

MONTANA-DAKOTA UTILITIES CO.  
A Division of MDU Resources Group, Inc.

Before the Public Service Commission of North Dakota

Case No. PU-16-\_\_\_\_

Direct Testimony  
of  
Tamie A. Aberle

1 **Q. Would you please state your name and business address?**

2 A. Yes. My name is Tamie A. Aberle, and my business address is 400  
3 North Fourth Street, Bismarck, North Dakota 58501.

4 **Q. What is your position with Montana-Dakota Utilities Co.?**

5 A. I am the Director of Regulatory Affairs for Montana-Dakota Utilities  
6 Co. (Montana-Dakota), a Division of MDU Resources Group, Inc.

7 **Q. What are your responsibilities as the Director of Regulatory Affairs?**

8 A. I am responsible for the development and implementation of  
9 Company objectives and policies with respect to rate structure, pricing  
10 policies, cost of service studies, fuel cost adjustments, purchased gas cost  
11 adjustments and gas tracking adjustments in each of the jurisdictions in  
12 which Montana-Dakota operates.

13 **Q. Would you please outline your educational and professional  
14 background?**

15 A. I graduated from Moorhead State University, Moorhead, Minnesota  
16 in 1982 with a Bachelor of Science degree in Accounting. I began my  
17 career with Montana-Dakota in 1983 in the Regulatory Affairs Department,

1 holding several positions within the Department before attaining my  
2 current position in 2014.

3 **Q. Have you testified in other proceedings before regulatory bodies?**

4 A. Yes. I have previously presented testimony before this  
5 Commission, the Public Service Commissions of Montana and Wyoming,  
6 the Public Utilities Commissions of Minnesota and South Dakota and the  
7 Federal Energy Regulatory Commission.

8 **Q. What is the purpose of your testimony in this proceeding?**

9 A. The purpose of my testimony is to present the effect of the  
10 proposed revenue requirement, as identified by Mr. Jacobson in his direct  
11 testimony, on each of the Company's electric rates, including how the  
12 distribution of the revenue requirement was made among the various  
13 classes of customers served based on the embedded class cost of service  
14 study sponsored by Mr. Chapman. In addition, my testimony will discuss  
15 the extent to which Montana-Dakota is proposing changes in rate design  
16 and the calculation of the Renewable Resource Adjustment (Renewable  
17 Rider) and Transmission Cost Adjustment (TCA) per unit charges  
18 proposed to be implemented concurrent with final rates.

19 **Q. What statements and exhibits are you sponsoring in this  
20 proceeding?**

21 A. I am sponsoring Statement N, Exhibit No.\_\_(TAA-1) and Exhibit  
22 No.\_\_(TAA-2).

1 A. The proposed increase to each of the classes is shown in the table  
2 below:

Customer Class	Final Revenue Increase *	
	\$	%
Residential Service	\$7,444,431	9.4%
Small General Service	1,464,300	10.9%
Large General Service	4,149,484	4.0%
Municipal Lighting	18,755	1.1%
Municipal Pumping	292,183	9.7%
Outdoor Lighting	12,486	1.6%
Total North Dakota Electric	<u>\$13,381,639</u>	6.6%

3 \* Net of Changes in the Renewable Rider and TCA.

4

5 **Revenue Allocation and Rate Design**

6 **Q. What are the objectives underlying the allocation of the increase and**  
7 **the rates proposed to recover the revenue requirement?**

8 **A.** The embedded class cost of service study and proposed revenue  
9 allocation embody several of the recognized ratemaking objectives by  
10 their effectiveness in yielding the total revenue requirement under the fair-  
11 return standard, fairness of the specific rates in the apportionment of the  
12 total costs of service among the different consumers, and efficiency of the  
13 rate classes.

