BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

DIRECT TESTIMONY OF

GEORGE M. McCOLLISTER

ON BEHALF OF
KANSAS CITY POWER & LIGHT COMPANY

IN THE MATTER OF THE APPLICATION OF KANSAS CITY POWER & LIGHT COMPANY TO MAKE CERTAIN CHANGES IN ITS CHARGES FOR ELECTRIC SERVICE

DOCKET NO. 12-KCPE-764-RTS

Q: Please state your name and business address.

A: My name is George M. McCollister, Ph.D. My business address is 1200 Main Street, Kansas City, Missouri 64105.

Q: By whom and in what capacity are you employed?

A: I am the Manager of Market Assessment at Kansas City Power & Light Company ("KCP&L" or the "Company").

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to ask the Commission to adopt my weather normalization of monthly kilowatt-hour ("kWh") sales and peak loads as set forth in the attached Schedules GMM-1 through GMM-3. These weather-normalized sales and peak loads are used as the basis for the Company's analysis of test year revenue which, in turn, is the basis for determining the Company's revenue requirement. I am requesting the Commission adopt my weather normalization adjustments because the methodology I

employed in deriving my position is consistent with both industry practice and this Commission's findings in KCP&L's last rate case, Docket No. 10-KCPE-415-RTS ("the 415 Docket"). In support of my position I describe the impact weather can have on a utility's rates, the purpose of weather normalization adjustments, and the methodology I utilized in conducting my analysis. I also reference the specific language from the Commission's November 22, 2010 Order in the 415 Docket that approves, and in fact requires, use of a 30-year normal weather time period. I recommend that the Commission adopt my results in the current case.

Q: Before you begin your discussion regarding weather normalization, please describe your education, experience and employment history.

A: I earned three degrees from the University of California at San Diego: a Bachelor of Arts degree in mathematics and chemistry, a Master of Arts degree in mathematics, and a Ph.D. in economics. My specialties in the economics Ph.D. program were microeconomics and econometrics.

My employment history includes working for electric and natural gas utilities, and consulting firms where I performed work on behalf of various utilities. Initially, I was employed as an Energy Economist at Pacific Gas and Electric Company where I was responsible for developing end-use models of electric and natural gas sales, and for analyzing responses to energy-use surveys of our customers. Next, I was employed as a Senior Forecast Analyst at San Diego Gas and Electric Company where I developed models of customer choice, energy sales, and system reliability. Later, I was employed by UtiliCorp United, Inc. as the Forecast Leader, where I was responsible for end-use forecasting in integrated resource plans, budget forecasts, weather normalization,

variance analysis, and or statistical analysis. My consulting activities involved several consulting firms that specialized in regulated industries, including Resource Management International and Spectrum Economics, Inc. The majority of my consulting projects focused on energy forecasting issues and modeling for electric and natural gas utilities. My employment with KCP&L began in August 2005.

Q: Have you previously testified in a proceeding before the Kansas Corporation Commission ("Commission" or "KCC") or before any other utility regulatory agency?

A: Yes, I have testified before the KCC on behalf of KCP&L in Docket Nos. 06-KCPE-828-RTS, 07-KCPE-905-RTS, 09-KCPE-246-RTS, 10-KCPE-415-RTS, and 11-KCPE-581-PRE. I have also provided testimony before the Oklahoma Corporation Commission, the Missouri Public Service Commission, and the Public Utilities Commission in Colorado.

Q: What is the purpose of making a weather adjustment?

A: Abnormal weather can increase or decrease a utility company's revenues, fuel costs and rate of return. Therefore, revenues and expenses are typically adjusted to reflect normal weather to determine a company's future electric rates. These adjustments are made by first adjusting the test year kWh sales and hourly system loads and then using these results to adjust test year revenues and fuel costs.

During the test year, calendar year 2011, there were 2.5% more heating degree days and 15.2% more cooling degree days than normal at the Kansas City International Airport ("KCI"). Thus, both heating and cooling loads were greater than normal.

Q: What method did you utilize to weather-normalize KCP&L's kWh sales?

