Exhibit No.: _____
Issues: Weather Normalization
Witness: Eric Fox
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Sponsoring Party: Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty
Case No.: GR-2024-0106
Date Testimony Prepared: September 2024

Before the Public Service Commission of the State of Missouri

Surrebuttal Testimony

of

Eric Fox

on behalf of

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

September 19, 2024

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Eric Fox. My business address is 20 Park Plaza, 4th Floor, Boston, Massachusetts, 02116.

Q. Are you the same Eric Fox who provided direct and rebuttal testimony in this matter on behalf of Liberty Utilities (Midstates Natural Gas) Corp. ("Liberty" or the "Company")?

A. Yes.

Q. What is the purpose of your surrebuttal testimony in this proceeding before the Missouri Public Service Commission ("Commission")?

A. The purpose of my surrebuttal testimony is to address rebuttal testimony of Staff witnesses Francisco Del Pozo and Dr. Hari K Poudel.

II. RESPONSE TO STAFF WITNESS DEL POZO

Q. In Mr. Del Pozo's rebuttal testimony, he argues that the weather station in Columbia should be used instead of Kirksville for weather normalizing gas sales in the northeast region (NEMO). Do you agree?

A. No. The Kirksville weather station was selected as it captures the winter weather conditions and associated gas use in NEMO better than that of Columbia. NEMO includes Kirksville and Hannibal where primary winter heating months (December, January, and December) are significantly colder than Columbia. NOAA shows the

average winter temperature for Kirksville is 36 degrees (average of December, January, and February) and 38 degrees in Hannibal. This compares with 41 degrees in Columbia.

Q. Mr. Del Pozo's selected Columbia instead of Kirksville because there is a longer daily temperature history (30 years) than in Kirksville (24 years). Is that a good reason for using Columbia for weather normalizing NEMO sales?

A. No. There is long enough historical data for Kirksville to calculate 20-year normal heating degree days (HDD). It is more important to reflect the region's weather conditions than constructing a 30-year normal weather period that does not. A 20-year normal is a reasonable period for calculating expected HDD and associated heating gas use. Most utilities are now using 20 years or less for calculating normal weather. Based on Itron's most recent utility forecast survey (2024), 64% of utilities are using 20 years or less for calculating normal weather. The survey includes 101 electric utilities and 15 gas utilities.

III. RESPONSE TO STAFF WITNESS DR. HARI

Q. Staff witness Dr. Hari's rebuttal testimony also expresses concerns about using a 20-year normal weather period instead of a 30-year normal period. Do you agree that there is cause for concern?

A. No. As I responded above to Mr. Del Pozo's rebuttal testimony, using 20 years of historical weather data from Kirksville captures Kirksville and Hannibal heating loads conditions better than using 30 years of weather data from Columbia. Dr. Hari's statement that the Staff's use of a 30-year timefame is a firmly established industry practice (page 2 line 12) is no longer true. Based on Itron's most recent utility forecast survey, most utilities are using 20 years or less for calculating normal weather.

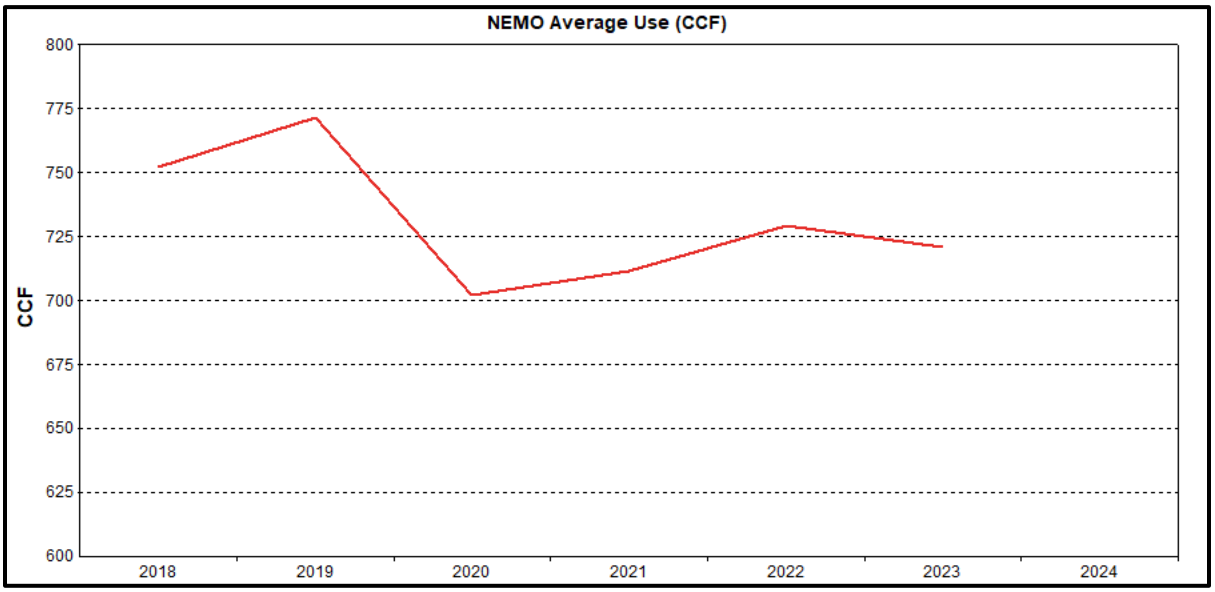
Q. Dr. Hari also has concerns with including 2022 weather in weather normalizing 2022 sales, arguing that including 2022 weather data bias the 2022 weather normal results. Do you agree?

