



*A Subsidiary of MDU Resources Group, Inc.*

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March 4, 2024

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

Re: Gas Meter Test Results 2023

Mr. Kahl,

Montana-Dakota Utilities Co. (Montana-Dakota) herewith electronically submits the results of its gas meter testing program for the period July 1, 2022 through June 30, 2023. The test results included herein reflect the gas meter testing performed in accordance with 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 242 meters during the period July 1, 2022 through June 30, 2023 resulting in an average accuracy of 100.36% at an open test (100% of meter rating) and 100.10% accuracy at a check test (20% of meter rating).
2. Periodic Test – Meters with ratings of greater than 650 cubic feet per hour 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 and are either retired or given a complete overhaul and re-tested before being placed back in service.

Test 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. With the exception of those meter lots identified herein, all lots were below the maximum allowable defective percentage for this test period.

Three new meter lot groups were determined to have defective percentages in 2023 that exceeded the maximum allowable limits. A description of the lot groups impacted along with the number of meters and plans for the group is outlined below:

- Meter Lot AL 425 with install dates of 2000 through 2004: After further analysis; Montana-Dakota identified a sub group of 2002 vintage meters to remove from active service. A total of 34 meters will be removed and retired.
- Meter Lot ER01 with install dates of 1985 through 1989: After further analysis; Montana-Dakota will remove and retire the 40 meters with install dates from 1985 through 1989.
- Meter Lot 415 with install dates of 2010 through 2012: As the Company has been unable to identify a specific group of meters causing the failures, the Company will continue to monitor the meter lot. If the meter lot continues to be outside the margin, then all 826 meters will be retired.

The Periodic test results are provided in Attachment B. As shown, 537 meters were tested during this review period resulting in an average accuracy of 98.14% at an open test (100% of meter rating) and 98.94% accuracy at a check test (20% of meter rating).

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

Montana-Dakota respectfully requests that this filing be accepted as being in full compliance with the filing requirements of this Commission.

Sincerely,

*/s/ Travis R. Jacobson*

Travis R. Jacobson  
Director of Regulatory Affairs

Attachments

**MONTANA - DAKOTA UTILITIES CO.  
MT, ND, SD, WY, GPNG-ND - 2023 TEST YEAR  
RANDOM SAMPLE TEST RESULTS**

Lot Type	Size	Install Year	Count	Minimum Sample*	Defective [%]	Allowable [%]
<b>AC-250</b>	<b>AC250</b>	85-89	275	20	2.54	24.53
		90-94	1737	40	16.53	22.86
		95-99	11672	75	7.03	21.11
		00-04	31719	100	14.94	20.66
		05-09	41275	100	19.78	20.66
		10-11	21927	75	7.24	21.11
<b>AL-425</b>	<b>AL425</b>	95-99	36	5	0.00	33.99
		00-04	579	30	24.41	23.58
		05-09	804	35	17.22	22.91
		10-12	693	30	5.12	23.58
<b>AC-630</b>	<b>AC630</b>	00-04	10	3	34.20	40.47
		05-09	336	25	10.81	23.97
		10-12	526	30	12.47	23.58
<b>AS02</b>	<b>AL175, AL225 &amp; AI250</b>	70-74	148	15	1.98	25.61
		75-79	724	30	1.28	23.58
		80-84	309	25	1.58	23.97
		85-89	1080	35	3.39	22.91
		90-94	2906	40	10.74	22.86
		95-99	5518	50	15.09	22.00
		00-04	2135	40	1.73	22.86
		05-09	2849	40	6.73	22.86
		10-11	189	20	0.49	24.53
<b>ER01</b>	<b>175</b>	85-89	40	5	43.09	33.99
		90-94	240	20	11.41	24.53
		95-99	259	20	3.24	24.53
		00-04	61	7	0.00	30.50
<b>ER02</b>	<b>250</b>	90-94	5126	50	16.25	22.00
		95-99	8230	75	12.82	21.11
		00-04	1926	40	6.84	22.86
		05-09	95	10	7.18	27.57
		10-12	28	5	21.64	33.99

**MONTANA - DAKOTA UTILITIES CO.  
MT, ND, SD, WY, GPNG-ND - 2023 TEST YEAR  
RANDOM SAMPLE TEST RESULTS**

Lot Type	Size	Install Year	Count	Minimum Sample*	Defective [%]	Allowable [%]
<b>ER03</b>	<b>R200 &amp; R275</b>	85-89	559	30	23.11	23.58
		90-94	3447	50	9.54	22.00
		95-99	8465	75	14.06	21.11
		00-04	9624	75	10.27	21.11
		05-09	5507	50	3.70	22.00
		10-12	2773	40	5.97	22.86
<b>NL-250</b>	<b>NL-250</b>	90-94	20	4	0.00	36.90
		95-99	15	3	30.30	40.47
		00-04	55	7	2.95	30.50
		05-09	159	15	9.69	25.61
		10-12	247	20	9.83	24.53
<b>S250</b>	<b>S250</b>	90-94	1159	35	0.10	22.91
		95-99	973	35	1.31	22.91
		00-04	598	30	3.55	23.58
		05-09	499	25	0.36	23.97
		10-12	725	30	0.13	23.58
<b>SL250</b>	<b>SL250</b>	95-99	1343	40	0.69	22.86
		00-04	189	20	0.37	24.53
		05-09	212	20	0.26	24.53
		10-12	406	25	0.13	23.97
<b>S400</b>	<b>S400</b>	10-12	37	5	1.02	33.99
<b>S400A</b>	<b>S400A</b>	95-99	10	3	31.63	40.47
		05-09	22	4	0.00	36.90
		10-12	121	15	4.26	25.61
<b>415</b>	<b>415</b>	10-12	826	35	25.41	22.91

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

**Montana-Dakota Utilities Co.  
MT, ND, SD and WY  
July 1, 2022 through June 30, 2023  
Periodic Test Results**

<b>Meter Size</b>	<b>Quantity Tested</b>	<b>Open Accuracy</b>	<b>Check Accuracy</b>
		<b>[%]</b>	<b>[%]</b>
R1000	165	99.05	99.99
R1600	49	98.29	100.15
3000	13	97.5	98.99
5000	2	100.05	100.45
R750	129	99.27	100.26
800	5	100.63	100.46
800A	2	101.26	100.48
AC800	3	99.43	99.6
AL1000	74	99.12	100.09
AL1400	1	86	88.4
AL800	94	98.99	99.5
<b>Totals</b>	<b>537</b>	<b>98.14%</b>	<b>98.94%</b>