

Rebuttal Testimony  
Sarah R. Mead

Before the Office of Administrative Hearings  
600 North Robert Street  
Saint Paul, Minnesota 55101

For the Minnesota Public Utilities Commission  
121 Seventh Place East, Suite 350  
Saint Paul, MN 55101

In the Matter of the Petition of Minnesota Energy Resources  
Corporation for Approval of a Recovery Process for Cost Impacts Due to  
February Extreme Gas Market Conditions

MPUC Docket No. G011/M-21-611  
OAH Docket No. 71-2500-37763  
Exhibit \_\_ (SRM-R)

**Gas Procurement**

January 21, 2022

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1 I. INTRODUCTION

2 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.

3 A. My name is Sarah R. Mead. My business address is WEC Energy Group, Inc.,  
4 2830 S. Ashland Ave., Green Bay, Wisconsin 54304. My position at Minnesota  
5 Energy Resources Corporation (“MERC” or the “Company”), a subsidiary of WEC  
6 Energy Group, Inc. (“WEC”), is Director Gas Supply.

7  
8 Q. ARE YOU THE SAME WITNESS WHO SPONSORED DIRECT TESTIMONY IN  
9 THIS CASE?

10 A. Yes.

11  
12 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

13 A. The purpose of my Rebuttal Testimony is respond to the Direct Testimony filed by  
14 the Minnesota Department of Commerce, Division of Energy Resources  
15 (“Department”) witness Matthew J. King; the Citizens Utility Board of Minnesota  
16 (“CUB”) witnesses Ronald Nelson and Bradley Cebulko; and the Office of the  
17 Minnesota Attorney General, Residential Utilities Division (“OAG”) witness Brian  
18 Lebens. In particular, my Rebuttal Testimony addresses the following issues and  
19 topics:

20 1) First, I address the issue of what the Company knew or could have known  
21 leading up to the unprecedented market price spike that occurred in  
22 February 2021 (“February Market Event”) and how that knowledge  
23 impacted the Company’s actions and decisions before and during the event.

1 Nothing that MERC knew or should have known would have allowed the  
2 Company to avoid the extraordinary costs that were incurred as a result of  
3 the February Market Event. Further, as discussed in the Direct Testimony  
4 of Mr. Theodore Eidukas, none of the information that was or could have  
5 been known by MERC throughout this event would have justified MERC  
6 taking actions outside the range of standard industry practice, inconsistent  
7 with the Company's planning and historical operations, or inconsistent with  
8 the Company's tariffs and approved rate structure.

9  
10 2) Second, I address the reasonableness of the Company's load forecasts  
11 used to plan for meeting customer load requirements during the event. I  
12 respond to Department witness Mr. King and CUB witnesses Mr. Cebulko  
13 and Mr. Nelson's claims that MERC unreasonably over-forecasted load  
14 and, as a result, over-procured daily supplies in excess of what was needed  
15 to serve customer requirements. MERC's load forecasts for the four-day  
16 weekend February 13-16 and for February 17 were reasonable based on  
17 the information that was known at the time MERC had to complete its  
18 forecasting and make gas procurement decisions and consistent with  
19 MERC's regular forecasting practice and approach. In particular, MERC  
20 appropriately accounts for forecasted transportation load by removing  
21 transportation volumes from the overall system-wide forecast to determine  
22 the system load requirements the Company must supply. While the  
23 Company's actual load ended up falling below the forecasted load, that

1 result was not due to unreasonable or inadequate forecasting. Instead,  
2 differences in actual weather experienced across MERC's widely dispersed  
3 service area and significant variability in transportation customer load over  
4 the course of the event – factors outside of the Company's control and  
5 which can only be known with the benefit of perfect hindsight – impacted  
6 differences between forecasted and actual load requirements during this  
7 unprecedented event.

8 3) Third, I respond to Mr. King's request that the gas utilities provide additional  
9 explanation regarding their approach to planning supply in excess of  
10 forecasted customer requirements.

11  
12 **II. INFORMATION KNOWN OR KNOWABLE**

13 Q. WHAT DO YOU ADDRESS IN THIS SECTION OF YOUR REBUTTAL  
14 TESTIMONY?

15 A. In this section, I respond to intervenors' direct testimony regarding MERC's  
16 knowledge of the unprecedented price spike prior to and during the February  
17 Market Event.

18  
19 Q. WHAT DOES DEPARTMENT WITNESS MR. KING CONCLUDE REGARDING  
20 MERC'S KNOWLEDGE OF THE UNPRECEDENTED PRICE SPIKE PRIOR TO  
21 THE FEBRUARY MARKET EVENT?

22 A. While Department witness Mr. King concludes that the natural gas utilities did not  
23 have knowledge of where gas prices would ultimately settle for the Presidents' Day

1 weekend until later in the day on February 12, Mr. King concluded that “a  
2 reasonable actor” would have understood that on the morning of February 12, that  
3 prices could settle in the range of \$15 to \$65/Dth, meaning a continuing increase  
4 of prices from the prior day with a ceiling expectation provided by a recent, similar  
5 event. A reasonable actor would also have understood the potential for prices to  
6 manifest outside of that range but would not have ascribed much serious possibility  
7 to those outcomes.

8  
9 Mr. King also acknowledges the following important considerations regarding what  
10 was known at the time the gas utilities had to complete purchases for the four-day  
11 weekend:

- 12 • “The anticipation of the weather that ended up unfolding during the February  
13 Event continued to develop as the event approached. . . . [T]he forecasts  
14 on February 8 and 10 *underestimated the extent of the cold weather that*  
15 *ended up manifesting during the coldest days.* The forecast on February  
16 12 was the first day that captured the extent of the cold and *even it had*  
17 *significant error on certain days.*”<sup>1</sup>
- 18 • “[T]he price spike that occurred was unprecedented. Also, the index trading  
19 that occurred prior to 9 AM occurred, by design, without the benefit of any  
20 price discovery.”<sup>2</sup>

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<sup>1</sup> DOC Ex. \_\_\_ at 53 (King Direct) (emphasis added).

<sup>2</sup> DOC Ex. \_\_\_ at 59 (King Direct).

- 1           • “Although large supply cuts did not manifest for February 14, natural gas  
2           production declines continued to increase.”<sup>3</sup>
- 3           • “The Gas Utilities learned several pieces of information over the long  
4           weekend. First, they learned that natural gas spot prices had spiked to  
5           unprecedented levels. Second, they knew that natural gas production  
6           failures had continued to increase considerably. Third, the Gas Utilities,  
7           along with the rest of the country, were aware of massive load sheds  
8           occurring in ERCOT. In summary, the Gas Utilities knew that the country  
9           and its energy markets were in the midst of an extraordinary event.”<sup>4</sup>

10

11 Q.    WHAT IS YOUR RESPONSE TO MR. KING’S TESTIMONY REGARDING THE  
12        COMPANY’S KNOWLEDGE OF THE UNPRECEDENTED PRICE SPIKE PRIOR  
13        TO THE FEBRUARY MARKET EVENT?

14 A.    I agree with Mr. King that the price spike that occurred during the February Market  
15        Event was unprecedented. I also agree that the unprecedented price spike that  
16        ultimately occurred was outside of what a “reasonable actor” would have foreseen  
17        or “ascribed much serious possibility” to the morning of February 12. While Mr.  
18        King testifies that the natural gas utilities had knowledge of increasing prices  
19        heading into the February Market Event, Mr. King does not conclude that the  
20        historically unprecedented gas prices were reasonably foreseeable. I also agree  
21        with Mr. King’s recognition regarding the significant uncertainty the gas utilities

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<sup>3</sup> DOC Ex. \_\_\_\_ at 65 (King Direct).

<sup>4</sup> DOC Ex. \_\_\_\_ at 62 (King Direct).

