Exhibit No.:
Issue: Weather Normalization
Witness: George M. McCollister, Ph.D
Type of Exhibit: Direct Testimony
Sponsoring Party: Kansas City Power & Light Company
Case No.: ER-2006-____
Date Testimony Prepared: January 27, 2006

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2006-____

DIRECT TESTIMONY

OF

GEORGE M. MCCOLLISTER, PH.D

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
January 2006

DIRECT TESTIMONY

OF

GEORGE M. MCCOLLISTER, Ph.D

Case No. ER-2006-____

Q: Please state your name and business address.

A: My name is George M. McCollister, Ph.D. My business address is 1201 Walnut, Kansas City, MO, 64106-2124.

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

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

Q: Please describe your education, experience and employment history.

A: I earned three degrees from the University of California at San Diego. These include 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 program were microeconomics and econometrics.

I was previously employed at three electric and natural gas utilities. 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. 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. I was also 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 for statistical analysis. I have also

been employed by several consulting firms including Resource Management International and Spectrum Economics, Inc. that focused on regulated industries. The majority of my consulting projects focused on energy forecasting issues and modeling for electric and natural gas utilities.

Q: Have you previously testified in a proceeding at the Missouri Public Service Commission ("MPSC") or before any other utility regulatory agency?

A: Yes, I have testified before the MPSC, the Oklahoma Corporation Commission, the Kansas Corporation Commission, and the Public Utilities Commission in Colorado.

Q: What is the purpose of your testimony?

A: I am sponsoring several normalizations to monthly Kilowatt hour ("kwh") sales and peak loads in Schedules GMM-1 through GMM-3. I recommend that the Commission adopt these results in the current case.

Q: What are normalizations of kwh sales and hourly loads?

A: Both kwh sales and hourly loads are adjusted to reflect normal weather conditions. This is called a weather adjustment. Kwh sales are further adjusted to restate the sales on a calendar month or accrued basis rather than on a billing month basis, and for expected customer growth through September 2006.

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 when these are used to determine a company's future

electric rates. These adjustments are made by first adjusting kwh sales and hourly loads and then using these results to adjust revenues and fuel costs.

During the period October 2004 to September 2005, there were 12% fewer heating degree days and 20% more cooling degree days than normal. Thus, heating loads were less than normal and cooling loads were greater than normal.

Q: What is the purpose of restating kwh sales on a calendar month or accrued basis?

A: Fuel costs are typically measured over calendar months whereas revenues are measured and invoiced daily throughout the month. Because it is important to measure revenues and fuel costs over the same time period, it is customary to adjust revenues to a calendar month basis. This is accomplished by first adjusting kwh billed sales to a calendar month basis and then determining how this change affects revenues. Because the test year consists of a 12-month period, this adjustment is computed by adding unbilled sales from the end of the period and subtracting unbilled sales at the beginning of the period.

Q: What method was used to weather normalize kwh sales?

A: Our method was based on load research ("LR") data, which was derived by measuring hourly loads for a sample of KCPL's customers representing the Residential, Small General Service, Medium General Service, Large General Service and Large Power Service classes. The hourly loads were grossed up by the ratio of the number of customers for 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 the loads for all tariffs, including sales for resale, were grossed up for losses and compared to Net System Input ("NSI"). The difference between this sum and the NSI was then allocated back to the LR 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 piecewise linear temperature response function of a two-day weighted mean 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 using spreadsheets provided by the MPSC Staff. The normal weather represents average weather conditions over the 1971-2000 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 on each billing cycle and the meter reading schedule for the test year period. These weather adjustments are then summed by billing month and added to billed kwh sales to weather normalize that data.

Q: What method was used to adjust weather normalized monthly billed sales to a calendar month test period?

A: The portion of weather normalized billed sales in October 2004 and October 2005 that was unbilled from the previous month was estimated using the meter reading schedule and the amount of sales in each billing cycle. Then, from test year billed sales, the unbilled portion from October 2004 was subtracted and the unbilled portion from October 2005 was added.

Q: What adjustments were made for load and customer growth?

A: First, KCPL's 2006-2010 budget forecast was used to project kwh sales, hourly loads and peak loads for October, November and December 2005. The ratio of projected growth for these months divided by the weather normalized sales in the same month of 2004 was multiplied by weather normalized sales, hourly loads and peaks loads in October, November and December 2004

Then the customer projections in our budget forecast were used to "true up" sales and peak loads for customer growth through September 2006.

