and shall not be used for trouble shooting, corrective maintenance or any other activity which might jeopardize the integrity of the instrument for calibration accuracy. Calibrating meters equate a cubic foot of gas with the amount of gas that occupies one cubic foot, dry, at 60° F at 14.73 pounds per square inch absolute.
6. Calibration of the items used by the utility for reference standards shall be accomplished by an instrument with a higher degree of accuracy than the item being calibrated with the accuracy of said instrument being traceable to the National Institute of Standards and Technology (NIST).
7. Whenever any gas meter is tested, the test record shall be preserved, including the information necessary for identifying the meter, the reason for making the test, the reading of the meter upon removal from service and the result of the test, together with all data taken at the time of the test in sufficiently complete form to permit the convenient checking of the methods employed and the calculations. The record shall be kept for the life of the meter. The standard used to make this test shall be in a current calibration status. Each item of portable test equipment shall be marked with a tag or adhesive label to show the last calibration date.

Date Filed: May 6, 2020

Effective Date: Service rendered on an
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