1 faced as they were planning to reliably meet customer requirements throughout  
2 the February Market Event, both on February 12 and February 16. While it is easy  
3 with the benefit of hindsight to suggest that the gas utilities actions were overly  
4 conservative, at the time we were planning to meet MERC's customer  
5 requirements:

6 • We knew the forecasted weather included extreme cold temperatures, but we  
7 did not know whether actual temperatures, which had to be forecasted four  
8 days out, would turn colder, or how those temperatures and the resulting load  
9 variations would shift throughout the course of each 24-hour gas day. MERC  
10 must plan to meet customer load requirements across the entire 24-hour gas  
11 day. As described in my Direct Testimony, the geographic area served by  
12 MERC-Northern Natural Gas ("NNG") is very large, spanning a significant  
13 portion of the state of Minnesota, across which weather patterns and  
14 temperatures can vary, at times significantly.

15 • We knew that NNG had called a system overrun limitation ("SOL"), limiting our  
16 flexibility on the pipeline, and were informed midmorning on February 12, that  
17 NNG had declared a critical day. We were also aware of supply production  
18 declines and the risk of possible supply cuts. However, we had no way to  
19 reasonably predict the scale of potential production declines, how those supply  
20 shortages would impact the market (and for how long), or whether there would  
21 be cuts to our supply. As detailed in the Direct Testimony of Mr. Richard  
22 Smead, it was not until Monday February 15 that the worst of the supply crisis  
23 struck after ERCOT began instituting rolling blackouts, which resulted in power



1 outages at the bulk of wellhead operations, processing facilities, and pipelines  
2 that move natural gas from Texas to markets, including Minnesota. “As a  
3 result, the Permian output dropped by 2.9 Bcf/d, or 25 percent, from 1:30 a.m.  
4 to 9:00 a.m. Monday, the end of the Sunday gas day. Monday, output fell  
5 another 20 percent, and Tuesday, February 16, another 10 percent. At the end  
6 of that period, the Permian output had dropped by 8.7 Bcf/d, or 74.5 percent.”<sup>5</sup>  
7 This was not and could not possibly have been anticipated on Friday, February  
8 12, when the gas utilities were planning for the long weekend.

- 9 • Given the limited tools available to MERC to respond to increases in customer  
10 requirements due to changes in weather or load variability or reductions in  
11 planned supply due to pipeline issues or supply cuts, and in light of the potential  
12 for punitive imbalance penalties, it was critical that we plan for adequate supply  
13 to meet customer load requirements.
- 14 • Even on February 16, when planning for gas day February 17, significant  
15 uncertainty remained. While MERC was aware that daily gas prices had spiked  
16 to unprecedented and previously unfathomable levels, uncertainty regarding  
17 gas supply issues continued.

18  
19 Q. WHAT DOES CUB WITNESS MR. CEBULKO CONCLUDE REGARDING WHAT  
20 WAS OR SHOULD HAVE BEEN KNOWN LEADING UP TO THE FEBRUARY  
21 MARKET EVENT?

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<sup>5</sup> MERC Ex. \_\_\_ at 49 (Smead Direct).

1 A. Mr. Cebulko concludes that “[n]ot all of MERC’s claims are consistent with what  
2 the Company should have known in the lead up to the February Event.”<sup>6</sup> While  
3 Mr. Cebulko agrees that MERC’s knowledge of the weather heading into the  
4 February Market Event was what it should have known, Mr. Cebulko concludes  
5 that the Company’s only becoming aware of the price spike the morning of  
6 February 12 was not reasonable in light of spot market prices on February 10 and  
7 11 being in the 98th percentile at Emerson, Demarc, and Ventura compared to the  
8 previous five years, that the spot prices were significantly higher than average  
9 heading into the February Market Event, and that there were tightening supply  
10 conditions on the interstate pipelines.<sup>7</sup>

11  
12 Q. WHAT IS YOUR RESPONSE TO MR. CEBULKO’S TESTIMONY REGARDING  
13 THE COMPANY’S KNOWLEDGE OF THE UNPRECEDENTED PRICE SPIKE  
14 PRIOR TO THE FEBRUARY MARKET EVENT?

15 A. I do not agree that higher gas prices and tightening supply heading into the  
16 February Market Event would place the Company on notice of the reasonable  
17 likelihood of historically unprecedented gas prices. With the benefit of hindsight,  
18 Mr. Cebulko may allege it was a foregone conclusion that prices would only  
19 continue to go up and up. However, the information that was actually knowable *at*  
20 *the time* certainly did not provide that level of certainty. While the supply and  
21 demand dynamics that occurred on Friday, February 12, were not unprecedented,

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<sup>6</sup> CUB Ex. \_\_\_\_ at 27 (Cebulko Direct).

<sup>7</sup> CUB Ex. \_\_\_\_ at 27-28 (Cebulko Direct).

1 as discussed in my Direct Testimony, the market response and resulting prices  
2 were truly unprecedented and unpredictable.

3  
4 Mr. Cebulko's assertions are also in contrast to Mr. King's testimony. As Mr. King  
5 testifies, historically, Ventura prices had only reached as high as \$65/Dth.<sup>8</sup> In light  
6 of the historical pricing information, forecasted weather, and other information that  
7 was known, I do not agree the Company could have anticipated an unprecedented  
8 pricing event. I also do not agree that prices below the historical high would  
9 reasonably put the Company on notice of the historically unprecedented prices.

10  
11 Q. CUB WITNESS MR. CEBULKO ALSO CONCLUDES THAT THERE IS NO  
12 EVIDENCE THAT MERC BEGAN ACTING PRIOR TO FEBRUARY 11. IS THIS  
13 ACCURATE?

14 A. No, that is not accurate. I describe in detail in my Direct Testimony beginning at  
15 page 44 the actions MERC took prior to February 11, beginning with NNG's SOL  
16 called on February 4. I further describe how MERC met its forecasted load  
17 prudently and reasonably by carrying out its gas procurement plan to ensure safe  
18 and reliable service for our customers prior to and during the February Market  
19 Event. However, as discussed in my Direct Testimony and the Direct Testimony  
20 of Mr. Eidukas, there were not additional actions the Company could have taken

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<sup>8</sup> DOC Ex. \_\_\_\_ at 60 (King Direct).

1 that would have been reasonable under the circumstances to attempt to further  
2 protect customers from a then-unknown price risk.

3  
4 Additionally, as discussed by Mr. Eidukas, none of the identified information that  
5 was known on February 12 would have supported the Company taking actions  
6 outside the range of standard industry practice, inconsistent with the Company's  
7 planning and historical operations, or inconsistent with the Company's tariffs,  
8 approved rate structure, or Commission authorizations. Even after the magnitude  
9 of prices over the four-day weekend were known, when planning to meet customer  
10 requirements on February 17, it would still not have been reasonable for MERC to  
11 have taken actions outside the range of standard industry practice, inconsistent  
12 with the Company's planning and past operations, or inconsistent with  
13 Commission-approved tariffs, approved rate structures, or Commission  
14 authorizations.

15  
16 MERC did react appropriately to the information that became available in the days  
17 leading up to and through the February Market Event by proactively procuring  
18 supply to meet customer requirements and, as discussed by Mr. Eidukas,  
19 confirming the limitations on the Company's ability to curtail interruptible customers  
20 under the conditions faced during the event.

21

1 Q. WHAT DOES OAG WITNESS MR. LEBENS CONCLUDE REGARDING MERC'S  
2 KNOWLEDGE OF THE UNPRECEDENTED PRICE SPIKE PRIOR TO THE  
3 FEBRUARY MARKET EVENT?

4 A. Mr. Lebens concludes that the utilities had information that should have supported  
5 them hedging prior to the price spike. For example, Mr. Lebens cites to an email  
6 with MERC gas supply personnel from on the morning of February 12, 2021 in  
7 which MERC personnel state, "I do not think these are as high as we might see."<sup>9</sup>  
8 Based on this information, Mr. Lebens concludes, "a reasonable and prudent utility  
9 [would] have added a hedge during the week prior to the price spike."<sup>10</sup> Mr.  
10 Lebens further asserts that utilities could have closed their hedges at \$400 to \$500  
11 based on incoming information, such as "warming weather forecasts, the status of  
12 the Texas freeze-offs, and pipeline restrictions being lifted."<sup>11</sup>

13  
14 Q. WHAT IS YOUR RESPONSE TO MR. LEBENS'S TESTIMONY REGARDING  
15 THE COMPANY'S KNOWLEDGE OF THE UNPRECEDENTED PRICE SPIKE  
16 PRIOR TO THE FEBRUARY MARKET EVENT?