Q: Are these your final calculations?

A: Both of these adjustments are temporary because we expect to weather normalize the last three months of 2005 when actual kwh sales become available. Also, the true up will be based on actual customer growth when the customer numbers become available.

Q. What are the results of these normalizations?

A. Schedule GMM-1 shows the adjustments for each normalization on kwh sales. Schedule GMM-2 shows weather normalized peak loads by class and Schedule

GMM-3 shows weather normalized loads by class at the time of the monthly system peak load.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Kansas City Power & Light Company to Modify Its Tariffs to Begin the Implementation of Its Regulatory Plan	)))	Case No. ER-2006-____

AFFIDAVIT OF GEORGE M. MCCOLLISTER, PHD

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 six (6) pages and Schedules GMM-1 through GMM-3, all of which 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, PhD

Subscribed and sworn before me this 27th day of January 2006.

Notary Public

My commission expires: _____

CAROL SIVILS
Notary Public - Notary Seal
STATE OF MISSOURI
Clay County
My Commission Expires: June 15, 2007

WEATHER ADJUSTMENTS TO MONTHLY BILLED SALES

Class	Weather Adjustments to Monthly Billed Sales													To Accrued	Sept 2006 Customer Growth	Total 2005 Accrued Plus Customer Growth
	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct04-Sep05			
Residential	1,975	7,619	9,576	7,430	8,138	5,820	-273	-448	-9,240	-10,398	-8,912	-29,454	-18,168	2,068	21,796	5,695
Small GS	-136	491	730	572	666	564	-51	-159	-900	-816	-699	-2,346	-2,083	429	3,109	1,455
Medium GS	-521	404	386	377	550	564	-76	-459	-1,714	-1,400	-1,132	-3,888	-6,910	978	6,358	426
Large GS	-1,253	1,268	3,450	2,630	3,479	3,641	389	-310	-2,792	-2,172	-1,824	-6,320	186	4,295	23,541	28,022
Large Power	-666	-118	-113	0	0	340	-1,289	-1,043	-2,074	-835	-1,418	-4,902	-12,118	830	9,738	-1,550
Special Contract	-1	5	8	5	6	5	0	-2	-6	-3	-2	-8	9	0	0	9
Total	-601	9,669	14,036	11,014	12,840	10,934	-1,300	-2,421	-16,726	-15,625	-13,987	-46,918	-39,085	8,601	64,541	34,056

WEATHER NORMALIZED MONTHLY PEAK LOADS (MW)

Class	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Test Year
Residential	416	425	512	481	484	393	326	606	791	880	804	706	880
Small GS	79	79	80	92	79	73	69	91	108	114	116	100	116
Medium GS	176	149	155	161	153	158	167	202	227	237	230	206	237
Large GS	341	340	348	378	358	328	322	383	406	413	414	391	414
Large Power	342	315	306	289	309	316	337	362	378	371	379	352	379
Street Lights	15	15	15	15	15	15	15	15	15	15	15	15	15
Traffic Signals	0	0	0	0	0	0	0	0	0	0	0	0	0
Area Lights	4	4	4	4	4	4	4	4	4	4	4	4	4
Special Contract	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Retail	1,193	1,200	1,289	1,308	1,269	1,141	1,090	1,477	1,803	1,901	1,822	1,558	1,901

Note: These numbers include losses.

WEATHER NORMALIZED MONTHLY COINCIDENT PEAK LOADS (MW)

Class	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Test Year
Residential	394	418	501	444	467	390	323	510	733	817	792	702	817
Small GS	47	58	58	80	59	51	50	82	103	103	80	77	103
Medium GS	145	127	125	132	127	122	126	180	210	225	197	168	225
Large GS	274	306	307	364	320	280	259	357	390	402	393	296	402
Large Power	314	272	279	275	278	281	300	347	366	353	351	294	366
Street Lights	15	15	15	3	15	13	15	0	0	0	0	0	15
Traffic Signals	0	0	0	0	0	0	0	0	0	0	0	0	0
Area Lights	4	4	4	1	4	3	4	0	0	0	0	0	4
Special Contract	1	1	1	1	1	1	1	1	1	1	1	1	1

Note: These numbers include losses.