

**BEFORE THE  
NORTH DAKOTA PUBLIC SERVICE COMMISSION**

*In the Matter of Montana-Dakota Utilities Co.,  
A Division of MDU Resources Group, Inc.*

*2017 Natural Gas Rate Increase*

*Application*

**Case No. PU-17-295**

**DIRECT TESTIMONY  
OF  
SARA CARDWELL**

**ON BEHALF OF THE  
NORTH DAKOTA PUBLIC SERVICE COMMISSION  
ADVOCACY STAFF**

**December 18, 2017**

1 **Q: Provide your name and qualifications.**

2 A: My name is Sara Cardwell. I am a Public Utility Analyst with the North Dakota  
3 Public Service Commission (Commission). I have more than 35 years of  
4 utility regulatory experience. In addition to working for the Commission, I  
5 have worked for PacifiCorp, Portland General Electric Company, Xcel Energy  
6 and Montana-Dakota Utilities Co.

7 I received a Bachelor of Science Degree in Business Administration from the  
8 University of Wisconsin-Stout and received my Masters in Business  
9 Administration from the University of Portland. I have testified before this  
10 Commission as well as the Public Service Commission of Montana, the  
11 California and Idaho Public Utilities Commissions, the Oregon Public Utility  
12 Commission and the Washington Utilities and Transportation Commission.

13 **Q: What is the purpose of your testimony in this proceeding?**

14 A: The Commission appointed me to Advocacy Staff (Staff) in this proceeding.  
15 As such, I will present background information on customer class cost of  
16 service studies, a recommendation regarding forecasting and  
17 recommendations on tariff issues.

18 **Q: Please provide a brief summary of the tariff issues you will address.**

19 A: I will address the following tariff issues:

- 20 1. Late payment charge;
- 21 2. The Company's proposal as to when a change to the monthly gas cost  
22 adjustment is appropriate;
- 23 3. The need for clarification in Firm General Contracted Demand Service  
24 Rate 74 in regards to who pays for metering costs;
- 25 4. Staff's request to remove the "reasonable times" wording in the  
26 Company's General Provisions Rate 100;
- 27 5. Staff's request for consistent wording regarding point of delivery versus  
28 delivery point in the Company's General Provisions Rate 100;

- 1           6. Staff's request that the Company clarify wording in its General  
2           Provisions Rate 100 so it no longer appears that non-residential  
3           customers can be served on the residential schedules;  
4           7. Staff's request that the Company clarify how far back it would adjust a  
5           bill for "known data of error";  
6           8. The Company's proposal to increase the return check charge; and  
7           9. Use of the term retail prices and the charge for materials.

8

9           **Class Cost of Service Studies**

10

11           **Q: What is the importance of a Customer Class Cost of Service Study?**

12           A: Each investor owned utility submits a customer class cost of service study as  
13           part of any rate case filing. The purpose of this study is to provide an  
14           indication of how the revenue received from each customer class compares  
15           to the cost of serving each class. The results are used to help the Company  
16           decide how they want to allocate the proposed revenue to each customer  
17           class. In this case, the Company proposed to only increase rates to the  
18           residential and firm service classes as these classes are shown to be furthest  
19           away from cost of service based on the Company's study.

20

21           **Q: Is there more than one way to perform a customer class cost of service  
22           study?**

23           A: Yes. This is often a controversial issue in rate cases as different parties have  
24           different perspectives on how the cost study should be performed which then  
25           affects the results and how the proposed revenues should be allocated to the  
26           customer classes.

27

28           **Q: Please describe some of the different ways a cost study can be  
29           performed.**

1 A: The first decision point is whether an embedded cost of service study or a  
2 marginal cost of service study should be used. An embedded cost study  
3 looks at the system as it exists today – what are the historical and current  
4 investments that comprise the system. A marginal cost of service study looks  
5 to the future in order to signal where the costs of the system are going in the  
6 future and how to allocate the costs to ensure the future cost causers pay for  
7 the system upgrades.

8  
9 Historically in this state, embedded cost of service studies have been used to  
10 signal which customer classes are the cost causers. Once the type of study  
11 that will be performed is determined, the next step in the process is to  
12 determine how to allocate the costs to the customer classes. In an electric  
13 system, the costs of the generation, transmission and distribution system  
14 have to be considered. For a natural gas system, there is only a distribution  
15 system that needs to be allocated to the customer classes.