17 A. Even assuming the options Mr. Lebens suggests MERC should have purchased  
18 would have in fact been available, the OAG's analysis is based in the perfect  
19 hindsight assumption that the utilities could and should have purchased options at  
20 \$35 to \$45/Dth between February 8 and 10, which would have been considered an  
21 extraordinarily high price at that time (though significantly below where the market

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<sup>9</sup> OAG Ex. \_\_\_ at 19 (Lebens Direct).

<sup>10</sup> OAG Ex. \_\_\_ at 18 (Lebens Direct).

<sup>11</sup> OAG Ex. \_\_\_ at 17 (Lebens Direct).

1 ultimately would end up during the February Market Event – information that is only  
2 known with the benefit of hindsight). Despite relying on a communication from late  
3 on the morning of February 12, Mr. Lebens alleges MERC also should have  
4 anticipated the unprecedented market price spike four days earlier, as early as  
5 February 8, and taken completely unprecedented action based on that  
6 “knowledge.”

7  
8 Mr. Lebens’s hindsight goes even further – assuming the utilities would have then  
9 been able to sell purchased hedges at or near the absolute height of the market  
10 price spike, perfectly predicting the timing of market price changes. Ultimately, the  
11 OAG’s conclusions are merely hypothetical and unsupported by any real world  
12 outcome that any utility could have obtained. Mr. Lebens’s analysis is purely  
13 based on hedging instruments that either do not or exist or, in the case of those  
14 that do exist, assumes MERC could have anticipated the market in a way that is  
15 absolutely unfathomable. As Department witness Mr. King accurately observes,  
16 “if the Gas Utilities were anticipating extreme cold weather, then the gas market  
17 would be as well. Once information about upcoming cold weather events is  
18 available, it would be rationally priced into the market.”<sup>12</sup>

19  
20 Q. IN LIGHT OF TESTIMONY FROM DEPARTMENT, CUB, AND OAG WITNESSES  
21 ON WHAT THE COMPANY KNEW HEADING INTO THE FEBRUARY MARKET

---

<sup>12</sup> DOC Ex. \_\_\_\_ at 54 (King Direct).

1 EVENT, DO YOU CONTINUE TO CONCLUDE THAT THE COMPANY ACTED  
2 PRUDENTLY BASED ON WHAT WAS OR SHOULD HAVE BEEN KNOWN?

3 A. Yes, I do. The historically unprecedented gas prices during the February Market  
4 Event were not foreseeable at the time MERC was required to procure sufficient  
5 gas to ensure safe and reliable service for its customers during extreme cold  
6 weather for the holiday weekend. Further, as discussed by Mr. Eidukas, on  
7 February 16, when planning for gas day February 17, none of the information that  
8 was or could have been known by MERC justified taking actions outside the range  
9 of standard industry practice, inconsistent with the Company's planning and  
10 historical operations, or inconsistent with the Company's tariffs and approved rate  
11 structure.

12  
13 **III. REASONABLENESS OF DAILY LOAD FORECASTS**

14 Q. WHAT DO YOU ADDRESS IN THIS SECTION OF YOUR REBUTTAL  
15 TESTIMONY?

16 A. In this section of my Rebuttal Testimony, I respond to Department witness Mr. King  
17 and CUB witness Mr. Cebulko regarding the reasonableness of the Company's  
18 load forecasts during the February Event. Mr. King takes issue with the accuracy  
19 of MERC's load forecast for gas day February 17, and Mr. Cebulko questions the  
20 accuracy of MERC's load forecast on both gas day February 17 and gas day  
21 February 14.

22

1 MERC's load forecasts for the four-day weekend February 13-16 and for February  
2 17 were reasonable based on the information that was known at the time. While  
3 the Company's system sales and transportation customers' actual load ended up  
4 falling below the forecasted load, that result was not due to unreasonable or  
5 inadequate forecasting. Instead, differences in actual weather experienced across  
6 MERC's widely dispersed service area and significant variability in transportation  
7 customer load over the course of the event – factors outside of the Company's  
8 control and which can only be known with the benefit of hindsight – impacted  
9 differences between forecasted and actual load requirements during this  
10 unprecedented event. As recognized by intervenors, it is impossible to forecast  
11 perfectly, due to weather variability and other factors. However, historical actual  
12 load data under similar weather conditions clearly demonstrates the  
13 reasonableness of the Company's overall forecast.

14  
15 Q. HOW DOES MERC FORECAST DAILY LOAD REQUIREMENTS FOR  
16 PLANNING GAS SUPPLY?

17 A. MERC contracts with DTN for actual and a 10-day weather forecast data, including  
18 Temperature, Normal Temperature, Dew Point, Humidity, Heat Index, Wind Chill,  
19 Wind Direction, Wind Speed, Wet Bulb, Cloud Cover, and Sunshine minutes.  
20 MERC also contracts with Marquette University to prepare gas day forecasts.  
21 Marquette University provides a forecasted average gas day temperature, average  
22 wind speed, and forecasted overall system load, inclusive of firm, interruptible, and  
23 transportation customers. The raw load forecast is developed based on the



1 forecasted average temperature and wind speeds, day of the week, and historical  
2 actual load data. Customer usage patterns vary, for example, depending on  
3 whether it is a weekend or a week day, and these variations are accounted for in  
4 the development of the forecasted load requirements.

5  
6 In addition to firm and interruptible customers, MERC-NNG serves transportation  
7 customers who are responsible to arrange for their own natural gas supply and  
8 interstate pipeline delivery. MERC forecasts its overall load requirements for all  
9 customers and then removes the volumes transportation customers actually  
10 scheduled for delivery on the pipeline on the previous gas day to yield a system  
11 sales load forecast. That system sales requirement forecast forms the basis for  
12 MERC's gas supply decisions.

13  
14 As I described in my Direct Testimony, as normal practice on the business day  
15 before flow date,<sup>13</sup> MERC's Gas Supply Group analyzes the forecast for  
16 accuracy based on previous days or previous similar weather prior to 7:30 a.m.  
17 The Gas Supply Group may adjust the raw forecast if that review results in a  
18 determination that the forecast is over- or under-stated relative to previous days,  
19 previous similar weather or similar market events, where the monthly imbalance  
20 is, pipeline conditions, exposure to penalties, and other relevant information .  
21

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<sup>13</sup> The flow date or gas day runs from 9 a.m. to 9 a.m. Central. For weekends, this date is the Friday before. For holidays, it is the business day immediately preceding the holiday.

1 Q. WHAT WAS MERC'S RAW LOAD FORECAST DURING THE FEBRUARY  
2 MARKET EVENT?

3 A. MERC's raw load forecast for the February Market Event was presented in  
4 Schedule 7 to my Direct Testimony. This raw load forecast reflects forecasted  
5 load before any adjustments as described above.

6 **Table 1. MERC's February Market Event Raw Load Forecasts**

<b>Gas Day</b>	<b>February 13</b>	<b>February 14</b>	<b>February 15</b>	<b>February 16</b>	<b>February 17</b>
Raw Load Forecast	431,685	456,675	433,605	399,023	391,379
Scheduled Transport Volumes	187,789	187,789	187,789	187,789	138,405
System Requirements (forecast less known transport volumes)	256,570	243,896	245,816	211,234	252,974

7

8 Q. WHAT DOES DEPARTMENT WITNESS MR. KING CONCLUDE REGARDING  
9 MERC'S LOAD FORECASTING DURING THE FEBRUARY EVENT?

10 A. With respect to the four-day weekend of February 13-16, Mr. King does not take  
11 issue with MERC's load forecast, noting that because system-wide and  
12 transportation customer forecast both included the over-anticipation of  
13 transportation customer load, the net sales customer forecast is not necessarily  
14 impacted.

