

Exhibit No.:

Issue:

**Weather Normalization,
Large User Billing Demands,
Residential & Small
Industrial Customer Levels
HVAC**

Witness:

Type of Exhibit:

Sponsoring Party:

Case No.:

Patricia A. Krieger

Rebuttal Testimony

Laclede Gas Company

GR-2002-356

FILED

AUG 02 2002

**Missouri Public
Service Commission**

LACLEDE GAS COMPANY

GR-2002-356

REBUTTAL TESTIMONY

OF

PATRICIA A. KRIEGER

August, 2002

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's)
Tariff to Revise Natural Gas Rate) Case No. GR-2002-356
Schedules.)

AFFIDAVIT

STATE OF MISSOURI)
) SS.
CITY OF ST. LOUIS)

Patricia A. Krieger, of lawful age, being first duly sworn, deposes and states:

1. My name is Patricia A. Krieger. My business address is 720 Olive Street, St. Louis, Missouri 63101; and I am Manager of Accounting of Laclede Gas Company.
2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony, consisting of pages 1 to 7, inclusive.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.


Patricia A. Krieger

Subscribed and sworn to before me this 15th day of August, 2002.


Joyce L. Jansen

JOYCE L. JANSEN
Notary Public — Notary Seal
STATE OF MISSOURI
ST. CHARLES COUNTY
My Commission Expires: July 2, 2005

1 **REBUTTAL TESTIMONY OF PATRICIA A. KRIEGER**

2 Q. Please state your name and business address for the record.

3 A. My name is Patricia A. Krieger and my business address is 720 Olive St., St.
4 Louis, Missouri, 63101.

5 Q. Are you the same Patricia A. Krieger who previously submitted direct testimony
6 in this proceeding?

7 A. Yes.

8
9 Q. What is the purpose of your rebuttal testimony?

10
11 A. The purpose of my rebuttal testimony is to respond to the direct testimony of Staff
12 witness Dennis Patterson, in the matter of Weather Normalization. Other Staff
13 witnesses filed testimony related to various components of the weather
14 normalization adjustment. The Company does not agree with or adopt in
15 principle all of the components of Staff's methodology. However, the only
16 significant difference in the results achieved in this proceeding between the
17 Company's and Staff's calculated adjustments to revenue requirement for weather
18 normalization relates to the appropriate level of normal heating degree days, as
19 sponsored by Mr. Patterson. I will address that particular issue. In addition, I will
20 respond to the direct testimony of Staff witness Anne Ross, on the issue of large
21 customer billing demands, John Cassidy on the issue of residential and small
22 industrial customer levels and Public Counsel witness Kimberly Bolin on the
23 appropriate treatment to be afforded the advertising expenses incurred by the
24 Company in connection with its Heating, Ventilation and Air Conditioning
25 ("HVAC") service work.

1
2 **NORMAL HEATING DEGREE DAYS**
3

4 Q. Do you agree with Mr. Patterson's recommendation that revenues be weather
5 normalized in this proceeding based on the average of the 30 years of temperature
6 data recently published by the National Oceanic and Atmospheric Association
7 (NOAA)?

8 A. Not in the absence of a weather mitigation clause or rate design solution as
9 described in the rebuttal testimony of Company witnesses Paul Raab and Michael
10 Cline. Under such circumstances, I believe it is imperative that the normal level
11 of heating degree days used in the ratemaking process be the number of heating
12 degree days that is most likely to result in a leveling out of natural weather
13 variations so as to not impact severely either the Company or its customers over a
14 relatively near-term span of years. It is not economically feasible or desirable for
15 the Company or its customers to suffer through extended periods of one-sided
16 weather variability. The actual weather experience of the past two decades as
17 compared with the 30 year NOAA normal would indicate that such a normal is
18 not necessarily reflective of on-going weather expectations. Furthermore,
19 NOAA's decadal normals do not provide any recognition of the impact of
20 urbanization and heat island effects in densely populated areas such as St. Louis.

21 Q. But doesn't NOAA consider their normals, published at the end of each decade
22 and based on the experience of the preceding three decades, to be representative
23 of current weather expectations?

24 A. No. The National Climate Prediction Center's (NCDC's) website, a division of
25 NOAA, contains information related to the United States Climate Normals for the

1 1971-2000 period, as published by NOAA in February 2002. In a section entitled,
2 "Frequently Asked Questions," the following information was provided:

3 *Is it appropriate to use normals for predictive purposes?*

4
5 Normals are best used as a base against which climate during the
6 following decade can be measured.....

7
8 *What is a "Climate Normal"?*

9
10 The term climatic "normal" has faced a dilemma since its introduction a
11 century and a half ago. As noted by Guttman (1989), "Climatologists
12 generally understand that a normal is simply an average of a climatic
13 element over thirty years.....a normal value is usually not the most frequent
14 value nor the value above which half the cases fall." The casual user,
15 however, tends to (erroneously) perceive the normal as what they should
16 expect. Dr. Helmut E. Landsberg, who became Director of Climatology
17 of the U.S. Weather Bureau in 1954 and, later, Director of the
18 Environmental Data Service, summarized the dilemma quite well over
19 four decades ago (Landsberg, 1955): "The layman is often misled by the
20 word. In his every-day language the word normal means something
21 ordinary or frequent.....When (the meteorologist) talks about "normal", it
22 has nothing to do with a common event.....For the meteorologist the
23 'normal' is simply a point of departure or index which is convenient for
24 keeping track of weather statistics.....We never expect to experience
25 'normal' weather."

