

BEFORE THE CORPORATION COMMISSION

OF THE STATE OF KANSAS

STATE CORPORATION COMMISSION

JUL 02 2010



IN THE MATTER OF THE APPLICATION]
OF KANSAS CITY POWER AND LIGHT]
COMPANY TO MODIFY ITS TARIFFS]
TO CONTINUE THE IMPLEMENTATION]
OF ITS REGULATORY PLAN]

KCC Docket No. 10-KCPE-415-RTS

CROSS-ANSWERING TESTIMONY OF

ANDREA C. CRANE

ON BEHALF OF

THE CITIZENS' UTILITY RATEPAYER BOARD

July 2, 2010

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

2 A. My name is Andrea C. Crane and my business address is PO Box 810, Georgetown,
3 Connecticut 06829. (Mailing address: 199 Ethan Allen Highway, Ridgefield, CT 06877).

4
5 **Q. Did you previously file testimony in this case?**

6 A. Yes, on June 15, 2010, I filed Direct Testimony on revenue requirement and cost of capital
7 issues on behalf of the Citizens' Utility Ratepayer Board ("CURB"). In that testimony, I
8 recommended that the KCC approve a rate increase of \$7,379,627 for Kansas City Power and
9 Light Company ("KCP&L" or "Company").

10

11 **Q. What is the purpose of your Cross-Answering Testimony?**

12 A. The purpose of my Cross-Answering Testimony is to respond to the testimony submitted by
13 Jaime T. Stamatson of the KCC Staff regarding his recommendation to use a 10-year period
14 to determine normal weather in the development of Staff's proposed weather normalization
15 adjustment.

16

17 **Q. How did the Company determine its weather normalization adjustment in this case?**

18 A. The Company utilized a thirty-year time period to determine normal weather.

1 **Q. Did Staff also use a period of thirty-years to normalize weather-related sales?**

2 A. No, it did not. In his testimony, Staff witness Jaime T. Stamatson recommended that a ten-
3 year period be used. Mr. Stamatson also recommended some changes in the weather stations
4 that had been used by KCP&L in its weather normalization adjustment.

5

6 **Q Do you agree with the use of ten years to weather normalize sales?**

7 A. No, I do not. I recommend that the KCC continue to utilize a thirty-year standard for normal
8 weather.

9

10 **Q. Why do you believe that 30-year data is more appropriate to utilize in developing the**
11 **Company’s weather normalization adjustment than the ten-year period recommended**
12 **by Staff?**

13 A. The thirty-year normal has been established by the National Oceanic and Atmospheric
14 Association (“NOAA”), the government organization charged with establishing and
15 recording the climatic conditions of the United States. The thirty-year standard is the
16 objective standard, established by the government body responsible for determining normal
17 weather conditions. Moreover, the thirty-year standard is the international standard adopted
18 by the United Nation’s World Meteorological Organization (“WMO”). The thirty-year
19 normal is used for a wide range of applications and it has served as the standard in utility
20 regulation for some time.

1 **Q. Do you believe that the use of a NOAA standard is preferable to having regulatory**
2 **commissions set their own standards?**

3 A. Yes, I do. It should not be the role of each regulatory commission to determine “normal”
4 weather. Rather, that determination should be made by the governmental agency and other
5 international bodies with expertise and responsibility for tracking, analyzing, and reporting
6 weather statistics. In the United States, that agency is NOAA, which has determined that
7 normal weather should be defined as the arithmetic mean computed over a long period of
8 time. NOAA has further defined the appropriate time period over which to calculate normal
9 weather as three consecutive decades.

10
11 **Q. Why are longer time periods preferable to shorter ones for weather normalization**
12 **data?**

13 A. There are a few reasons. First, longer time periods tend to average out weather and
14 temperature extremes much better than shorter periods. Obviously, one particularly cold or
15 warm winter with many or few heating/cooling degree days has a much greater effect upon a
16 ten-year average than it does upon a thirty-year average. In fact, a single data point has a
17 10% impact on a ten-year average, but only a 3.3% impact on a thirty-year average.
18 Therefore, the effect of a single data point is three times greater with a ten-year average than
19 with a thirty-year average.