A. No. The calculation of normal weather and estimating the weather normal models are two separate processes. The selection of the normal weather historical period (including 2022) will not cause serial correlation or bias in the model results. The models are estimated with actual weather data -- not normal weather. The most common method of measuring serial correlation is the Durbin-Watson ("DW") statistic. My model DW statistics vary from 1.8 to 2.2 (provided in Direct Schedule EF-2) indicating there is no first order serial correlation. Even if the models had serial correlation, the estimated weather coefficients would still be unbiased and reasonable to use for weather normalization. In contrast, Staff's weather-normal models were estimated using only 2023 sales data with just 12 data points and would be more likely to be biased. I included 2022 weather data in calculating the 20-year normal period as it was the last full year of available weather data at the time of the analysis. It seems reasonable to include the most recent available weather data in calculating normal weather. As indicated in Dr. Poudel's rebuttal testimony, Staff also used weather data through 2022. The same normal weather data (calculated through 2022) was used in our 2023 update estimates; there is no overlap in the update period and normal weather.

Q. Dr. Poudel's rebuttal testimony indicated that Staff adjusted its weather normalization based on Liberty's revised response to Staff DR 209. Were there any meaningful changes in the Staff's revised estimates?

A. No. Dr. Poudel's revised estimates are just slightly lower than his initial estimates. The Staff 2023 weather-normal estimates are still too high and will likely not collect the

allowed revenue requirement. The problem with using 2023 billed sales data as a base year for determining revenues is still the same; the year is not reflective of typical customer use because of change in the meter read schedule. If Staff compared their 2023 weather normal estimates with historical customer use, they too would realize their estimates are too high. In NEMO for example, Staff's revised residential weather-normal average use is 810 CCF per year down from 813 CCF. But as depicted in the figure below, the highest average gas usage since 2018 is 771 CCF in 2019 where HDD were 6% higher than the 20-year normal. It's unlikely gas usage will reach 813 CCF per customer with normal weather – whether it's a 30-year or 20-year average. Please refer to the surrebuttal testimony of Company witness Timothy S. Lyons for additional discussion on the inappropriateness of the gas usage being used in Staff's revenue adjustments.



Q. Please summarize your surrebuttal testimony.

A. For NEMO, Staff argued that we should use 30 years of weather data from the Columbia weather station instead of 20 years of weather data from Kirksville. I disagree as Kirksville better represents the weather conditions in NEMO which

includes Kirksville and Hannibal; it is significantly colder in both these cities than in Columbia. Dr. Poudel's argument that a 30-year historical period is the industry standard is no longer true; over the year's utilities have been migrating to shorter periods for calculating normal weather. Based on Itron's most recent utility forecasting survey 64% of respondents use 20 years or less for calculating normal weather. Dr. Poudel also argued that you can't include the test-year (2022) in calculating normal weather or it will bias the results. This is not true. Calculating normal temperatures is separate from estimating monthly weather response models with actual weather. Including 2022 weather in calculating normal weather will have no impact on model biasness or contribute to serial correlation. In fact, it is a good thing to capture current weather conditions when developing sales estimates that reflect what we are most likely to experience. But even this is no longer a relevant issue as I did not change the normal period in my 2023 update; there is no overlap between the update period and my normal weather.

While the process of generating normal weather, underlying modeling approach, and supporting statistics are important, the bottom line is arriving at estimates that are reasonable and consistent with historical usage trends. I believe my estimates provide a reasonable measure of expected customer gas usage and should be used in determining appropriate pricing.

Q. Does this conclude your surrebuttal testimony at this time?

A. Yes.

VERIFICATION

I, Eric Fox, under penalty of perjury, on this 19th day of September, 2024, declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/ Eric Fox