26
27 *Is a "Normal" the Climate You Would "Expect"?*

28
29 Climate normals are a useful way to describe the average weather of a
30 location. Several statistical measures are computed as part of the normals,
31 including measures of central tendency (such as the mean or median), of
32 dispersion or how spread out the values are (such as the standard deviation
33 or inter-quartile range), and of frequency or probability of occurrence.

34
35 Over the decades the term "normal", to the lay person, has come to be
36 most closely associated with the mean or average. In this context, a
37 "climatic normal" is simply the arithmetic average of the values over a 30-
38 year period (generally, three consecutive decades). A person unfamiliar
39 with climate and climate normals may perceive the normal to be the
40 climate that one should expect to happen.....

41
42 Q. Do others who rely on weather data in their business use simple 30-year NOAA
43 temperature averages?

1 A. It is my understanding that in many weather-related commercial applications,
2 such as weather derivatives or weather insurance products, it is a common
3 practice to utilize shorter periods of temperature data than the 30-year NOAA
4 average or to statistically weight such temperature data to better determine
5 appropriate normals. Even NCDC chooses to use its Optimal Climate Normals
6 (OCN's), based on 10 years of temperature data, in its near-term forecasting
7 instead of its 30-year normals. (A discussion of OCN's can be found in my direct
8 testimony on page 16, lines 2 through 21). Also in recent years, the Energy
9 Information Administration (EIA) has chosen to change its approach for
10 projecting weather-related energy demands, previously based on 30-year NOAA
11 averages, to better reflect apparent warming trends. The NCDC website, as well
12 other NOAA literature, provide more accessible information and clearly indicate
13 that other alternatives exist and are being used for determining normals that are
14 more appropriate depending on the application.

15 Q. Please summarize your position on the appropriate level of normal heating degree
16 days to be used for weather normalization in this proceeding.

17 A. I propose that, unless the Commission adopts a weather mitigation clause or rate
18 design solution, that a 10-year average of heating degree days be used to better
19 reflect the impacts of urbanization and warming trends.

20 **LARGE CUSTOMER BILLING DEMANDS**

21 Q. Please describe this issue.

22 A. In this proceeding, revenue requirement adjustments were made by both the
23 Company and Staff witness Anne Ross to appropriately reflect known and

1 measurable changes in the load requirements and/or rate schedules under which
2 the Company's large user customers are served. Additionally, Ms. Ross
3 annualized the billing demand levels of all large volume and transportation
4 service customers to their test year ending levels. The Company believes it is
5 appropriate to annualize the billing demands for those customers to the update or
6 true-up ending level, pursuant to the Commission Order in this proceeding.

7 Q. Please explain how billing demands are determined for those customer classes.

8 A. The Company's tariffs for large volume customers provide for demand charges to
9 be billed based on each customer's highest monthly demand during the current
10 month or the previous eleven month period. The tariffs for transportation service
11 provide that each customer's billing demand shall be based on contracted for
12 levels of daily sendout quantities. Those contracted for levels cannot be reduced
13 for a minimum period of 12 months. Billing demand levels can increase above
14 contracted for levels only if a customer's daily requirements exceed their
15 contracted for levels during a Company-imposed period of limitation, at which
16 time the customer would incur substantial unauthorized use charges. I should
17 note that these unauthorized use charges are equivalent to about \$20 per MMBtu -
18 - an amount that is four or five times higher than what the customer would
19 normally pay for such volumes.

20 Q. Why then is it appropriate to reflect billing demand levels in effect at the end of
21 the update period rather than the test year?

22 A. Because between the end of the test year (November 2001) and the update period
23 (March 2002), many large user customers reset their billing demand levels,

1 resulting in overall lower amounts. These changes are known and measurable at
2 the end of the update period, and are, in fact, the levels of demand being billed to
3 these customers currently and at least into the next winter season. Under such
4 circumstances, it is inappropriate to ignore these lower known and measurable
5 billing demand levels and base rates on those higher levels that were in place at
6 November 2001.

7 **RESIDENTIAL AND SMALL INDUSTRIAL CUSTOMER LEVELS**

8 Q. Is there an issue between the Staff and Company regarding residential and small
9 industrial customer levels?

10 A. Based on the Company's understanding of the method that Staff intends to use at
11 true-up to establish these levels, I do not believe that any issue will exist.
12 However, if our understanding is incorrect, the Company reserves the right to
13 submit additional testimony on this issue at the true-up hearing in this proceeding.

14 **HVAC ADVERTISING EXPENSES**

15 Q. Do the Company and Staff have any issue regarding the advertising expenses that
16 have been incurred by the Company in connection with its HVAC service work?

17 A. No. In recognition of the Staff's proposed inclusion of this expense in rates, the
18 Company has agreed to include in rates nearly \$500,000 in incremental revenue
19 produced as a result of its HVAC service work. I should note, however, that
20 Public Counsel witness Kimberly K. Bolin has proposed to exclude this
21 advertising expense from rates. If such an adjustment is made, then the
22 Commission should exclude a comparable amount of incremental revenues from
23 rates.

1 Q. Does this conclude your testimony?

2 A. Yes, it does.

3