

400 North Fourth Street
Bismarck, ND 58501
701-222-7900

March 14, 2023

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) herewith electronically submits the results of its gas meter testing program for the period July 1, 2021 through June 30, 2022. 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 506 meters during the period July 1, 2021 through June 30, 2022 resulting in an average accuracy of 100.19% 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.

Two new meter lot groups were determined to have defective percentages in 2022 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 AC-630 with install dates of 2005 through 2009: After further analysis, Montana-Dakota identified a sub-group of 2008 vintage meters to remove from active service. A total of 91 meters will be removed and retired, and
- Meter Lot ER02 with install dates of 1985 through 1989: After further analysis, Montana-Dakota will remove and retire the 409 meters with install dates from 1985 through 1989.

The Periodic test results are provided in Attachment B. As shown, 578 meters were tested during this review period resulting in an average accuracy of 98.57% at an open test (100% of meter rating) and 99.40% 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 - 2022 TEST YEAR
RANDOM SAMPLE TEST RESULTS**

Lot Type	Size	Install Year	Count	Minimum Sample*	Defective [%]	Allowable [%]
AC-250	AC250	85-89	310	25	15.41	23.97
		90-94	1803	40	6.85	22.86
		95-99	11919	75	10.77	21.11
		00-04	32158	100	17.92	20.66
		05-09	41783	100	20.35	20.66
		10-11	13380	75	2.83	21.11
AL-425	AL425	95-99	45	7	19.78	30.50
		00-04	629	30	12.92	23.58
		05-09	856	35	19.60	22.91
		10-11	407	25	4.12	23.97
AC-630	AC630	00-04	14	3	0.00	40.47
		05-09	455	25	26.08	23.97
		10-11	363	25	6.55	23.97
AS02	AL175, AL225 & AI250	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
ER01	175	85-89	50	7	27.70	30.50
		90-94	266	20	18.93	24.53
		95-99	483	25	10.00	23.97
		00-04	72	10	1.44	27.57
ER02	250	85-89	409	25	33.28	23.97
		90-94	5253	50	21.35	22.00
		95-99	8449	75	10.02	21.11
		00-04	1993	40	6.75	22.86
		05-09	107	10	18.27	27.57
		10-11	26	5	6.79	33.99

**MONTANA - DAKOTA UTILITIES CO.
MT, ND, SD, WY - 2022 TEST YEAR
RANDOM SAMPLE TEST RESULTS**

Lot Type	Size	Install Year	Count	Minimum Sample*	Defective [%]	Allowable [%]
ER03	R200 & R275	85-89	609	30	8.53	23.58
		90-94	4206	50	14.51	22.00
		95-99	8706	75	15.20	21.11
		00-04	9809	75	10.92	21.11
		05-09	5637	50	7.55	22.00
		10-11	1939	40	4.01	22.86
NL-250	NL-250	90-94	25	4	30.00	36.90
		95-99	21	4	0.00	36.90
		00-04	63	7	0.02	30.50
		05-09	179	15	16.95	25.61
		10-11	171	15	21.55	25.61
S250	S250	90-94	1214	35	0.95	22.91
		95-99	1031	35	0.07	22.91
		00-04	641	30	0.08	23.58
		05-09	543	30	1.31	23.58
		10-11	558	30	0.00	23.58
SL250	SL250	95-99	1405	40	0.07	22.86
		00-04	212	20	0.54	24.53
		05-09	235	20	0.18	24.53
		10-11	313	25	0.01	23.97
S400	S400	10-11	34	5	0.00	33.99
S400A	S400A	95-99	15	3	18.76	40.47
		05-09	28	5	2.03	33.99
		10-11	80	10	0.91	27.57
415	415	10-11	656	30	10.27	23.58

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

**Montana-Dakota Utilities Co.
 MT, ND, SD and WY
 July 1, 2021 through June 30, 2022
 Periodic Test Results**

Meter Size	Quantity Tested	Open Accuracy	Check Accuracy
		[%]	[%]
R1000	151	99.10	99.58
10000	1	98.9	99
R1600	44	98.43	100.13
3000	14	98.18	98.71
5000	8	97.21	98.05
R750	182	99.03	100.37
800	3	102	101.3
800A	3	100.1	100.73
AL1000	81	99.35	100.13
AL1400	1	92.8	95.6
AL800	90	99.15	99.75
Totals	578	98.57%	99.40%