15

1           However, Mr. King concludes MERC-NNG’s load forecast for February 17 appears  
2           to have been unreasonably high. Mr. King notes that while February 17 was the  
3           warmest day of the February Event, MERC-NNG’s load forecast for its sales  
4           customers was the second highest after February 14. Mr. King states that the  
5           forecasting error on February 17 was caused by a partial adjustment made to  
6           account for transportation customer usage shifting during the event. In particular,  
7           Mr. King concludes,

8                     it appears that MERC accounted for the lower transportation customer  
9                     usage seen over the Four-Day Period but only in the transportation  
10                    customer forecast and not in the system-wide forecast. By significantly  
11                    reducing the transportation customer load forecast expectation for February  
12                    17 without a commensurate change in the system-wide load forecast, the  
13                    sales customer forecast is inflated as a result.<sup>14</sup>

14           Mr. King concludes it was not reasonable to account for the transportation load  
15           differently for February 17. MERC instead should have adjusted both the  
16           transportation customer and system-wide load forecast down.

17  
18    Q.    HOW DO YOU RESPOND TO MR. KING’S CONCLUSIONS REGARDING THE  
19           COMPANY’S LOAD FORECAST FOR GAS DAY FEBRUARY 17?

20    A.    I do not agree with Mr. King’s conclusion that the Company’s forecast for February  
21           17 was unreasonable based on the forecasted weather and past experience, as I  
22           will discuss in greater detail below. Additionally, the rationale for Mr. King’s  
23           conclusion is not accurate. The “Transportation Customer Info Known at Time of  
24           Purchases” reflects the volumes MERC’s transportation customers had scheduled

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<sup>14</sup> DOC Ex. \_\_\_ at 69 (King Direct) (citing DOC Ex. \_\_\_, MJK-D-15 (King Direct) (MERC Response to DOC IR No. 53(c))).

1 on the NNG pipeline system for the previous gas day, based on what is known the  
2 morning of February 16, 2021, when the Company was completing its gas supply  
3 planning for gas day February 17. MERC did not “account for the lower  
4 transportation usage seen over the Four-Day Period but only in the transportation  
5 customer forecast and not in the system-wide forecast” as Mr. King concludes.  
6 Instead, the Company utilized the same methodology for its system-wide forecast  
7 and transportation volumes across all days of the February Market Event. The  
8 transportation information is based on the volume MERC’s transportation  
9 customers had scheduled for delivery on the pipeline on the previous day, which  
10 reflects the most accurate and reasonable data the Company has available  
11 regarding anticipated transportation load.

12  
13 Q. DID MERC PLAN SUPPLY BASED ON ITS RAW LOAD FORECAST FOR  
14 FEBRUARY 17?

15 A. No. On February 16 when planning for gas day February 17, MERC realized its  
16 raw forecast for day of gas deliveries was trending long over the previous few days.  
17 In response to this information, MERC’s Gas Supply Group reduced planned daily  
18 purchases by 27,188 Dth, or from 56,832 to 29,644 Dth, as depicted in Schedule  
19 7 to my Direct Testimony.

20  
21 Q. DID MERC “ACCOUNT FOR THE TRANSPORTATION LOAD DIFFERENTLY  
22 FOR FEBRUARY 17” AS MR. KING ASSERTS?

1 A. No. MERC accounted for its transportation load on gas day February 17 consistent  
2 with the Company's previous load forecasting approach. In particular, as  
3 described above, MERC forecasted total load, inclusive of all firm, interruptible,  
4 and transportation customer requirements for February 17. MERC then removed  
5 known transportation volumes *based on the volumes* MERC's transportation  
6 customers had scheduled for delivery on the NNG pipeline on the previous day.

7  
8 Q. WAS THE ADJUSTMENT TO THE RAW FORECAST REFLECTED IN  
9 SCHEDULE 7 TO YOUR DIRECT TESTIMONY?

10 A. Yes, but not as clear as it could have been depicted. Schedule 7 only reflects the  
11 raw load forecast prior to this adjustment. As discussed above and in my Direct  
12 Testimony, MERC's Gas Supply Group analyzes the forecast for accuracy based  
13 on previous days or previous similar weather prior to 7:30 a.m. and may adjust the  
14 raw forecast if that review results in a determination that the forecast is over- or  
15 under-stated relative to previous days or previous similar weather. MERC adjusted  
16 the overall system forecast based on the Company's experience over the  
17 weekend.

18  
19 Q. WHAT WAS MERC'S RAW FORECAST FOR FEBRUARY 17, 2021?

20 A. MERC's raw forecast was 391,379 Dth.

21  
22 Q. WHAT WAS MERC'S ADJUSTED LOAD FORECAST FOR GAS DAY  
23 FEBRUARY 17?

1 A. As described above, on February 16 when planning for gas day February 17,  
2 MERC realized its forecast for day of gas deliveries was trending long over the  
3 previous few days. In response to this information, MERC's Gas Supply Group  
4 reduced planned daily purchases by 27,188 Dth. Based on this, MERC's adjusted  
5 load forecast was 364,191 Dth.

6  
7 Q. WAS THE ADJUSTMENT MADE SPECIFIC TO MERC'S TRANSPORTATION  
8 CUSTOMER LOAD?

9 A. No. MERC adjusted the full forecasted load for gas day February 17 across all  
10 customers. While MERC had observed 23<sup>rd</sup> hour nomination cycle transportation  
11 volumes below originally scheduled volumes over the weekend, that was only part  
12 of the consideration in the Company's adjustment to the gas day February 17 load  
13 forecast. MERC adjusted its raw forecast based on the observation that the overall  
14 forecast had trended longer than actual load.

15  
16 Q. DOES MERC HAVE ANY ABILITY TO CONTROL TRANSPORTATION  
17 CUSTOMER USAGE?

18 A. No. The only mechanisms MERC has to predict transportation customer supply  
19 deliveries are its load forecast based on historical data and weather forecast  
20 information and the actual volumes transportation customers' schedule. MERC  
21 cannot precisely predict how much gas transportation customers ultimately burn  
22 at their premises and does not have any insight into transportation customers'  
23 plans for natural gas usage aside from historical usage and scheduled volumes.

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Q. WAS MERC'S FORECAST FOR TRANSPORTATION LOAD FOR FEBRUARY 17 REASONABLE AND CONSISTENT WITH THE COMPANY'S STANDARD APPROACH TO ESTIMATING TRANSPORTATION VOLUMES?

A. Yes, MERC's approach to use scheduled transportation volumes appropriately assumes that transportation customers will deliver the volumes they use. MERC's approach to forecasting transportation volumes is reasonable because it relies on the most accurate and up-to-date information the Company has regarding transportation customers' anticipated load and because it appropriately assumes a system load forecast where transportation customer requirements are covered by transportation deliveries. Further, as described above, the Company did not modify its treatment of transportation load during the event. However, the Company did appropriately adjust its forecasted load for February 17 based on experience over the weekend with actuals being below forecasted load.

Q. WHAT WERE THE FORECASTED TEMPERATURES FOR GAS DAY FEBRUARY 17?

A. As shown in Table 2 below, forecasted average daily temperatures were between 0.7 degrees and 6.3 degrees Fahrenheit across the four weather stations that are used for MERC-NNG weather forecasting.

1 **Table 2. Forecasted Average Daily Temperatures – Gas Day February 17**

<b>Weather Station</b>	<b>Forecasted Average Daily Temperature (Feb. 17)</b>
Minneapolis International	6.3 degrees Fahrenheit
Rochester	4.1 degrees Fahrenheit
Cloquet	0.7 degrees Fahrenheit
Worthington	5.4 degrees Fahrenheit

2

3 Q. WHAT WERE ACTUAL TEMPERATURES ON GAS DAY FEBRUARY 17?

4 A. Actual temperatures were warmer across all four of the weather stations used to  
5 forecast load for MERC NNG, as shown in Table 3.