A: KCP&L uses a six-step process to weather-normalize kWh sales. Our method is based on load research data, which was derived by measuring hourly loads for a sample of KCP&L's customers representing the Residential, Small General Service, Medium General Service, Large General Service and Large Power Service tariff groups. The hourly loads were grossed up by the ratio of the number of customers in each of these classes divided by the number sampled.

In the first step, the hourly loads for the sample were calibrated to the annual billed sales of all customers in each class. The ratio of the billed sales divided by the sum of the hourly loads was multiplied by the load in each hour.

In the second step, the hourly loads were estimated for lighting tariffs, and then the loads for all tariffs, including sales for resale, were grossed up for losses and compared to Net System Input ("NSI"). NSI is the power generated and purchased to serve the customers' load. The difference between this sum and the NSI was then allocated back to the load research data in proportion to the hourly precisions that were estimated for the load research data.

In the third step, regression analysis was used to model the hourly loads for each tariff. These models included a temperature response function of a two-day weighted mean temperature that describes how the loads in each class are affected by changes in temperature.

In the fourth step, this temperature response function was used to compute daily weather adjustments as the difference between loads predicted with normal weather and

loads predicted with actual weather. Normal weather was derived representing average weather conditions over the 1981-2010 time period.

In the fifth step, the daily weather adjustments were split into hourly adjustments and these were added to NSI to weather-normalize that series.

In the sixth step, the daily weather adjustments were split into billing months based on the percentage of sales in each billing cycle and the meter reading schedule for the test year period. These weather adjustments were then summed by billing month and added to billed kWh sales to weather-normalize that data.

Q: Why was 1981-2010 time period used to weather-normalize electric sales?

A: Most public utility commissions have traditionally used the period that is used by the U.S. National Oceanic and Atmospheric Administration ("NOAA") to compute normal weather statistics. NOAA computes normal weather statistics using the last three decades, which is currently 1981-2010. NOAA recomputes and publishes normal weather statistics every ten years at the end of a decade. Scientists at NOAA have discussed alternatives to this 30-year period, but no official decisions have been made to change this methodology.

Additionally, the Commission ordered use of the NOAA 30-year time interval to define normal weather for all future cases in its November 22, 2010 Order in KCP&L's last rate case, Docket No. 10-KCPE-415-RTS. Specifically, the Commission stated,

> The Commission agrees with KCPL and CURB and finds that a 30-year normal is better able to represent "normal" weather. A sample size of 30 data points is tied to the central limit theorem and statistically significant. Statistically, a 30-year normal has the benefit of including Kansas' occasional "extremes"-unusually hot summers or unusually cold winters-without allowing a single data point to bear excessively on the entire data set. We also find that the NOAA 30-year normal is the traditional data set used for utility ratemaking, and we are hesitant to

> depart from such a standard in the current case. ***For these reasons, we conclude the 30-year normal shall be used when weather-normalizing a utility's test year data in a ratemaking case until otherwise ordered.*** (Emphasis added.)
>
> (November 22, 2010 Order, Section 14, Weather Normalization, p. 98 (footnotes omitted).)

Q: Is this the same NOAA normal weather period used in KCP&L's last rate case?

A: No. KCP&L's last rate case was filed in December 2009 with rates effective December 1, 2010. NOAA updates its normal weather period each decade so KCP&L's last case was based upon the most recent NOAA period at that time, specifically 1971-2000.

Q: What is the impact on KCP&L's weather-normalized data of the shift from NOAA 1971-2000 to NOAA 1981-2010 normal weather period?

A: As a result of the period shift, KCP&L's weather-normalized kWh sales dropped by 0.2%.

Q: What are the results of the weather normalizations you propose?

A: The results of these normalizations are reflected in my schedules. Specifically, Schedule GMM-1 shows the adjustments for weather normalization on test year kWh sales. Schedule GMM-2 shows weather-normalized test year peak loads by class and Schedule GMM-3 shows weather-normalized test year loads by class at the time of the weather-normalized monthly system peak load.

Q: Why did you use data from the weather station at KCI as opposed to data from some other available weather station in or around the KCP&L service territory?