1 Second, a shorter time period such as ten years may fail to include extreme weather in
2 computing average degree days. It is normal and customary to have a very cold or a very
3 warm year every so often, and the data base should include these extremes.

4
5 **Q. Why is it important to have good standard weather data?**

6 A. Utility rates are based upon normal operating conditions. If revenues are based on an
7 accurate, consistent and widely-accepted standard for normalizing weather, in some years the
8 Company's revenues will be less than normal, in some years the Company's revenues will be
9 greater than normal, but over time, the Company's revenues will reflect normal weather and
10 the Company will receive the opportunity to earn its fair rate of return. In addition, the use of
11 an accepted objective standard, such as the thirty-year NOAA, ensures consistency from case
12 to case.

13
14 **Q. Are there other factors that lead you to favor the thirty-year NOAA standard over the
15 ten years of data recommended by Staff?**

16 A. Yes. Among other things, the NOAA standard has a long history of use and acceptance. The
17 use of the NOAA thirty years as "normal" is based upon an international agreement and is
18 commonly used to reflect normal weather conditions in a variety of industries and
19 applications. It is my understanding the KCC traditionally has utilized a thirty-year normal.

1 **Q. Is there a statistical reason why a thirty-year normal should be used?**

2 A. Yes, there is. The use of thirty data points has its basis in the central limit theorem, which
3 states that if the sample size has at least thirty data points, then the distribution of sample
4 means is normal, resulting in a normal distribution centered around the mean with a standard
5 deviation that decreases as the sample size increases.

6
7 **Q. Is NOAA examining the possibility of making any changes to the manner in which it
8 determines normal weather?**

9 A. Yes, it is. NOAA has initiated an investigation to address 1) assuring the availability of up-
10 to-date climate normals, and 2) assuring the representativeness of a thirty-year average
11 normal given a changing climate state. This process was initiated in May 2007.

12 The first issue involves the frequency with which NOAA thirty-year normals are
13 updated. In the past, the official NOAA weather normal was based on data during three
14 consecutive decades. Thus, this data was essentially updated only once every ten years.
15 Now that technology has advanced, NOAA is exploring whether it might be reasonable to
16 update the NOAA thirty-year normal weather data more frequently. At least part of the
17 rationale for using three consecutive decades of data was the difficulty of updating this data
18 more frequently. Technology has advanced considerably over the past few years, to the point
19 where it is now relatively easy to calculate a new thirty-year normal each year. I have no
20 objection to the use of the most recent thirty years of data to calculate normal weather.

1 The second issue is whether a basic change from the thirty-year normal should be
2 adopted. NOAA has recently introduced “experimental” products that provide information
3 about weather over various time periods. However, NOAA has cautioned users that such
4 products are, in fact, experimental and that such products are not intended to replace thirty-
5 year normals. Thus, while NOAA has acknowledged that the issue of climate change has
6 been raised by utilities in regulatory proceedings, and while NOAA is exploring the impact
7 of such climate change on the calculation of normal weather, there is no indication that
8 NOAA plans to terminate the use of thirty years as the time period over which to calculate
9 normal weather.

10
11 **Q. If NOAA changed the methodology used to determine normal weather, and instead**
12 **adopted some other time period over which to calculate normal weather, would your**
13 **recommendation change?**

14 **A.** Yes, it would. As noted above, there are statistical reasons for adopting a time frame of at
15 least thirty years to determine normal weather. However, if NOAA adopted a different
16 standard, then I would recommend a change in the time period used by regulatory
17 commissions, including the KCC, to determine normal weather for ratemaking purposes.
18 The important point is that an independent government body with expertise should be
19 selecting the time period used to define normal weather. This issue should not be determined
20 on the basis of arguments made in rate cases by parties who have their own motives for
21 suggesting various time periods.