6 **Table 3. Actual Average Daily Temperatures – Gas Day February 17**

<b>Weather Station</b>	<b>Forecasted Average Daily Temperature (Feb. 17)</b>
Minneapolis International	7.7 degrees Fahrenheit (1.4 degrees warmer)
Rochester	4.8 degrees Fahrenheit (0.7 degrees warmer)
Cloquet	6.8 degrees Fahrenheit (6.1 degrees warmer)
Worthington	5.3 degrees Fahrenheit (0.3 degrees warmer)

7

8 Q. WHAT IMPACT DO WARMER THAN FORECASTED TEMPERATURES HAVE  
9 ON ACTUAL VERSUS FORECASTED LOAD?

10 A. All else equal, warmer than forecasted temperatures will result in actual load below  
11 forecast.

12



1 Q. HOW DOES THE RAW FORECAST FOR FEBRUARY 17, 2021 COMPARE TO  
2 HISTORICAL ACTUALS FOR SIMILAR DAYS?

3 A. MERC gathered data with a similar day of week (Tuesday, Wednesday, and  
4 Thursdays) and average temperatures between 4.5 degrees and 10 degrees and  
5 included data back to December 2019, as shown in Table 4. This query produced  
6 13 days matching the criteria. The historical actuals varied between 348,018 Dth  
7 to 382,727 Dth, with an average of 361,706 Dth. The raw forecasted data for  
8 February 17 was 391,379 Dth. This was higher than historical, but only 8,652 Dth  
9 higher than the historical actuals with a similar average temperature and day of  
10 week that occurred on December 11, 2019.

11 **Table 4. Historical Actuals Under Similar Weather and Days**

Gas Day	Day of Week	Pipeline	Avg Temp	Actual Load DTH	
2/17/2021	Wednesday	NNG	7	325,439	
3/5/2019	Tuesday	NNG	8.1	348,018	
2/14/2019	Thursday	NNG	7.5	348,594	
2/12/2020	Wednesday	NNG	8.5	353,055	
2/5/2019	Tuesday	NNG	10	353,481	
1/1/2019	Tuesday	NNG	4.5	355,996	
1/27/2021	Wednesday	NNG	9	357,162	
1/19/2021	Tuesday	NNG	8.3	359,245	
2/18/2020	Tuesday	NNG	9.7	363,306	
12/17/2019	Tuesday	NNG	9.2	366,540	
2/26/2019	Tuesday	NNG	5.3	367,962	
1/15/2020	Wednesday	NNG	4.7	370,804	
12/18/2019	Wednesday	NNG	9.4	375,288	
12/11/2019	Wednesday	NNG	6.5	382,727	
				Average Load	361,706

12  
13

1 Q. IS 391,379 DTH REASONABLE FOR A FORECAST FOR FEBRUARY 17 GIVEN  
2 THE DAY AND FORECASTED AVERAGE TEMPERATURES?

3 A. Yes, this forecast is in line with actual load experienced under similar weather and  
4 during a weekday period. However, as discussed earlier, when planning for gas  
5 day February 17 on February 16, MERC realized the forecast had been trending  
6 to be over forecasted for the prior few days. Recognizing this, MERC adjusted  
7 accordingly and reduced the daily purchases from the previous days by 27,188  
8 Dth, or from 56,832 to 29,644 Dth, as depicted in Schedule 7 to my Direct  
9 Testimony for spot purchases.

10  
11 However, based on what was known on February 16 when planning for gas day  
12 February 17, it would not have been reasonable for MERC to further reduce its  
13 planned supply, recognizing that there was still potential that the supplies MERC  
14 had under contract could have been subject to intraday losses due to force  
15 majeure issues. As described above and detailed in the Direct Testimony of Mr.  
16 Smead, between Monday, February 15 and Wednesday February 17, Permian  
17 output had dropped by 8.7 Bcf/day or 74.5 percent. This represents approximately  
18 10 percent of all U.S. natural gas production from all sources. Ensuring adequate  
19 supply and reserve on gas day February 17 was reasonable to ensure continued  
20 and reliable service to customers. The fact that large supply cuts were not  
21 ultimately experienced by MERC-NNG under its supply contracts, while known  
22 with the benefit of hindsight, does not change the fact that production losses were  
23 growing in Texas and elsewhere across the production region at the time and the

1 threat of significant cuts was a very realistic possibility when the Company was  
2 planning for gas day February 17. MERC needed to keep the force majeure risk  
3 in mind when it was adjusting its forecast and planning for supplies for February  
4 17.

5  
6 Q. PLEASE PROVIDE AN UPDATED TABLE REFLECTING THE RAW DATA AS  
7 ORIGINALLY FILED, ACTUALS FOR LOWEST HISTORICAL DAY, HIGHEST  
8 HISTORICAL DAY, AND THE AVERAGE HISTORICAL DAY FOR FEBRUARY  
9 17, 2021 SIMILAR TO SCHEDULE 7.

10 A. Table 5 below depicts high, low, and average forecasts available at the time  
11 decisions were made for February 17. MERC provided the raw forecasted data in  
12 the original Schedule 7 to my Direct Testimony of 391,379 Dth. However, as stated  
13 earlier, the Company was aware that was not the best forecast to plan to. MERC  
14 therefore targeted between the highest historical actual day and the lowest  
15 historical actual day, settling around the average historical days and going into the  
16 day with planned supply approximately 10 percent above adjusted forecasted load.

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**Table 5. High, Low, and Average Load Range**

Day of Gas Flow	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday
	2/17/2021 Original filed	2/17/2021 Lowest	2/17/2021 Highest	2/17/2021 Average	2/17/2021 Final Adjusted
<b>Gas Purchase Process Based upon Information Known at time of Final Spot Gas Purchase Day for Flow Day</b>					
Forecast For Day of Gas Deliveries	391,379	348,018	382,727	361,706	364,191
Latest Transportation Customer Info Known at Time of Purchase	(138,405)	(138,405)	(138,405)	(138,405)	(138,405)
System Requirements (Forecast less known Transport)	252,974	209,613	244,322	223,301	225,786
	252,974	209,613	244,322	223,301	225,786
Start of Day Storage Nominations	87,341	87,341	87,341	87,341	87,341
Delivered Storage per Start of Day Nominations	86,302	86,302	86,302	86,302	86,302
<b>Planned Delivered Supplies (Ignores Cuts)</b>					
Term Baseload	94,640	94,640	94,640	94,640	94,640
Physical Forward Option	38,779	38,779	38,779	38,779	38,779
Spot Purchase	29,644	29,644	29,644	29,644	29,644
Planned Purchases/ Withdrawals - Long/(Short) vs Forecast	(3,609)	39,752	5,043	26,064	23,579
Reserve Delivered Supply (%)	-1.43%	18.96%	2.06%	11.67%	10.44%

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Q. WAS MERC'S APPROXIMATELY 10 PERCENT PLANNED SUPPLY RESERVE REASONABLE FOR GAS DAY FEBRUARY 17?

6

7

A. Yes. MERC's planned supply reserve of 10 percent above the adjusted forecasted load was reasonable under the circumstances faced by the Company on February 16, 2021 when planning to ensure reliable gas supply for gas day February 17. On critical days like those experienced in February 2021, MERC targets planning for daily supply in excess of forecasted load to avoid incurring potentially significant pipeline penalties. As acknowledged by Mr. King, it is important to have a reserve margin to address the risk of imbalance penalties, potential supply cuts, and forecast uncertainty.<sup>15</sup> Mr. King also notes that "[a]lthough large supply cuts did not manifest for February 14, natural gas production declines continued to

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<sup>15</sup> DOC Ex. \_\_\_\_ at 56 (King Direct).

1 increase.”<sup>16</sup> As I discuss above, the fact that large supply cuts were not ultimately  
2 experienced by MERC does not change the fact that the threat of significant cuts  
3 was a very realistic possibility when the Company was planning for gas day  
4 February 17. MERC needed to account for this very real risk when planning for  
5 supplies for February 17.

6  
7 Q. WHAT MAGNITUDE OF NNG PENALTIES WAS MERC EXPOSED TO IF THE  
8 COMPANY HAD UNDERDELIVERED GAS DURING THE EVENT?

