**Before the Public Service Commission
of the State of Missouri**

Rebuttal Testimony

of

Eric Fox

on behalf of

Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty

August 22, 2024

REBUTTAL TESTIMONY OF ERIC FOX
LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP. D/B/A LIBERTY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. GR-2024-0106

1 **Q. Please state your name and business address.**

2 A. My name is Eric Fox. My business address is 20 Park Plaza, 4th Flr., Boston,

3 Massachusetts, 02116.

4 **Q. Are you the same Eric Fox who provided direct testimony in this matter on behalf**

5 **of Liberty Utilities (Midstates Natural Gas) Corp. ("Liberty" or the "Company")?**

6 A. Yes.

7 **Q. What is the purpose of your rebuttal testimony in this proceeding before the**

8 **Missouri Public Service Commission ("Commission")?**

9 A. The purpose of my rebuttal testimony is to address Staff witness Dr. Hari Poudel

10 weather normalization estimation process and resulting billing determinants. Billing

11 determinants are used in Staff witness Michael Stallman's testimony in estimating Staff

12 test-year revenues with current rates and is further used to determine the revised rates

13 needed to meet Staff's proposed annual revenue requirements.

14 **Q. What is your primary concern?**

15 A. My primary concern is Dr. Poudel's estimated weather-normal billing determinants are

16 too high and result in rates that will not be able to reasonably collect the ordered

17 revenue requirements.

18 While Staff's method is sound, the issue is with the 2023 billed sales data and

19 associated meter read schedule used in Staff's estimation. In October 2023, Liberty

20 implemented a new billing system. As part of the implementation, Liberty changed the

1   meter read schedule that effectively pulled customer usage forward in October,

2   November, and December. Prior to the new billing system, reported bill-month sales

3   reflected usage in the prior month and two-month prior period; under the new schedule,

4   billed sales are based on usage in the first half of the current month and second half of

5   the prior month (this is a more typical meter reading schema). This has the biggest

6   impact on December billed sales as under the old billing system, half of the December

7   sales would have rolled into January 2024. The 2023 billed sales effectively include 12

8   and half months of sales (all of 2022 December sales and half of December 2023 sales).

9   The meter read schedule developed by Staff is also impacted. Staff built out a meter

10   read schedule that reflects the old meter read pattern. Staff's December meter read

11   schedule for example shows a read date of November 18th. With the new billing

12   system, December read dates now fall in December (meter read dates vary from

13   December 6th to December 20th based on the municipality); as a result, Staff is weather

14   normalizing December/November usage with October/November HDD. Similarly,

15   November billed sales include customer usage through mid-November, but Staff's

16   HDD are based on a schedule with an October 18th read date.

17   The impact is most visible in residential billed sales. **Table 1** below compares

18   residential five-year average annual use against Staff's weather normal estimate for the

19   update period (2023) and Itron's weather-normal estimated for the test-year period

20   (2022).

1 **Table 1: Residential Usage Comparison (CCF)**

Residential (CCF Per Customer)			
Zones	5-yr average	Staff Estimate (2023)	Itron Estimate (2022)
NEMO	727.0	813.2	720.0
SEMO	557.5	644.3	585.2
WEMO	691.2	764.7	710.5

2

3 Staff's 2023 update estimates are significantly higher than the five-year estimates and

4 our test-year estimates.

5   Another way to validate the reasonableness of the normal sales estimates is to

6 view historical usage trends. Residential average use is generally flat to declining (due

7 to efficiency improvements) when adjusted for weather. **Figure 1** below shows