16  
17 **Q: How does one determine how to allocate the costs of the distribution  
18 system to customers?**

19 A: Some costs are easier to allocate than others. For example, each customer  
20 class needs meters so the costs of meters can be allocated based on the  
21 costs for the various types of metering equipment needed for each customer  
22 class and then those costs can be directly assigned to each class. Usually  
23 the allocation methods used for meters, service lines to customer premises,  
24 the customer billing system and the costs of the customer service  
25 representatives are non-controversial.

26  
27 **Q: Where do the controversies lie in the cost allocation process?**

28 A: The controversy comes in when we look at the distribution system (i.e., the  
29 distribution mains) and how those costs should be allocated to the customer  
30 classes. The investor owned utilities serving customers in ND have

1 consistently used the minimum system approach to allocate distribution costs  
2 to customers for both electric and natural gas service. The concept behind  
3 the minimum system approach is that there is a “minimum” size pipe or wire  
4 that the Company would install to serve customers regardless of usage.  
5 Therefore, this minimum size should be considered a customer cost meaning  
6 that customers should pay for some part of the system regardless of whether  
7 they are taking any gas or electricity from the system. Without this approach,  
8 customers who don’t use the system consistently only pay based on usage  
9 and no recognition is given to the fact that the system has to be in place to  
10 serve the customer regardless of when they use it. Most utilities and  
11 commissions believe it is fair to recognize that the system exists, regardless  
12 of when and how much the customer chooses to use it and provide a signal of  
13 these fixed costs to customers. There are many examples of products that  
14 we purchase where we incur costs regardless of how much we use the  
15 product. Consider your car. You have to pay for insurance and a place to  
16 keep your car regardless of how much you use that car. The minimum  
17 system is based on the same concept. There should be some fixed cost  
18 assessed, regardless of how much you use the product.

19

20 **Q: What are the downsides to the minimum system approach?**

21 A: The parties to a rate case proceeding that don’t like the use of the minimum  
22 system approach argue that no one builds a minimum system and you can’t  
23 assign costs based on something that doesn’t really exist. They argue the  
24 only proper way to allocate costs is based on demand because that exists.  
25 The demand approach often results in the residential class receiving a lower  
26 allocation of costs. This makes this methodology popular with consumer  
27 advocacy groups that want to ensure residential customers receive the lowest  
28 percentage increases and basic customer charges possible. Furthermore  
29 because demand is usually only estimated for residential customers, the  
30 costs are being allocated on a number that may or may not be real. And, all

1 residential customers are assigned the same demand value even though  
2 some live in smaller houses, older neighborhoods or larger neighborhoods  
3 with larger homes and lot sizes. Some may use gas only for space heating  
4 and others may use gas for both space and water heating. There may also  
5 be some customers that use gas clothes driers.

6

7 **Q: Are there other allocation methods?**

8 A: Another approach developed by the National Economic Research Associates  
9 (NERA) a number of years ago is the facilities charge approach. This  
10 approach moves away from the issue of charging for a system that doesn't  
11 exist by looking at the facilities that exist for each customer group and  
12 charging a facilities charge for each customer in the group rather than trying  
13 to allocate distribution system costs based on a minimum system or a  
14 demand allocator.

15

16 **Q: How does the facilities charge approach work?**

17 A: In the case of MDU's gas system, this approach would look at the system and  
18 pick out samples from the system based on each type of customer served  
19 and then charge customers in each class a facilities charge based on the  
20 costs to serve the sample system for that customer type. For example, you  
21 could look at some residential areas in Bismarck, Dickinson and/or other  
22 cities and calculate the costs of serving those areas and based on the costs  
23 of serving these areas, develop a facilities charge for residential customers.  
24 For the non-residential customers (firm general service) you would look at a  
25 sample of business districts in the Company's service territory, develop the  
26 costs and then base the charge on these costs. And, you would use the  
27 same process for the other classes as well.

28

29 **Q: Is there a correct methodology to use?**

1 A: I believe that the most correct methodology is the facilities charge approach.  
2 However, it takes time, effort and may be more costly to develop and  
3 implement this approach. The minimum system approach is an attempt to  
4 come to similar conclusions without having to expend the level of effort that is  
5 necessary to develop facilities charges. Using the design day demand  
6 approach is my least favorite approach but I have no problem with its use in  
7 this case.