9 A. As detailed in my Direct Testimony, MERC was exposed to NNG penalties of up  
10 to three times the daily spot price, or approximately \$695 per Dth.

11  
12 Q. WHAT DOES MR. KING CONCLUDE REGARDING THE REASONABLENESS  
13 OF PLANNING FOR SUPPLY IN EXCESS OF FORECASTED LOAD?

14 A. Department witness Mr. King concludes that “the risk of punitive imbalance  
15 penalties, potential supply cuts, and forecast uncertainty are all valid drivers for  
16 holding a supply reserve margin.”<sup>17</sup> However, Mr. King notes that the utilities did  
17 not explain how the level of supply reserve was determined and asks that each of  
18 the gas utilities provide further information and details supporting the quantity of  
19 supply reserves during the February Event.

20  
21 Q. HOW DO YOU RESPOND TO MR. KING’S REQUEST?

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<sup>16</sup> DOC Ex. \_\_\_ at 65 (King Direct).

<sup>17</sup> DOC Ex. \_\_\_ at 56 (King Direct).

1 A. As described in my Direct Testimony, “in situations such as February Market  
2 Event, MERC targets being long to reduce the risk of NNG’s penalties.” As  
3 discussed in MERC’s response to Department Information Request No. 16,

4 During cold weather events, it is common for NNG to call a  
5 System Overrun Limit, or an SOL, Critical Day, or other  
6 declarations to ensure shippers provide enough supply to  
7 meet the ultimate demand. When such declarations are  
8 made, penalties for not delivering enough supply to meet  
9 demand escalate dramatically (i.e. \$695 per Dth during the  
10 February event). Coupled with that, MERC has a significant  
11 amount of customers that are not telemetered, meaning we  
12 do not get their hourly measurement information. Not having  
13 the full system updated demand measurement makes it hard  
14 to identify a trend as to how the actual system total demand is  
15 deviating from the forecasted system total demand. To  
16 account for the demand uncertainty, MERC targets being 20k-  
17 25k (roughly 7%-9% of peak demand) long to avoid the risk of  
18 NNG’s escalated penalties and ensure sufficient supply for  
19 other unknown variables (i.e. colder than forecasted  
20 temperatures, supply disruptions).

21 However, MERC does not apply a formulaic calculation to determining the specific  
22 volume of supply in excess of forecasted load. Instead, the Company evaluates  
23 its supply based on a range of factors and using expertise and judgement. Factors  
24 that impact the appropriate level of supply reserve include monthly imbalance  
25 levels, pipeline constraints, storage inventory levels, and forecast uncertainty,  
26 including the duration of the forecast (i.e., a forecast covering a four-day weekend  
27 has more forecast uncertainty than a single-day forecast). Risk associated with  
28 supply cuts and production issues also impact the Company’s planning for the  
29 appropriate level of supply reserve.

30

1 Q. AS STATED ABOVE, MERC TARGETS BEING 20K-25K (ROUGHLY 7  
2 PERCENT TO 9 PERCENT OF FORECAST), BUT MERC APPEARS TO HAVE  
3 PLANNED FOR ABOUT 23,000 DTH (ROUGHLY 10 PERCENT) ON FEBRUARY  
4 17. WHY?

5 A. MERC took a conservative approach when planning for February 17 because of  
6 the circumstances and information that was known at that time. Although MERC  
7 had additional data from the weekend, significant uncertainty remained with  
8 respect to the weather forecasts, actuals being accurate and complete, the  
9 continued risk associated with production freeze-offs, and the risk of supply cuts.  
10 As I describe above, when planning for gas day February 17, MERC was aware of  
11 the blackouts in Texas and the fact that natural gas production across the U.S. and  
12 Texas had been shut in, with production losses of approximately 74 percent in the  
13 Permian region of Texas. At that time, natural gas production losses were  
14 continuing to increase, increasing the potential of supply cuts due to force majeure.  
15 Under these conditions, MERC was at a much greater risk of intraday supply cuts  
16 than it would be under normal circumstances. In order to maintain reliability for its  
17 customers, MERC had no choice but to plan for a higher reserve margin for gas  
18 day February 17.

19  
20 In addition, MERC had experienced in recent history under similar weather and  
21 day of week with actual customer loads ranging from about 348,000 Dth to 382,000  
22 Dth. These volumes are not a forecast, but reflect actual experience, so it is  
23 reasonable to anticipate anything within that range would be plausible.

1

2 Q. ARE THERE UTILITY-SPECIFIC CONSIDERATIONS THAT IMPACT THE  
3 LEVEL OF SUPPLY RESERVE THAT IS REASONABLE AND NECESSARY TO  
4 ENSURE RELIABLE GAS SERVICE TO CUSTOMERS?

5 A. Yes. As discussed in the joint utilities' response to Department Information  
6 Request No. 29, the parameters for supply reserve decisions are extremely utility  
7 and fact specific. There is no "one size fits all" approach. However, in general, a  
8 supply margin is established, especially during a strained operating condition, to  
9 address two potential issues: weather-related demand in excess of forecasts and  
10 the potential for supply cuts.

11

12 Q. WHAT CIRCUMSTANCES SPECIFIC TO MERC IMPACT HOW THE COMPANY  
13 PLANNED FOR SUPPLY RESERVE DURING THE FEBRUARY MARKET  
14 EVENT?

15 A. There are a few factors that support MERC's approach to ensuring adequate  
16 supply to meet customer requirements during the February Market Event. First,  
17 MERC does not own any peak shaving facilities to serve its Minnesota customers.  
18 As a result, MERC does not have this tool available to balance intraday or intra-  
19 weekend load variability in the event the weather becomes colder than forecasted,  
20 customer load increases, or the Company experiences large supply cuts. As a  
21 result, MERC has more limited tools available to address load shifts or changes in  
22 the weather, and it must take that fact into consideration as it is planning for  
23 adequate supply.



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Second, as noted by Department witness Mr. King, the Gas Utilities are limited by their available transportation. As I discussed in my Direct Testimony, MERC-NNG does not have transportation access to Viking, or other interstate pipelines in Minnesota, and MERC-NNG customers are only served by the NNG pipeline. As a result, MERC-NNG would be subject to the full force of applicable NNG pipeline penalties for any imbalances during the February Market Event. MERC-NNG had no alternative pipeline to mitigate imbalance in the event the Company underprocured supply. As I note above, NNG penalties during the event were up to three times the daily spot price, or approximately \$695 per Dth.

Q. HOW DID MERC'S ACTUAL LOAD COMPARE TO FORECASTED LOAD FOR GAS DAY FEBRUARY 17?

A. As shown in Table 6, MERC's actual total load on gas day February 17 was lower than the Company's total load forecast by approximately 12 percent. This was due to a number of factors, most notably, the warmer than forecasted weather and transportation customers using less than they scheduled on the pipeline to have delivered into MERC's distribution system. As shown in Table 3 above, actual average temperatures were warmer than forecasted across the MERC-NNG system, including 6.1 degrees warmer than forecasted in Cloquet.

1

**Table 6. Actual Load Results for Gas Day February 17**

<b>Gas Day 2/17/2021</b>	<b>Formula</b>	<b>Total (Dth)</b>	<b>Transport (Dth)</b>	<b>Sales (Dth)</b>
A. Forecast when Planning	"Total" = Raw Forecast (391,379) w/ Adjustment (27,188)	364,191	138,405	225,786
B. Actual Load		325,439	126,790	198,649
C. Imbalance	A-B	38,752	11,615	27,137
D. % Imbalance of Customer Type (Actuals)	(A-B)/B	12%	9%	14%
E. % Imbalance of Total (Actuals)	(A-B)/B	12%	4%	8%

2

3 Q. WHAT DOES THE TOTAL (DTH) COLUMN IN TABLE 6 DEPICT?

4 A. The total column in Table 6 depicts the raw forecast minus the adjustment, as  
5 explained earlier in my testimony, to clearly show what MERC utilized as the total  
6 system forecast for the day when planning supply. This total column also shows  
7 the actual load at the end of the day and the imbalance as an over-delivery of  
8 about 38,000 Dth, or 12 percent, for February 17. This total imbalance is a result  
9 of not only MERC planning for supply reserves to ensure customers had adequate  
10 reliable supply and would not be subject to penalties, but also that the  
11 transportation customers used less than they scheduled.