1 Q. **Would you please explain how the proposed rate increase was**  
2 **apportioned among the customer classes?**

3 A. Yes. In designing the proposed rates to reflect the additional  
4 revenue requirement I first considered the results of the embedded cost  
5 study, sponsored by Mr. Bruce Chapman which provided the increase  
6 required from each class to produce the overall rate of return of 7.459  
7 percent as shown on the Cost by Component report provided in Statement  
8 M, pages 1 through 15 and as summarized on Statement N, page 2. The  
9 embedded class cost of service study provided in Statement M reflects the  
10 revenue requirement to be recovered through base retail rates as shown  
11 on Statement J, page 1 resulting in a required revenue increase in base  
12 retail rates of \$14,111,438. While moving each rate class to the overall  
13 rate of return is a desired outcome in meeting the widely held objective of  
14 the fair return standard, the magnitude of the increases required for the  
15 residential service, irrigation service, small municipal service and  
16 municipal pumping service customers was too severe when considering  
17 the increases would be three or more times greater than the overall  
18 increase in base retail rates of 7.7 percent. It was determined that  
19 mitigation was necessary in order to balance the fair return standard with  
20 the recognition of customer impacts. This was accomplished by  
21 employing a two-step process in applying the increase 1) the maximum  
22 increase to any class of customers was limited to 1.4 times the overall  
23 increase or 10.8171 percent and 2) the minimum increase was set at 4.8

1 percent. The resulting increase in base retail rates allocated to each rate  
2 schedule is shown on Statement N, Page 2.

3 **Q. Would you please describe the rate form you are proposing for each**  
4 **rate schedule and how you propose to collect the allocated final**  
5 **increase in base retail rates from each of the rate schedules?**

6 A. Yes I will describe each rate schedule starting with Residential  
7 Service Rate 10. The calculations underlying the Rate 10 design are  
8 shown on Statement N, page 7. As shown, the Basic Service Charge was  
9 increased to \$0.65 per day or \$19.76 per month, an increase of \$9.12 per  
10 month from the currently effective Basic Service Charge. This proposed  
11 charge reflects the customer component identified by Mr. Chapman in the  
12 embedded class cost of service as shown on Statement M, page 1. The  
13 Basic Service Charge is collected on a daily basis in order to avoid  
14 prorating the monthly charge when customers are in service less than 30  
15 days, on average, or when a billing period extends beyond a 30 day  
16 average. The energy charges for the residential rate schedule were  
17 determined by reducing the total revenue responsibility for the class  
18 (including the allocated revenue increase) by the revenues to be collected  
19 under the proposed Basic Service Charge, the seasonal differential and  
20 the pro forma Base Fuel and Purchased Power component for secondary  
21 service. The revenues remaining to be collected were divided by the  
22 projected 2017 Rate 10 Kwh sales to determine the cost per Kwh required  
23 to be collected through the energy component. As noted above, a typical

1 residential customer, using 980 Kwh on a monthly basis, will see an  
2 increase in their electric service bill of \$9.60 on a monthly basis as shown  
3 on Exhibit No. \_\_\_\_\_(TAA-2), page 1.

4 The process described above for the calculation of the proposed  
5 Residential Rate 10 schedule was used to determine the rate components  
6 for each of the other rate schedules, that is, the first step was to establish  
7 the Basic Service Charge by considering the customer costs identified in  
8 the embedded cost of service study and the Demand Charge based on  
9 the demand costs identified in the embedded class cost of service study  
10 for those rate schedules where demand metering is warranted. The  
11 second step was to deduct the revenues to be recovered under the Basic  
12 Service Charge, Demand Charge, seasonal or service level differential  
13 and Base Fuel and Purchased Power components for each rate schedule.  
14 The Energy Charge component was then determined by dividing the  
15 revenues remaining to be collected by the pro forma sales under the  
16 applicable rate schedule. The calculations just described are provided for  
17 each rate schedule on pages 8-27 of Statement N and a summary of the  
18 proposed charges for each rate schedule is provided on Statement N  
19 pages 5 and 6.

20 Montana-Dakota continues to offer optional Time-of-Day (TOD) rate  
21 schedules consisting of Residential TOD Rate 16, Small General Service  
22 TOD Rate 26 and Large General Service TOD Rate 31. The rates have  
23 been designed to provide customers with an incentive to shift load to the

1 off-peak period (all hours except for the hours from noon to 8:00 p.m.  
2 Monday through Friday).

3 A representation of the annual billing impact for Rates 10, 20 and  
4 30 are provided on pages 28-31 of Statement N.

5 **Q. Ms. Aberle, in regard to TOD rates, have you addressed the**  
6 **Commission's Order in the last rate case (PU-10-124) where a study**  
7 **of mandatory TOD rates was to be completed prior to the next rate**  
8 **case?**

9 A. Yes. The Company did commission a study to determine the cost  
10 effectiveness of implementing mandatory time of day rates for the North  
11 Dakota electric system. The focus of the study was in regard to residential  
12 loads that comprise over one-third of the total load on the system. The  
13 results of the study indicate that it is not cost effective at this time to  
14 implement mandatory time of day rates given the cost to implement versus  
15 the potential capacity cost savings associated with implementing such a  
16 rate form. The Company is currently evaluating an air-conditioning cycling  
17 program at this time that appears to more efficiently and effectively provide  
18 capacity cost savings than a mandatory time of day rate structure. The  
19 Company will continue to discuss the appropriate mechanism with the  
20 Commission.