8

9 **Forecasting Issue**

10

11 **Q: Please explain Staff's concern with the Company's forecasting**  
12 **methodology.**

13 A: Advocacy Staff is concerned that the Company's forecasting methodology is  
14 not based on a statistically rigorous sample design or adequate time period.  
15 We recommend that the Company explore buying a software package such  
16 as MetrixND that both Otter Tail Power and Northern States Power Company  
17 use. Both companies believe this software has helped them develop better  
18 forecasts and have also stated it isn't a very expensive product and provides  
19 great value.

20

21 **Tariff Issues**

22

23 **Q: Why do you recommend that the Company track late payment charge**  
24 **revenue?**

25 A: The Company should be aware of which customers are paying this charge. It  
26 is surprising that a company would not want to have more information as to  
27 which customers are paying this charge and why. Additionally, because the  
28 Company's billing system is shared with two other companies and multiple  
29 gas and electric jurisdictions, the costs to any individual service territory  
30 would be minimal. The Company can't tell us if people with income issues

1 versus those who just habitually pay late are the source of this revenue. We  
2 recommend that the Company track this statistic, review the reasons why the  
3 charge is assessed based on real data and have the data available for the  
4 Company's customer service people and commissions so that a better  
5 understanding of who pays late and why can be developed.

6

7 **Q: The Company has proposed that it not have to change its monthly gas**  
8 **adjustment unless the change is at least 25 cents. Why does Advocacy**  
9 **Staff have concerns with this?**

10 A: In the Company's response to Staff's data request on this issue, the  
11 Company looked at its current year statistics that indicate the Company would  
12 only need to change its adjustment six times over a year period. However, if  
13 the Company had taken a broader view and looked at more than the most  
14 current year, the Company would have found that this change has little effect  
15 on the number of times the Company would have to file for a change.  
16 Secondly, this proposal makes no sense as the Company still has to put the  
17 numbers together in order to know whether or not the change falls below 25  
18 cents.

19

20 Third, Staff is concerned that this could cause dramatic increases in the  
21 Company's annual true-up to customers. There have been significant true-  
22 ups over the years. Not allowing this change will help ensure the true-ups are  
23 more manageable. Lastly, we asked Northern States Power Company if they  
24 were interested in having the ability to limit the number of times they change  
25 the adjustment. The Company responded that no, they'd still have to do the  
26 calculations to see if the numbers dictated a change or not and the  
27 calculations are what takes the most time, not preparing and submitting the  
28 filing. Montana-Dakota already doesn't file if the change is less than five  
29 cents. There is no reason to increase this amount especially considering  
30 Staff's concern about the Company's forecasting methodology.

1

2 **Q: Please describe the issue with the Company's tariff wording for**  
3 **metering in its Firm General Contracted Demand Service Rate 74.**

4 A: On page 2 of 2, item 2, under "System Safety and Integrity Program  
5 Adjustment Mechanism – Metering Requirements" it states that the metering  
6 will be purchased and installed by the Company. Yet, item 3 states that the  
7 Customer may have to contribute towards these costs. These two  
8 requirements are in conflict and Advocacy Staff recommends that item 2 just  
9 state that the equipment is required and item 3 discuss payment to remove  
10 the conflict between these statements.

11

12 **Q: Please describe your concerns with the Company's "reasonable times"**  
13 **wording.**

14 A: In General Provisions Rate 100, Page 6 of 19, the Company states that the  
15 Company representative should have access at all "reasonable times" and  
16 then identifies the times as from 8:00 a.m. to 5:00 p.m. This wording seems  
17 redundant. Staff is concerned that this duplication of wording could cause  
18 debates with customers that might consider other hours as reasonable. In  
19 response to data request 1.41, the Company agreed that they would remove  
20 the "reasonable times" wording from its tariff and just state the times as 8:00  
21 a.m. to 5:00 p.m.

22

23 **Q: Please identify the issue with point of delivery and delivery point as**  
24 **used in the Company's General Provisions Rate 100, Page 7 of 19, when**  
25 **discussing Customer's Equipment (No. 2 in IV Liability).**

26 A: The Company is using both terms in the same section of its tariff. They both  
27 mean the same and the Company should use just one of these terms in order  
28 to prevent confusion. In response to data request 1.42, the Company agreed  
29 that "point of delivery" should be used in both sentences versus two different  
30 terms being used to imply the same thing.