12

13 Q. WHY IS IT IMPORTANT TO SHOW SEPARATE COLUMNS FOR THE  
14 TRANSPORT DTH AND SALES DTH?

1 A. It is important to show the separate columns for the Transport Dth and the Sales  
2 Dth to demonstrate that MERC's transport customers contributed a significant  
3 portion of the total imbalance for this day. More specifically, of the total MERC  
4 imbalance of about 38,000 Dth, transportation customers directly caused about  
5 11,000 Dth or about 30 percent.

6

7 Q. WHY DOES THE TRANSPORTATION CUSTOMER IMBALANCE MATTER?

8 A. MERC, as a local distribution company, is responsible for daily balancing of the  
9 interconnections or town boarder stations between the Company's distribution  
10 system and the interstate pipeline. As a result, all daily imbalances caused by  
11 transportation customers are a portion of MERC's imbalance on the pipeline.

12

13 Q. CAN MERC CONTROL THE IMBALANCE OF TRANSPORTATION  
14 CUSTOMER?

15 A. To some extent. MERC's transportation tariff (Tariff sheet 6.03) has a monthly  
16 cashout procedure that financially settles the monthly net imbalance at the end of  
17 each month. However, MERC does not have tools to precisely control what occurs  
18 daily with respect to transportation customers. In addition, MERC does not have  
19 insight into what the transportation customers' usage will be each day.

20

21 Q. DOES MERC'S TARIFF INCENTIVIZE TRANSPORTATION CUSTOMERS TO  
22 BE LONG OR SHORT ON ANY GIVEN DAY?

1 A. The MERC-NNG transportation tariff mimics much of NNG pipeline tariff, including  
2 penalties at three times the market rate during critical days. Therefore, on days  
3 where the market price is high, transportation customers have the same incentives  
4 to deliver adequate supply to ensure they are not subject to punitive penalties.  
5 However, MERC cannot plan assuming transportation customers will over-deliver.  
6 MERC also cannot calculate and adjust in real time what transport customers  
7 might be over scheduling as it could cause MERC to be under supplied.

8

9 Q. WHAT PORTION OF THE TOTAL IMBALANCE ON FEBRUARY 17 WAS  
10 CAUSED BY MERC SALES CUSTOMERS?

11 A. As depicted in the Sales Dth column in Table 6, sales customers contributed about  
12 27,000 Dth to the total imbalance.

13

14 Q. WHAT DO YOU CONCLUDE REGARDING THE REASONABLENESS OF  
15 MERC'S LOAD FORECAST AND SUPPLY PLAN FOR GAS DAY FEBRUARY  
16 17?

17 A. For the reasons I discuss above, MERC's load forecast and overall approach to  
18 procuring supply for gas day February 17 was reasonable and appropriate under  
19 the circumstances, in light of the information that was or should have been known  
20 at the time we had to complete our daily purchases.

21

22 Q. WHAT DO CUB WITNESSES MR. CEBULKO AND MR. NELSON CONCLUDE  
23 REGARDING MERC'S LOAD FORECASTING?

1 A. Mr. Cebulko states that reasonably accurate load forecasting was important to  
2 avoid extraordinary index natural gas prices during the event. According to Mr.  
3 Cebulko, MERC had “overly conservative” load forecasts, which led to the over-  
4 procurement of gas. Mr. Cebulko argues that MERC over-forecasted by 9.95  
5 percent on February 14 and 34.32 percent on February 17. Mr. Cebulko calculates  
6 a range of disallowance recommendations based on his calculation of a 5 percent  
7 and 10 percent forecasting error and CUB witness Mr. Nelson recommends the  
8 high end disallowance of \$18 million of the extraordinary gas costs MERC incurred  
9 to serve customers during the event based on a 5 percent forecasting error  
10 tolerance.

11

12 Q. HOW DO YOU RESPOND TO MR. CEBULKO’S CONCLUSIONS REGARDING  
13 MERC’S FORECASTING?

14 A. I do not agree with Mr. Cebulko’s conclusion that the Company’s forecasts for  
15 February 14 and February 17 were unreasonable based on the forecasted  
16 weather, past experience, and information that was or could have been known at  
17 the time. I addressed the reasonableness of the Company’s load forecast for gas  
18 day February 17, 2021 above. With respect to the Company’s forecast for gas day  
19 February 14, I note that Mr. King does not take issue with MERC’s load forecast,  
20 noting that because system-wide and transportation customer forecast both  
21 included the over-anticipation of transportation customer load, the net sales  
22 customer forecast is not necessarily impacted.

23

1 Mr. Cebulko acknowledges that “it would be unreasonable to expect a utility to  
2 perfectly forecast load” but asserts it would be unreasonable to conclude the  
3 difference between MERC’s forecasted load and actuals were “due to pure  
4 happenstance.”<sup>18</sup> As I discuss in detail above, MERC took reasonable and  
5 appropriate steps to ensure its daily load forecasts were based on the most up-to-  
6 date and accurate information available and were reviewed for accuracy. During  
7 the February Market Event, MERC’s daily load forecasts were reasonable based  
8 on historical actual load under similar weather conditions in the recent past. That  
9 data clearly demonstrates there was no flaw in the Company’s overall forecast.  
10 Instead, factors entirely outside MERC’s control resulted in the larger deviation  
11 between forecasted and actual load. Additionally, while MERC does plan for  
12 supply in excess of forecasted load to ensure we are able to provide continuous  
13 and reliable service to our customers under circumstances like those that were  
14 experienced during the February Market Event, that evaluation has no impact on  
15 the Company’s load forecast. Mr. Cebulko’s apparent suggestion that the  
16 Company intentionally over-forecasted load is unsupported and illogical.

17  
18 Mr. Cebulko also acknowledges his use of hindsight in evaluating the  
19 reasonableness of MERC’s overall load forecast arguing that “this is inherent in  
20 any assessment of accuracy.”<sup>19</sup> However, Mr. Cebulko’s analysis fails to take into  
21 consideration the information that was or should have been known at the time the

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<sup>18</sup> CUB Ex. \_\_\_ at 47 (Cebulko Direct).

<sup>19</sup> CUB Ex. \_\_\_ at 47 (Cebulko Direct).

1 Company forecasted its daily load to determine supply requirements, instead  
2 relying on information that is only known with the benefit of hindsight.

3

4 Q. MR. CEBULKO CLAIMS THAT MERC HAS NOT PROVIDED SUFFICIENT  
5 INFORMATION TO DEMONSTRATE THE REASONABLENESS OF ITS LOAD  
6 FORECASTS FOR SALES CUSTOMERS. IS THAT ACCURATE?

7 A. No, it is not. As I previously explained, the raw load forecast is developed based  
8 on the forecasted average temperature and wind speeds, day of the week, and  
9 historical actual load data. Customer usage patterns vary (e.g., depending on  
10 whether it is a weekend or a week day), and these variations are accounted for in  
11 the development of the forecasted load requirements.

12

13 In addition to firm and interruptible customers, MERC-NNG serves transportation  
14 customers who are responsible to arrange for their own natural gas supply and  
15 interstate pipeline delivery. MERC forecasts its overall load requirements for all  
16 customers and then removes the volumes transportation customers actually  
17 scheduled for delivery on the pipeline on the previous gas day to yield a system  
18 sales load forecast. That system sales requirement forecast forms the basis for  
19 MERC's gas supply decisions.

20

21 Q. MR. CEBULKO NOTES THAT MERC'S LOAD FORECAST WAS RELATIVELY  
22 ACCURATE FOR MERC CONSOLIDATED BUT NOT FOR MERC-NNG. DOES

1 MERC EMPLOY A DIFFERENT METHODOLOGY FOR MERC CONSOLIDATED  
2 AND MERC-NNG?

3 A. No, MERC employs the same methodology for both Purchased Gas Adjustments.  
4 It is not reasonable to conclude one is relatively accurate and the other not when  
5 utilizing the same methodology.

