



MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

400 North Fourth Street

Bismarck, ND 58501

(701) 222-7900

January 31, 2018

Executive Secretary
North Dakota Public Service Commission
State Capitol Building
Bismarck, ND 58505-0480

Re: Gas Meter Test Results

Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc., herewith submits the results of its gas meter testing program for the period April 1, 2016 through June 30, 2017. The test results included herein reflect gas meter testing performed in accordance with the Company's testing program outlined in the Company's Gas Meter Testing Program Rate 105 Tariff, as authorized on February 24, 2016, in Case No. PU-13-585, by the North Dakota Public Service Commission.

Montana-Dakota's meter testing program consists of the following three categories:

1. New Test - New meters purchased were tested and found to be satisfactory prior to release. 100% of new meters were tested at the factory. Montana-Dakota tested 265 meters during the period April 1, 2016 through June 30, 2017 resulting in an average accuracy of 99.7% at an open test (100% of meter rating) and 99.9% accuracy at a check test (20% of meter rating).
2. Periodic Test – Meters with ratings of 650 cubic feet per hour or greater are tested at a periodic interval of at least once in ten years.
3. Random Test - All other active meters, with ratings of 650 cubic feet per hour or less, are assigned to lots and are selected for testing via a computer generated random selection process and meters pulled from customers' premises in correlation with service technicians being on site for other service-related work.

All damaged or non-registering meters are incapable of measuring gas accurately due to damaged indexes, mechanical malfunctions, or break(s) in the meter body. These damaged meters are either retired or given a complete overhaul and re-tested before being placed back in service.

Calculations of all lots in the Random Sample Program are made in accordance with the program detailed in Department of Defense Bulletin dated June 11, 1957, entitled "Military Standard Sampling Procedure & Tables for Inspections by Variable for Percent

Defective," as approved in Case No. I-5083.


The Random Test results are provided in Attachment A. As demonstrated, all lots were below the maximum allowable defective percentage for April 1, 2016 through June 30, 2017.

The Periodic test results are provided in Attachment B. As shown, 382 meters were tested during this review period resulting in an average accuracy of 99.0% at an open test (100% of meter rating) and 100.0% accuracy at a check test (20% of meter rating).

Please contact me if you have questions regarding the gas meter testing results.

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed, stamped envelope.

Sincerely,

A handwritten signature in purple ink that reads "Tamie A. Aberle". The signature is written in a cursive style with a large initial "T".

Tamie A. Aberle
Director of Regulatory Affairs

Attachments

**Montana-Dakota Utilities Co.
North Dakota and South Dakota
April 1, 2016 through June 30, 2017
Random Sample Test Results**

Lot Type	Size (in CIS)	Install Year	Count	Minimum Sample*	Defective [%]	Allowable [%]
415	415	05-07	5	3	14.93	40.47
AC-250	AC250	90-94	18	4	4.33	36.90
		95-99	6279	50	3.38	22.00
		00-04	20982	75	8.02	21.11
		05-07	6279	50	11.51	22.00
AL-425	AL425	96-99	30	5	0.00	33.99
		00-04	186	20	0.14	24.53
		05-07	105	7	3.31	24.53
AC-630	AC630	05-07	142	15	6.34	25.61
AS02	AL175, AL225 & AI250	75-79	53	7	0.00	30.50
		85-89	96	10	1.48	27.57
		90-94	904	35	3.61	22.91
		95-99	1265	35	3.92	22.91
		00-04	1091	35	0.90	22.91
		05-07	178	15	0.13	25.61
ER01	175	80-84	11	3	0.00	40.47
		85-89	111	15	24.60	25.61
		90-94	418	25	9.68	23.97
		95-99	684	30	8.81	23.58
		00-04	144	15	0.00	25.61
ER02	250	76-79	14	3	0.00	40.47
		80-84	52	7	21.30	30.50
		85-89	999	35	18.03	22.91
		90-94	4675	50	7.84	22.00
		95-99	7527	50	14.02	22.00
		00-04	2266	40	8.74	22.86
		05-07	185	20	0.36	24.53
ER03	R200 & R275	80-84	24	4	34.51	36.90
		85-89	1232	35	11.69	22.91
		90-94	4654	50	15.18	22.00

**Montana-Dakota Utilities Co.
North Dakota and South Dakota
April 1, 2016 through June 30, 2017
Random Sample Test Results**

Lot Type	Size (in CIS)	Install Year	Count	Minimum Sample*	Defective [%]	Allowable [%]
		95-99	10778	75	20.55	21.11
		00-04	8374	75	8.24	21.11
		05-07	5094	50	11.43	22.00
NL-250	NL-250	90-94	72	10	21.14	27.57
		95-99	59	7	4.01	30.50
		00-04	134	15	13.32	25.61
		05-07	266	20	5.96	24.53
S250	S250	85-89	3	3	5.06	40.47
		90-94	1075	35	0.17	22.91
		95-99	945	35	0.15	22.91
		00-04	749	30	0.96	23.58
		05-07	428	25	0.28	23.97
SL250	SL250	95-99	867	35	0.03	22.91
		00-04	300	20	0.00	24.53
		05-07	210	20	1.97	24.53
S400	S400	00-04	9	3	0.00	40.47
		05-07	18	4	0.00	36.90
S400A	S400A	90-94	3	3	39.33	40.47
		95-99	42	7	23.75	30.50
		00-04	42	7	12.51	30.50
		05-07	45	7	7.54	30.50

* - Military Standard No. 414, Inspection Level IV with specification limit of $\pm 2\%$

**Montana-Dakota Utilities Co.
North Dakota and South Dakota
April 1, 2016 through June 30, 2017
Periodic Test Results**

Accuracy by Size			
Meter Size	Quantity	Open Accuracy %	Check Accuracy %
800	1	100.5%	100.8%
AL-1000	28	99.7%	100.6%
AL-800	111	8.8%	99.5%
R-1000	161	99.1%	100.1%
R-1600	81	98.9%	100.5%
Total	382	99.0%	100.0%