21 **Q. Would you please further discuss your proposal to increase the**  
22 **Basic Service Charge component of each rate schedule?**

1 A. Yes. As noted previously, the Basic Service Charge component of  
2 each rate schedule has been set at or nearly at the cost per customer  
3 component identified in the embedded class cost of service study. As  
4 described by Mr. Chapman and as shown on Schedule M-1 the customer  
5 component reflects those costs that vary by the number of customers  
6 served in each rate class. This includes the investment in meters and  
7 services tied directly to each individual customer and a portion of the  
8 investment in poles, overhead and underground conductors and line  
9 transformers determined through the class study to be associated with the  
10 minimum investment necessary to provide service to a customer  
11 regardless of the energy or load requirements of that customer. The  
12 Basic Service Charge can be likened to a connection charge for access to  
13 service. Customers are already accustomed to paying a fixed monthly  
14 charge for access to services such as traditional wired phone service, cell  
15 phone service, city utilities, etc. It is imperative that appropriate fixed  
16 costs be collected through the Basic Service Charge in order to minimize  
17 intra class subsidies and provide customers with the appropriate price  
18 signal. In all classes, increasing the Basic Service Charge to the amount  
19 identified as necessary to recover fixed costs, does not provide a  
20 disincentive to wisely use energy. Customers' conservation efforts are  
21 rewarded through lower bills because of lower energy consumption. For  
22 example, 76 percent of the costs assigned to be recovered under Rate 10  
23 will continue to be recovered on a volumetric basis under the proposed

1 rate schedule reflecting a Basic Service Charge of \$0.65 per day or  
2 \$19.76 on a monthly basis. Other benefits of better aligning cost recovery  
3 with cost causation include:

- 4 ◦ Mitigating the impact of significantly colder or warmer than normal  
5 weather on customers' bills.
- 6 ◦ Mitigating the impact abnormal weather has on the Company's  
7 ability to recover fixed costs.
- 8 ◦ Residential customers' bills will be more stable as approximately 24  
9 percent of the total bill will be fixed each month and not dependent  
10 on changes in weather.
- 11 ◦ Provides a better match of revenues to the investment made to  
12 serve each customer. If fixed costs are not recovered from fixed  
13 charges, average or higher than average use customers subsidize  
14 low use customers regardless of the reason a customer uses less  
15 energy than average.

16 **Q. Ms. Aberle, would you please explain the cost recovery riders that**  
17 **the Company is proposing to continue beyond the implementation of**  
18 **final rates in this case?**

19 A. Yes. As explained by Mr. Jacobson, the Company is proposing to  
20 continue cost recovery of the renewable investments and related costs  
21 through the Renewable Rider and transmission related expenses through  
22 the TCA. As shown Statement N, page 4, the Renewable Rider costs are  
23 allocated based on the demand/energy allocator identified as Allocation

1 Factor No. 3 in the embedded class cost of service study and the TCA  
2 costs are allocated to each class based on the allocation factor used to  
3 allocate transmission related investment and expenses in the embedded  
4 class cost of service study (Factor No. 2). The allocated costs under each  
5 rider are proposed to recovered on a per Kwh basis under each rate  
6 schedule. The Environmental Cost Recovery Rider and the Generation  
7 Resource Recovery Rider charges amounts will go to zero charges  
8 concurrent with final rates effective in this case.

9 **Interim Rates**

10 **Q. How was the proposed interim revenue requirement apportioned**  
11 **among the customer classes?**

12 A. The interim revenue requirement of \$13,027,771 was applied on  
13 an equal percentage basis to all rate schedules in order to maintain the  
14 allocation of revenues authorized in the last rate case. The interim  
15 amount will be billed as a separate line item on customers' bills based on  
16 the application of the interim percentage of 11.496 to the actual Basic  
17 Service, Energy and Demand amounts billed. This will provide the ability  
18 for the Company to track the interim revenues collected from each  
19 customer. The calculations supporting the application of the interim  
20 increase to each class are provided in Appendix C to the Application for  
21 Interim Increase in Electric Rates. Page 2 of Exhibit No. \_\_\_\_ (TAA-2)  
22 shows a typical average residential bill reflecting the proposed interim  
23 increase that results in average monthly increase of approximately \$6.80.