1

2 **Q: In General Provisions Rate 100, Page 13 of 19, under Billing**  
3 **Adjustments, item c, the Company states non-residential rates other**  
4 **than Rate 60 or 90. Staff expressed concern that this implies non-**  
5 **residential customers can be served on the Residential Service**  
6 **Schedules. What was the Company's response?**

7 A: The Company agreed that this wording could be better clarified and in  
8 response to Data Request 1.43 stated that they would revise the wording to  
9 state: "...identified as non-residential (gas service provided under all  
10 rate schedules other than Rates 60 and 90)...."

11

12 **Q: Why is Staff concerned about the Company's wording in General**  
13 **Provisions Rate 100, Page 13 of 19, under Billing Adjustments, item d,**  
14 **where the Company states that in the case of an overcharge, the**  
15 **Company would adjust back to the known date of the error?**

16 A: Staff believes there should be a limit here. Usually, an error would not go  
17 back for a significant number of years but, what if it did. And, to make matters  
18 worse, what if it were a small amount yet involved significant time and  
19 resources for the Company to calculate the refund amount. Therefore, in  
20 response to Data Request No. 1.44 the Company stated: "The following  
21 language could be added to the end of provision 10(d) "for a period not to  
22 exceed six years from the date of payment." This additional language would  
23 provide consistency with the length of time allowed for refunding to the  
24 Company's electric customers due to billing adjustments." Advocacy Staff  
25 agrees that this wording change should be made.

26

27 **Q: Please describe Staff's concern with the Company's proposal to change**  
28 **its return check charge to \$40.**

29 A: Advocacy Staff believes a \$40 return check charge is excessive. Otter Tail  
30 Power Company and Northern States Power Company have \$15 return check

1 charge fees. Montana-Dakota should not be allowed to change its fee but  
2 retain the current \$15 fee consistent with that charged by the other two  
3 investor owned utilities in the state.

4

5 **Q: In General Provisions Rate 100, Page 15 of 19, under item renumbered**  
6 **as 16 (Utility Services Performed After Normal Business Hours), the**  
7 **Company states that the Company will charge materials at retail prices.**  
8 **Does the Staff have recommended changes for the Company's use of**  
9 **the term retail prices?**

10 A: Yes. Retail prices is not a term that should be used to describe the costs of  
11 the materials that the Company uses to perform services for customers. In  
12 particular because this is not the price that the Company pays for such  
13 materials. However, in the Company's Regulated & Non-Regulated Utility  
14 Services, Sale of Material & Supplies Inventory & Billing of Services Policy, it  
15 includes a table which it entitles: "MDU/GPNG Service Retail Price Schedule"  
16 which therefore, has resulted in the use of this term in the Company's tariff.  
17 Based on the Company's policy, it appears that the actual price charged to  
18 customers is "replacement or purchase cost + 75%". This is a very heavy  
19 mark-up on the part of the Company. Staff recommends that the Company  
20 not use the term retail pricing in its tariff to describe its material pricing and  
21 provide justification as to why a 75% mark-up to customers is appropriate or  
22 lower this amount to a more reasonable mark-up.

23

24 **Q: Please summarize your recommendations.**

25 A: The Staff's recommendations are:

- 26 1. Montana-Dakota investigate methods to improve its forecasting;  
27 2. The Company track late payment charge revenues;  
28 3. The Company's proposal to only change the monthly gas cost  
29 adjustment if the change is greater than 25 cents should be rejected;

- 1           4. The Company needs to clarify its wording in tariff schedule 74 in
- 2           regards to who pays for metering costs;
- 3           5. The Company should remove its “reasonable times” wording on Page
- 4           6 of 19 of its General Provisions Rate 100;
- 5           6. The Company should use point of delivery only and not delivery point
- 6           on Page 7 of 19 of its General Provisions Rate 100;
- 7           7. The Company should clarify its wording on Page 13 of 19 of General
- 8           Provisions Rate 100 so it doesn’t appear that non-residential
- 9           customers can be served on the residential schedules;
- 10          8. The Company should clarify how far back Company would adjust a bill
- 11          for “known data of error” on Page 13 of 19 of General Provisions Rate
- 12          100;
- 13          9. The Company’s proposal to increase the return check charge should
- 14          be rejected;
- 15          10. The Company should not use the term retail prices on Page 15 of 19
- 16          in General Provisions Rate 100 and justify why it believes a 75% mark-
- 17          up on materials is appropriate or reduce this to a more reasonable fee.

18

19   **Q: Does this conclude your testimony?**

20   **A:** Yes, it does.