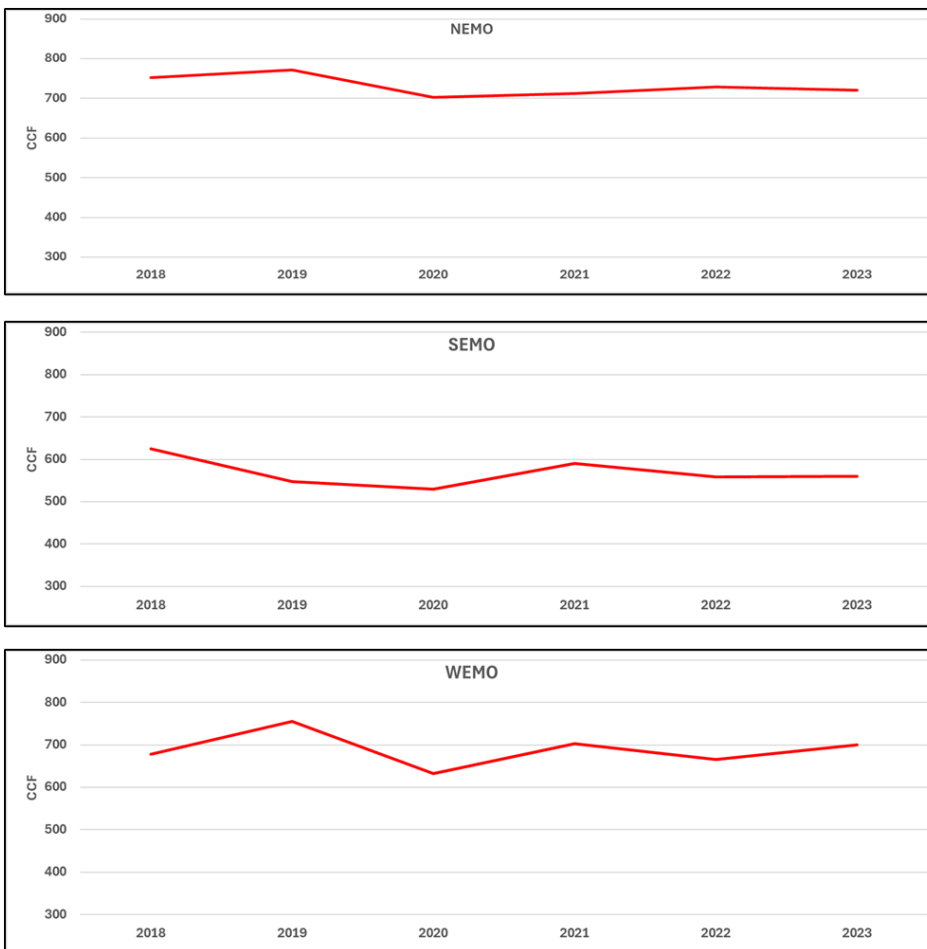8 residential average use for the three regions.

9 **Figure 1: Residential Annual Average Use**

10

1   The figures show annual average customer use should be around 700 CCF for NEMO

2   and WEMO and 600 CCF for SEMO.

3 **Q.**   **Staff weather adjusted Large General Service (LGS) rate class sales up. Was this**

4   **adjustment reasonable?**

5 **A.**   No. The relationship between temperature and LGS usage is weak. While there may

6   be some weather-sensitive heating load, it's difficult to visualize and even more

7   difficult to estimate a meaningful adjustment factor. **Figure 2** below shows the

8   relationship between LGS average use and monthly average temperature in SEMO.

9   **Figure 2 SEMO LGS Monthly Average Use (January 2018 to December 2023)**
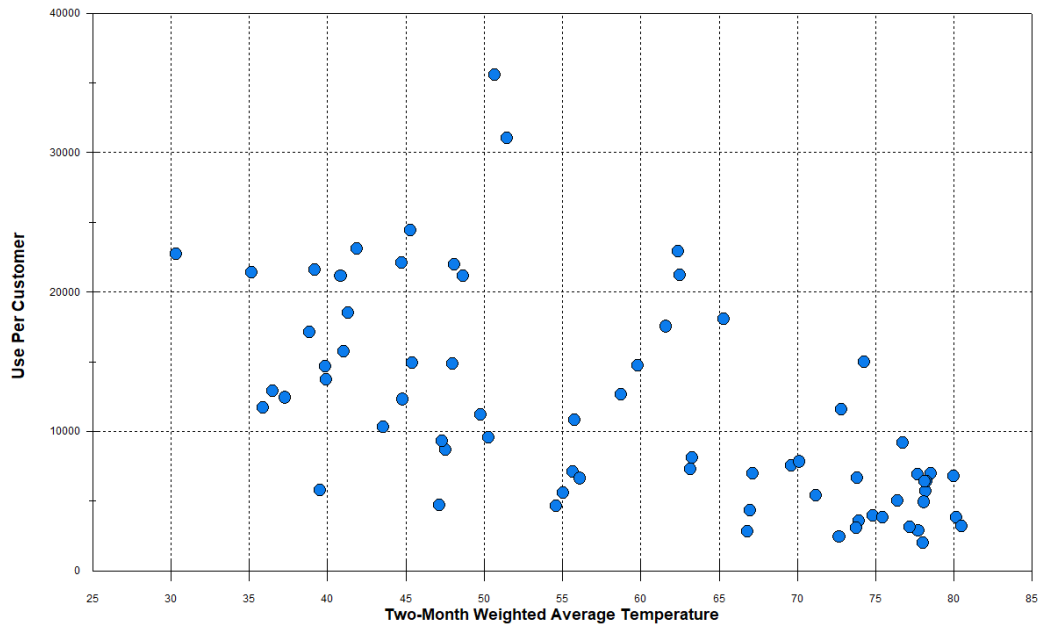
10