1 Q. Does this conclude your direct testimony?

2 A. Yes, it does.

**MONTANA-DAKOTA UTILITIES CO.  
ELECTRIC UTILITY - NORTH DAKOTA  
Allocation of Revenues - Final Increase  
Projected 2017**

**Projected 2017 Billing Determinants and Revenues**

Customer Class	Customers	Kwh	KW	Base Rate	Energy	Demand	Fuel Rev	Total	Revenue Increase		Rider Change	Net Change	
									\$	%		\$	%
Residential Service	80,003	770,939,000		\$10,220,839	\$41,677,379	\$0	\$19,551,014	\$71,449,232	\$7,728,264	10.8%	-\$283,833	7,444,431	9.4%
Small General Service	11,867	117,869,000	17,553	3,035,761	6,306,203	65,680	2,989,157	12,396,801	1,341,418	10.8%	122,882	1,464,300	10.9%
General Service	5,329	1,166,724,000	3,429,484	2,701,865	30,217,026	31,654,522	29,311,695	93,885,108	4,642,662	4.9%	-493,178	4,149,484	4.0%
Municipal Lighting	561	19,846,000			1,031,383		501,885	1,533,268	73,701	4.8%	-54,946	18,755	1.1%
Municipal Pumping	323	39,062,000	126,924	37,936	876,976	773,479	979,219	2,667,610	288,722	10.8%	3,461	292,183	9.7%
Outdoor Lighting Service	2,604	7,437,000			516,744		188,592	705,336	33,839	4.8%	-21,353	12,486	1.6%
<b>Total North Dakota Electric</b>	<b>100,687</b>	<b>2,121,877,000</b>	<b>3,573,961</b>	<b>\$15,996,401</b>	<b>\$80,625,711</b>	<b>\$32,493,681</b>	<b>\$53,521,562</b>	<b>\$182,637,355</b>	<b>\$14,108,606</b>	<b>7.7%</b>	<b>(\$726,967)</b>	<b>\$13,381,639</b>	<b>6.6%</b>

MONTANA-DAKOTA UTILITIES CO.  
ELECTRIC UTILITY - NORTH DAKOTA  
Allocation of Revenues - Interim Request  
Projected 2017

Customer Class	Projected 2017 Billing Determinants and Revenues 1/									Interim Revenue Increase 1/	
	Customers	Kwh	KW	Base Rate	Energy	Demand	Fuel Rev	Rider Rev	Total	\$	%
Residential Service	80,003	770,939,000		\$10,220,839	\$34,769,765	\$0	\$18,834,041	\$14,933,089	\$78,757,734	\$5,172,120	6.6%
Small General Service	11,867	117,869,000	17,553	3,035,761	5,428,079	65,680	2,879,540	1,933,052	13,342,112	980,554	7.3%
General Service	5,329	1,166,724,000	3,429,484	2,701,865	26,782,603	27,434,401	28,226,641	18,055,572	103,201,082	6,543,394	6.3%
Municipal Lighting	561	19,846,000			985,489		483,429	240,471	1,709,389	113,292	6.6%
Municipal Pumping	323	39,062,000	126,924	37,936	761,371	606,289	942,891	634,416	2,982,903	161,588	5.4%
Outdoor Lighting Service	2,604	7,437,000			497,780		181,675	99,284	778,739	57,225	7.3%
<b>Total North Dakota Electric</b>	<b>100,687</b>	<b>2,121,877,000</b>	<b>3,573,961</b>	<b>\$15,996,401</b>	<b>\$69,225,087</b>	<b>\$28,106,370</b>	<b>\$51,548,217</b>	<b>\$35,895,884</b>	<b>\$200,771,959</b>	<b>\$13,028,173</b>	<b>6.5%</b>

1/ Interim Application - Appendix C. Revenues include all riders.