A: To employ its weather normalization methodology, KCP&L needs 30 years of daily minimum and maximum temperature data for a weather station located near its service territory. KCI is a first order weather station, which means that the data is collected by

the national weather service using trained professionals and this data is checked and edited to ensure accuracy. KCI is the nearest first order weather station to our service area in Kansas and we believe it is in close enough proximity to our Kansas service territory to be sufficiently representative.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of	)	
Kansas City Power & Light Company	)	Docket No.: 12-KCPE- -RTS
to Make Certain Changes in	)	
Its Charges for Electric Service	)	

AFFIDAVIT OF GEORGE M. McCOLLISTER

STATE OF MISSOURI)
) **ss**
COUNTY OF JACKSON)

George M. McCollister, being first duly sworn on his oath, states:

1. My name is George M. McCollister. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Manager of Market Assessment.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Kansas City Power & Light Company consisting of Seven (7) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

George M. McCollister

Subscribed and sworn before me this 18th day of April, 2012.

Nicole A. Wehry
Notary Public

My commission expires: Feb. 4, 2015

NICOLE A. WEHRY
Notary Public - Notary Seal
State of Missouri
Commissioned for Jackson County
My Commission Expires: February 04, 2015
Commission Number: 11391200

ADJUSTMENTS TO MONTHLY BILLED SALES (MWH)

	Weather Adjustments to Monthly Billed Sales												
Tariff	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Test Year
Residential	-14,808	-18,766	-5,993	674	-4,187	-20,929	-49,488	-32,425	4,954	3,999	401	16,135	-120,433
Small GS	-876	-1,113	-399	14	132	-687	-2,294	-1,681	452	408	-26	911	-5,159
Medium GS	-989	-1,292	-554	129	511	-1,203	-4,364	-3,109	867	559	-240	1,021	-8,663
Large GS	-2,956	-4,372	-1,534	159	1,031	-1,783	-7,994	-6,737	1,152	903	-735	3,074	-19,793
Large Power	-349	-582	-3	5	-5	-75	-207	-101	95	-18	7	398	-835
Total	-19,978	-26,125	-8,483	981	-2,517	-24,678	-64,347	-44,053	7,520	5,850	-592	21,539	-154,882

WEATHER NORMALIZED MONTHLY PEAK LOADS (MW)

WEATHER NORMALIZED MONTHLY PEAK LOADS (MW)

Tariff	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011
Residential	669	625	510	488	612	870	973	1,026	803	378	507	636	1,026
Small GS	72	64	60	51	63	78	82	82	71	56	55	61	82
Medium GS	119	117	118	127	146	166	183	175	159	132	113	124	183
Large GS	380	380	345	363	414	401	430	458	430	373	336	367	458
Large Power	37	32	28	25	25	26	27	27	25	24	29	35	37
Street Lights	3	3	3	3	3	3	3	3	3	3	3	3	3
Traffic Signals	0	0	0	0	0	0	0	0	0	0	0	0	0
Area Lights	1	1	1	1	1	1	1	1	1	1	1	1	1
Off Peak Lighting	11	11	11	11	11	11	11	11	11	11	11	11	11

Note: These numbers include losses.

WEATHER NORMALIZED MONTHLY COINCIDENT PEAK LOADS (MW)

WEATHER NORMALIZED MONTHLY COINCIDENT PEAK LOADS (MW)

Tariff	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011
Residential	606	611	501	458	541	870	931	991	779	322	434	632	991
Small GS	66	49	47	40	60	57	78	73	65	55	44	46	78
Medium GS	111	99	100	88	131	141	172	166	144	122	98	104	172
Large GS	368	316	294	276	374	372	413	414	392	343	322	319	414
Large Power	37	28	19	18	25	23	26	25	23	22	29	23	37
Street Lights	1	3	3	3	0	0	0	0	0	0	0	3	3
Traffic Signals	0	0	0	0	0	0	0	0	0	0	0	0	0
Area Lights	0	1	1	1	0	0	0	0	0	0	0	1	1
Off Peak Lighting	2	11	9	11	0	0	0	0	0	0	0	11	11
Total Retail	1,191	1,118	976	895	1,132	1,464	1,620	1,669	1,404	864	927	1,138	1,669

Note: These numbers include losses.