1 **Q. Would it be premature for the KCC to select a time period of other than thirty years**
2 **while NOAA is still investigating this issue?**

3 A. Yes, it would. Since NOAA is the governmental organization charged with determining the
4 appropriate time period for determining normal weather, the KCC should not take any
5 actions that would be contrary to the NOAA standard at this time.

6
7 **Q. Why is it important to have a consistent standard determined by an independent**
8 **objective organization like NOAA?**

9 A. The thirty-year period for determining what constitutes normal weather was not defined by
10 CURB, or KCP&L, or Staff. Rather, it was defined by the United States Government
11 organization that is responsible for defining normal weather, i.e., NOAA. Once the KCC
12 deviates from this objective standard, then all parties will have an incentive to promote the
13 time period that results in the best result for their particular constituency in each particular
14 case. Deviating from the objective standard as determined by NOAA will open the door to
15 arguments in every case about how long a period of time should determine what constitutes
16 normal weather.

17
18 **Q. Isn't it possible that weather patterns do change over time?**

19 A. Yes, it is. However, permanent changes in weather patterns are likely to take place over a
20 long period of time. NOAA has determined that data from a period of thirty years
21 satisfactorily represents normal weather. To the extent weather patterns do exhibit a

1 permanent change over time, such changes will be reflected in the thirty-year NOAA data.
2 Moreover, the KCC should not confuse the determination of “normal” weather with the issue
3 of how customers will react to variations from normal weather. The fact that energy prices
4 have risen, that there is better communication with customers, and that energy efficiency
5 incentives are offered have no impact on the weather, or on the definition of normal weather.
6 Rather, these factors impact how customers may respond to deviations from normal weather.
7 Weather is based on climatological patterns and customers have virtually no impact on these
8 weather patterns, at least not over the thirty-year period that is defined as constituting normal
9 weather.

10 However, the KCC should be mindful of the difference between changes in weather
11 patterns over time and changes in usage patterns over time. The two are not the same. While
12 NOAA uses a thirty-year period to determine normal degree days, NOAA is not involved in
13 forecasting how energy sales are likely to be impacted due to variations in degree days. For
14 example, assume that the thirty-year normal results in 1,000 cooling degree days for a
15 utility’s service territory. A separate but related question is how customer usage changes
16 with changes in degree days. Due to conservation efforts, more efficient appliances, price
17 elasticity, and other factors, it is entirely possible that the impact of variations in degree days
18 is different in 2010 than it was in 1968. My recommendation that the KCC continue to
19 utilize a thirty-year degree day standard does not prevent the utility or other parties from
20 presenting arguments regarding the *impact* of weather variations on energy usage. By
21 continuing to utilize a thirty-year weather standard, the KCC is not precluding any party from

1 providing evidence demonstrating the impact of various weather changes on electricity or
2 natural gas usage in a utility base rate case.

3

4 **Q. What do you recommend?**

5 A. I recommend that the KCC continue to utilize a thirty-year standard for determining normal
6 weather in this case.

7

8 **Q. Does this conclude your testimony?**

9 A. Yes, it does.

VERIFICATION

STATE OF CONNECTICUT)
COUNTY OF FAIRFIELD) ss:

Andrea C. Crane, being duly sworn upon her oath, deposes and states that she is a consultant for the Citizens' Utility Ratepayer Board, that she has read and is familiar with the foregoing testimony, and that the statements made herein are true to the best of her knowledge, information and belief

Andrea C. Crane
Andrea C. Crane

Subscribed and sworn before me this 25th day of June, 2010.

Notary Public Kayoum Derin

My Commission Expires: December 31, 2013

CERTIFICATE OF SERVICE

10-KCPE-415-RTS

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing document was placed in the United States mail, postage prepaid, electronic service, or hand-delivered this 2nd day of July, 2010, to the following:

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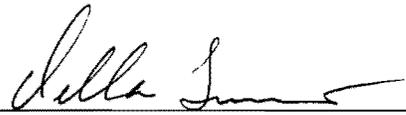
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