**Montana-Dakota Utilities Co.  
Electric Utility - North Dakota  
Estimated Residential Bill Increases  
2017**

	<u>Current Rates</u>						<u>Proposed Rates</u>				
	<u>Kwh</u>	<u>Base Rate</u>	<u>Energy</u>	<u>Riders</u>	<u>FPP Charge</u>	<u>Total Current Bill</u>	<u>Base Rate</u>	<u>Energy</u>	<u>Riders</u>	<u>FPP Charge</u>	<u>Total Proposed Bill</u>
January	1,000	\$10.85	\$45.54	\$17.20	\$25.36	\$98.95	\$20.15	\$53.16	\$10.04	\$25.36	\$108.71
February	900	9.80	43.24	15.48	22.82	91.34	18.20	50.09	9.04	22.82	100.15
March	900	10.85	43.24	15.48	22.82	92.39	20.15	50.09	9.04	22.82	102.10
April	900	10.50	43.24	15.48	22.82	92.04	19.50	50.09	9.04	22.82	101.45
May	850	10.85	42.08	14.62	21.56	89.11	20.15	48.56	8.53	21.56	98.80
June	1,000	10.50	53.04	17.20	25.36	106.10	19.50	60.66	10.04	25.36	115.56
July	1,100	10.85	58.34	18.92	27.90	116.01	20.15	66.73	11.04	27.90	125.82
August	1,200	10.85	63.65	20.64	30.43	125.57	20.15	72.79	12.05	30.43	135.42
September	1,000	10.50	53.04	17.20	25.36	106.10	19.50	60.66	10.04	25.36	115.56
October	910	10.85	43.47	15.65	23.08	93.05	20.15	50.40	9.14	23.08	102.77
November	1,100	10.50	47.84	18.92	27.90	105.16	19.50	56.23	11.04	27.90	114.67
December	900	10.85	43.24	15.48	22.82	92.39	20.15	50.09	9.04	22.82	102.10
	<u>11,760</u>	<u>\$127.75</u>	<u>\$579.96</u>	<u>\$202.27</u>	<u>\$298.23</u>	<u>\$1,208.21</u>	<u>\$237.25</u>	<u>669.55</u>	<u>\$118.08</u>	<u>298.23</u>	<u>\$1,323.11</u>
	980										

Change by Component

	\$109.50	\$89.59	(\$84.19)	\$0.00	\$114.90
					9.5%
				Per Month	\$9.58

	<u>Current</u>	<u>Proposed</u>
Basic Service Charge/ Day	\$0.35	\$0.65
Energy		
1st 750 winter & summer	\$0.05304	0.06066
Over 750 winter	0.02304	0.03066
TCA	0.00329	0.00298
ECRR	0.00396	0.00000
GRRR	0.00283	0.00000
Renewable Rider	0.00712	0.00706
Fuel	0.02536	0.02536
Total Riders (excl Fuel)	0.01720	0.0100

**Montana-Dakota Utilities Co.  
Electric Utility - North Dakota  
Residential Electric Service Rate 10  
Bill Comparison Worksheet - Interim Rates**

		Current Rates						
	Kwh	Basic Service Charge	Energy	Riders	F&PP Charge	Total Current Bill	Interim Increase	% Increase
January	1,000	\$10.85	\$45.54	\$17.20	\$25.36	\$98.95	\$6.48	6.5%
February	900	9.80	43.24	15.48	22.82	91.34	6.10	6.7%
March	900	10.85	43.24	15.48	22.82	92.39	6.22	6.7%
April	900	10.50	43.24	15.48	22.82	92.04	6.18	6.7%
May	850	10.85	42.08	14.62	21.56	89.11	6.08	6.8%
June	1,000	10.50	53.04	17.20	25.36	106.10	7.30	6.9%
July	1,100	10.85	58.34	18.92	27.90	116.01	7.95	6.9%
August	1,200	10.85	63.65	20.64	30.43	125.57	8.56	6.8%
September	1,000	10.50	53.04	17.20	25.36	106.10	7.30	6.9%
October	910	10.85	43.47	15.65	23.08	93.05	6.24	6.7%
November	1,100	10.50	47.84	18.92	27.90	105.16	6.71	6.4%
December	900	10.85	43.24	15.48	22.82	92.39	6.22	6.7%
	<u>11,760</u>	<u>\$127.75</u>	<u>\$579.96</u>	<u>\$202.27</u>	<u>\$298.23</u>	<u>\$1,208.21</u>	<u>\$81.34</u>	<u>6.7%</u>
Average	980						\$6.78	

	Current
Basic Service Charge/ Day	\$0.35
Energy	
1st 750 winter & summer	\$0.05304
Over 750 winter	0.02304
TCA	0.00329
ECRR	0.00396
GRRR	0.00283
Renewable Rider	0.00712
Fuel	0.02536
Interim Increase	11.496%