



# MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

August 22, 2011

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

Re: Electric Meter Testing  
Case No. PU-11-\_\_\_

Pursuant to Section 69-09-02-28, Item 3, Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc., herewith files the results of its 2010 sample meter tests on residential, commercial and industrial watt-hour meters.

As reported in December 2008 and discussed with the Commission and Staff on several occasions in 2009, Montana-Dakota began installing new electric meters as part of its Automated Meter Reading (AMR) Program in April 2007 in the communities of Bismarck and Mandan, North Dakota. The meter installs continued throughout Montana-Dakota's service territory through 2009. As a result of the AMR project, approximately 103,000 electric meters were replaced with new electronic electric meters equipped with an electronic read transmitter.

All of the new meters were tested at the factory before shipping to Company warehouses. Montana-Dakota received a meter test report for 100 percent of the new meters prior to installation. In addition, a random sample representing five percent of the new meter population was retested by the Company prior to installation. This process represented the meter testing for calendar years 2007- 2009.

The Company has removed the General Electric type EV and VM65S meters that remained in place in non-AMR deployed areas identified in the 2006 meter test report as meters that should be removed within the next four years with the exception of sixteen pulse initiator style electric meters. The remaining sixteen meters will be removed from service before December 31, 2011 as the Company's AMR vendor recently provided the necessary software to program the pulse initiator meters that communicate consumption information to customer load management systems.

Montana-Dakota reinstated its random meter testing program starting in 2010. The meter test results are provided in Attachment A.

- The results of the sample tests for each meter group and vintage class indicate that the percent defective are well within the allowable limits with the exception

of the N group. The N group includes electro-mechanical commercial meters in the 1970-1979 vintage and shows a total percent defective of 5.87%. The maximum percent defective limit allowed for the Group N meters is 2%.

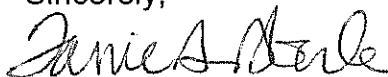
- Because the total percent defective exceeds allowable limits for the one particular group, a replacement program will be implemented for the entire group of 236 meters where each of the meters will be replaced with a new or acceptable used solid state meter. Completion of this plan shall be before December 31, 2011.

The Company has begun the random sample of electric meters in accordance with its Selective Testing Plan for Watthour Meters Rate 131 with the results to be reported to the Commission by July 1, 2012.

As shown on Attachment A, the AMR project provided the opportunity to remove the majority of the older vintage meters and improve the overall accuracy of the meter population.

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,



Tamie A. Aberle  
Regulatory Affairs Manager

## METER TEST REPORT - YEAR 2010

### Results of Sample Tests

on Residential, Commercial and Industrial Watthour Meters  
for Montana-Dakota Utilities Co.  
States-North Dakota, South Dakota, Montana and Wyoming

<u>Meter Group &amp; Vintage Class</u>	<u>Minimum Number Sampled</u>	<u>Number of Meters Represented</u>	<u>Percent Fast</u>	<u>Percent Slow</u>	<u>Total Percent Defective<sup>1</sup></u>
A (1950-1959)	40	787	0.001	<0.001	<0.002
B (1960-1969)	50	2,159	0.006	<0.001	<0.007
C (1970-1979)	75	6,559	<0.002	<0.002	<0.004
D (1980-1989)	75	4,459	0.31	0.25	0.56
E (1990-1999)	100	9,872	<0.003	<0.003	<0.006
F (2000-2009)	150	86,454	<0.003	<0.003	<0.006
M (1960-1969)	25	144	0.002	0.001	0.003
N (1970-1979)	20	236	2.57	3.30	5.87
Q (1980-1989)	30	240	0.001	<0.002	<0.003
R (1990-1999)	30	300	0.013	<0.001	<0.014
S <sup>2</sup> (1990-1999)	35	321	<0.001	<0.001	<0.002
T <sup>2</sup> (2000-2009)	75	3,296	<0.002	<0.002	<0.004
U (1960-1969)	25	140	<0.001	<0.001	<0.002
V (1970-1979)	30	243	0.614	0.133	0.747
W (1980-1989)	25	130	<0.001	<0.001	<0.002
X (1990-1999)	10	33	<0.001	<0.001	<0.002
Y <sup>2</sup> (1990-1999)	35	313	<0.001	<0.001	<0.002
Z <sup>2</sup> (2000-2009)	75	4034	<0.002	<0.002	<0.004

<sup>1</sup>The maximum total percent defective limits as described in Rate 131 for North Dakota, Montana and Chapter II of the Rules of the Wyoming Public Service Commission are:

4% for Residential vintage groups A, B, C, D, E, F  
2% for Commercial vintage groups M, N, Q, R, S, T  
1% for Industrial vintage groups U, V, W, X, Y, Z

<sup>2</sup>The S, T, Y and Z are groups of solid state electric watthour meters.