11   For any given temperature there is a large range of monthly usage. The relationship

12   with weather is similar for LGS in the NEMO service area.

13   Staff estimates LGS adjustment coefficients for SEMO and NEMO with the

14   2023 billed sales data. For SEMO, the model R-Squared (a measure of how well the

15   model explains usage variation) is 0.22 indicating that the model is explaining very

16   little of the sales variation. The T-statistic, which measures the statistical significance

4

1   of the weather adjustment coefficient is 1.72. At the 95% confidence level with 10

2   degrees of freedom (12 observations - 2 variables) the estimated coefficient is not

3   statistically different from 0. Results for the Staff's NEMO LGS model is similar.

4   Given the lack of statistical significance, LGS sales should not be weather normalized

5   using these model coefficients. In fact, LGS sales should not be weather normalized at

6   all.

7   **Q.   Did you also develop weather-normal billing determinants for the 2023 update**

8   **period?**

9   A.   Yes. Liberty revised its billing determinants for the 2023 Update Period. The same

10   model that I used in estimating 2022 Test Year normal sales has been used in

11   developing the Update Period estimates; please refer to my direct testimony for

12   explanation of the modeling approach. A benefit of utilizing our modeling approach is

13   that it avoids the Staff's issues with the meter-reading schedule for the majority of the

14   Update Period as it is based on a longer-term regression model that relates customer

15   average use to prior month and prior two-month period HDD; as the meter read

16   schedule is not a direct input. However, even with our modeling approach there is a

17   similar issue that plagues Staff estimates for the months of November and December

18   2023. That issue is billed average use is higher in these months than in prior years

19   because of the change in the meter read schedule; adding a weather adjustment for these

20   months would just compound the problem. Therefore, to resolve this issue instead of a

21   weather adjustment for the months of November and December I had the model predict

22   average use for normal November and December HDD. This results in an average use

23   for the months of November and December which resemble what it would be if the

24   meter reading schedule didn't change. As such, the resulting Update Period estimates

1   are like Test Year estimates; which is reasonable as there is no reason to assume there

2   would be a significant change in weather-normal use between 2022 and 2023. The

3   Update Period billing determinant estimates will be provided as workpapers.

4   **Q.   Please summarize your rebuttal testimony**

5   A.   Staff's estimated billing determinants are too high and are likely not appropriate to

6   recover the Commission approved revenue requirement. Staff estimates need to be

7   adjusted to reflect the change in the meter read schedule resulting from the new billing

8   process and adjusted for the extra December sales that fall in the 2023 Update Period.

9   Residential normalized average use should be closer to the five-year average. The Itron

10   2023 Update Period estimates for residential, small commercial, and medium

11   commercial are more reasonable then Staff's and should be used in determining

12   revenue requirements and rate design. The LGS Update Period sales should not be

13   adjusted for weather as there is no measurable relationship between temperature and

14   LGS monthly use.

15   **Q.   Does this conclude your rebuttal testimony at this time?**

16   A.   Yes.

<u>VERIFICATION</u>

I, Eric Fox, under penalty of perjury, on this 22nd day of August, 2024, declare that the foregoing is true and correct to the best of my knowledge and belief.

<u>/s/ Eric Fox</u>