6  
7 Q. HOW DOES THE RAW FORECAST FOR FEBRUARY 14, 2021 COMPARE TO  
8 HISTORICAL ACTUALS FOR SIMILAR DAYS?

9 A. MERC gathered data with a similar day of week (Sunday) and average  
10 temperatures between -10 degrees and -16 degrees and included data back to  
11 March 2019. MERC could find no similar days. This query was then expanded to  
12 include a wider range of weather and produced two days matching the criteria.  
13 The two days matching were -7.3 degrees or about 6 degrees warmer than  
14 Sunday, February 14, 2021. The historical actuals varied between 398,447 Dth to  
15 437,460 Dth. The raw forecasted data for February 14 was 456,675 Dth. This  
16 was higher than the actual historical load at warmer temperatures, which is to be  
17 expected. MERC utilized the raw forecast for supply planning, which appeared to  
18 be reasonable based on historical actual load data, forecasted temperatures, and  
19 information that was known when the Company completed its supply planning on  
20 February 12.



1 **Table 7. Historical Actuals Under Warmer Weather and Similar Days**

Gas Day	Day of Week	Average Temperature	Actual Load
2/14/2021	Sunday	-13.3	391,447 Dth
3/3/2019	Sunday	-7.3	398,930 Dth
2/7/2019	Sunday	-7.3	437,460 Dth

2

3 Q. IS 456,675 DTH REASONABLE FOR A FORECAST FOR FEBRUARY 14 GIVEN  
4 THE DAY AND FORECASTED AVERAGE TEMPERATURES?

5 A. Yes, this forecast is 19,215 Dth above actual load that was experienced on a  
6 similar day with an average temperature that was six degrees warmer. The raw  
7 forecast of 456,675 is consistent with actual load experienced under warmer  
8 weather and during a winter Sunday.

9

10 Q. WHEN DID MERC FIRST LEARN THAT THE FORECASTED LOAD FOR  
11 FEBRUARY 14 WOULD BE LOWER THAN INITIALLY FORECASTED?

12 A. As I stated in my Direct Testimony, the Company first learned around 7 a.m. the  
13 morning of February 15 that the forecasted load would be lower than initially  
14 forecasted. Specifically, the forecast of gas load was reduced from 456,675 Dth  
15 to 379,990 Dth, and the transport customers' estimated volumes were reduced  
16 from 187,789 Dth to 137,765 Dth, or 50,024 Dth less than originally expected.  
17 Because MERC procured gas for February 13 to 16 based on the load forecast for  
18 February 14, the coldest forecasted day during this time period, MERC had no

1 knowledge on February 12 that its load forecast for February 14 would be lower  
2 than originally forecasted.

3

4 Q. WHY DID THE LOAD FORECAST FOR FEBRUARY 14 DECREASE THE  
5 MORNING OF FEBRUARY 15 (AT THE END OF GAS DAY FEBRUARY 14)?

6 A. The load forecast for February 14 decreased primarily because transportation  
7 customers used less than what was forecasted, as well as what they scheduled on  
8 the pipeline to have delivered into MERC's distribution system. As I previously  
9 indicated, in addition to actual weather conditions, significant variability in  
10 transportation customer load over the course of the event, which is a factor outside  
11 of the Company's control and which can only be known with the benefit of  
12 hindsight, impacted differences between forecasted and actual load on February  
13 14.

14

15 Q. WOULD IT HAVE BEEN REASONABLE TO HAVE RISKED BEING SHORT ON  
16 GAS SUPPLY FOR FEBRUARY 14 UNDER THE CIRCUMSTANCES?

17 A. No, it would not have been. Because NNG had issued a SOL with 0 percent  
18 System Management Service, MERC's typical 5 percent tolerance above the  
19 scheduled volume was no longer available, and MERC could not risk being short  
20 on gas supplies against daily demand without being assessed significant  
21 imbalance penalties by NNG.

22

1 Q. HOW DID MERC'S ACTUAL LOAD COMPARE TO FORECASTED LOAD FOR  
2 GAS DAY FEBRUARY 14?

3 A. As shown in Table 8, MERC's actual total load on gas day February 14 was lower  
4 than the Company's load forecast by approximately 17 percent. However, MERC's  
5 sales customer actuals load was only 5 percent lower than the forecasted sales  
6 load after accounting for transportation customer forecasted and actual deliveries.

7 **Table 8. Actual Load Results – Gas Day February 14**

<b>Gas Day 2/14/2021</b>	<b>Formula</b>	<b>Total (Dth)</b>	<b>Transport (Dth)</b>	<b>Sales (Dth)</b>
A. Forecast when Planning		456,675	187,789	268,886
B. Actual Load		391,447	134,237 <sup>20</sup>	257,210
C. Imbalance	A-B	65,228	53,552	11,676
D. % Imbalance of Customer Type (Actuals)	(A-B)/B	17%	40%	5%
E. % Imbalance of Total (Actuals)	(A-B)/B	17%	14%	3%

8  
9 Q. WHAT DOES THE TOTAL (DTH) COLUMN IN TABLE 8 DEPICT?

10 A. The total column in Table 8 depicts the forecast used for planning supply, the  
11 actual load at the end of the day, and the imbalance that reflects an over delivery  
12 of about 65,000 Dth, or 17 percent, for February 14. This total imbalance is a result  
13 of not only MERC planning for supply reserves to ensure customers had adequate  
14 and reliable supply, but also what the transportation customers over scheduled  
15 and delivered.

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<sup>20</sup> This reflects actual transportation customer load for gas day February 14. Mr. Cebulko's Table 6 reflects scheduled transportation load volumes, which accounts for the difference.

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Q. WHY IS IT IMPORTANT TO SHOW SEPARATE COLUMNS FOR THE TRANSPORT DTH AND SALES DTH?

A. As I discussed above regarding February 17, it is important to show the separate columns for the Transport Dth and the Sales Dth to demonstrate that MERC's transport customers contributed a significant portion of the total imbalance. More specifically, of the total MERC imbalance of about 65,000 Dth, transportation customers caused about 53,000 Dth or about 82 percent of the total imbalance.

Q. COULD MERC HAVE REDUCED ITS OWN PURCHASES AND ASSIGNED A VOLUME IT EXPECTED THE TRANSPORTATION CUSTOMERS TO BE LONG ON FEBRUARY 14?

A. No, as explained earlier in my testimony, MERC'S Transportation tariff mimics much of the NNG tariff, including penalties at three times the market rate during critical days. Even if we anticipate most transportation customers will deliver extra supply to ensure they are not subject to penalties from MERC for under scheduling, MERC can neither estimate how much, nor calculate and adjust in real time, what transportation customers might be over scheduling.

Q. WHAT PORTION OF THE TOTAL IMBALANCE IS CAUSED BY MERC SALES CUSTOMERS?

1 A. As depicted in the Sales Dth column in Table 8, sales customers contributed about  
2 11,000 Dth to the total imbalance. Looking only at forecasted sales load and actual  
3 sales load, the forecast was only 5 percent above forecast.

4

5 Q. WHAT DO YOU CONCLUDE REGARDING THE REASONABLENESS OF  
6 MERC'S LOAD FORECAST AND SUPPLY PLAN FOR GAS DAY FEBRUARY  
7 14?

8 A. MERC's load forecast and overall approach to procuring supply for gas day  
9 February 14 was reasonable and appropriate under the circumstances, in light of  
10 the information that was known and could have been known at the time we had to  
11 complete our daily purchases. As the coldest forecasted day of the Presidents'  
12 Day weekend, MERC reasonably procured gas to ensure safe and reliable service  
13 to its customers based on its load forecast for February 14.

14

15 **IV. CONCLUSION**

16 Q. Does this conclude your Rebuttal Testimony?

17 A. Yes.