

**BEFORE THE STATE CORPORATION COMMISSION  
OF THE STATE OF KANSAS**

---

**DIRECT TESTIMONY OF**

**GEORGE M. McCOLLISTER, Ph.D.**

**ON BEHALF OF  
KANSAS CITY POWER & LIGHT COMPANY**

---

**IN THE MATTER OF THE PETITION OF  
KANSAS CITY POWER & LIGHT COMPANY (“KCP&L”)  
FOR DETERMINATION OF THE RATEMAKING PRINCIPLES  
AND TREATMENT THAT WILL APPLY TO THE RECOVERY  
IN RATES OF THE COST TO BE INCURRED BY KCP&L FOR  
CERTAIN ELECTRIC GENERATION FACILITIES  
UNDER K.S.A. 66-1239**

**DOCKET NO. 11-KCPE-581 -PRE**

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

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

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

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

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

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

1 I have worked in the utility industry for 30 years. I was previously employed at  
2 three electric and natural gas utilities. I was employed as an Energy Economist at Pacific  
3 Gas and Electric Company where I was responsible for developing end-use models of  
4 electric and natural gas sales and for analyzing responses to energy-use surveys of our  
5 customers. I was employed as a Senior Forecast Analyst at San Diego Gas and Electric  
6 Company where I developed models of customer choice, energy sales and system  
7 reliability. I was also employed by UtiliCorp United, Inc. as the Forecast Leader where I  
8 was responsible for end-use forecasting in integrated resource plans, budget forecasts,  
9 weather normalization, and variance analysis, and for statistical analysis. I have also  
10 been employed by several consulting firms including Resource Management  
11 International and Spectrum Economics, Inc. that specialized in regulated industries. The  
12 majority of my consulting projects focused on energy forecasting issues and modeling for  
13 electric and natural gas utilities. I have been at KCP&L since 2005.

14 **Q: Have you previously testified in a proceeding before the Kansas Corporation**  
15 **Commission (“KCC” or “Commission”) or before any other utility regulatory**  
16 **agency?**

17 A: Yes, I have testified before the KCC, the Missouri Public Service Commission  
18 (“MPSC”), the Oklahoma Corporation Commission, and the Public Utilities Commission  
19 in Colorado.

20 **Q: What is the purpose of your testimony?**

21 A: Pursuant to the requirements of K.S.A. 66-1239(c)(2)(C), I am sponsoring the ten-year  
22 electric load forecast that is being used by the Company in this case to determine the need  
23 for resources to meet future load growth.

1 **Q: How was the electric load forecast developed?**

2 A: KCP&L develops a forecast for each class of customers in each state. The classes are  
3 residential, commercial, industrial, and lighting. The commercial and industrial classes  
4 are split by voltage level and the lighting class is split by type of lighting. These  
5 forecasts are based on KCP&L historical information and on other forecasts, one being a  
6 forecast of economic activity provided by Moody's economy.com ("Moody's") and the  
7 other being a forecast of appliance and equipment use provided by the U.S. Department  
8 of Energy ("DOE") for the West North Central Region.

9 **Q: How was the load forecast for the residential class developed?**

10 A: KCP&L forecasts both the number of residential customers and the kWh used per  
11 customer, and the product of these is the forecast of kWh sales for the class. The number  
12 of customers is forecasted using a forecast of households for the Kansas City Metro Area  
13 from Moody's. The forecast of kWh used per household is developed using data from  
14 KCP&L's own appliance saturation surveys, forecasts of trends in efficiencies and usage  
15 rates for appliances from DOE and from forecasts of economic variables from Moody's,  
16 such as income per household and persons per household.

17 **Q: Why did you choose to use a forecast from Moody's?**

18 A: Moody's is one of two major vendors of economic forecasts with over 500 clients  
19 worldwide, including the largest commercial and investment banks, insurance companies,  
20 financial services firms, mutual funds, governments at all levels, manufacturers, utilities,  
21 and industrial and technology clients. Moody's has a solid reputation among economists  
22 and has provided us a good product for many years.

1 **Q: Why did you choose to rely on forecasts from the DOE?**

2 A: The DOE has a large research staff devoted to energy forecasting. The DOE periodically  
3 conducts surveys of homes, commercial buildings and factories to determine their current  
4 energy using characteristics, their stocks of appliances and equipment and how these are  
5 changing over time. The DOE forecasts energy usage trends for appliances and  
6 equipment used in these buildings and incorporates the impacts of energy standards and  
7 tax credits for efficient equipment. The DOE provides extensive documentation of their  
8 models, assumptions and data that can be downloaded over the internet. Many electric  
9 utilities use DOE data and forecasts in their load forecasting models.

10 **Q: How did you develop the load forecast for commercial customers?**

11 A: First, we forecasted the number of commercial customers on a secondary voltage in a  
12 statistical regression based on the historical number of residential customers. Most  
13 commercial customers, such as retail, schools, banks and government are operating to  
14 serve households or other commercial customers, so we used the number of households  
15 as the primary driver. Next, we forecasted commercial secondary use per customer based  
16 on DOE projections of equipment use for different types of equipment used in  
17 commercial buildings. The forecast of sales for this class is the product of the forecasts  
18 for the number of customers and kWh sales per customer. The forecast of sales for  
19 commercial customers served at a primary voltage was forecasted directly using DOE  
20 projections of equipment use for commercial customers.

1 **Q: How did you develop the load forecast for industrial customers?**

2 A: In Kansas, sales to industrial customers are about 6 percent of total sales. Because light  
3 manufacturing comprises most of the sales to this class, the sales were forecasted using  
4 methods that were similar to those used for commercial customers.

5 **Q: How do the Company's energy efficiency programs affect the load forecast?**

6 A: The load forecast includes the impacts of demand side management and energy efficiency  
7 for the programs that KCP&L has adopted. New programs that the Company might  
8 adopt in the future are not included in the forecast but are instead evaluated along with  
9 supply options for meeting future load growth.

10 **Q: Please summarize your electric load forecast.**

11 A: Schedule GMM2011-1 shows the forecast of annual net system input and peak demand  
12 for KCP&L customers in Kansas and Missouri from 2011 through 2020.

13 **Q: How are these results used?**

14 A: The load forecast is used to determine the need for future resources to meet future load  
15 growth. This process is described in the Direct Testimony of KCP&L witness Burton  
16 Crawford.

17 **Q: Does that conclude your testimony?**

18 A: Yes, it does.

BEFORE THE STATE CORPORATION COMMISSION  
OF THE STATE OF KANSAS

In the Matter of the Petition of Kansas )  
City Power & Light Company ("KCP&L") )  
for Determination of the Ratemaking )  
Principles and Treatment that Will Apply )  
to the Recovery in Rates of the Cost to be )  
Incurred by KCP&L for Certain Electric )  
Generation Facilities Under K.S.A. 2003 )  
SUPP. 66-1239 )

Docket No. 11-KCPE-\_\_\_\_-PRE

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 five (5) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

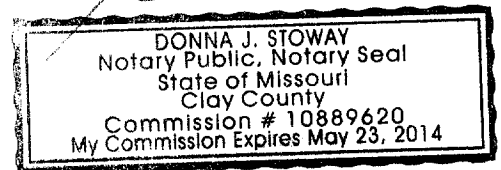
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereof, are true and accurate to the best of my knowledge, information and belief.

George M. McCollister  
George M. McCollister

Subscribed and sworn before me this 15<sup>th</sup> day of February 2011.

Donna J. Stoway  
Notary Public

My commission expires: May 23, 2014



**Forecast of Net System Input (NSI) for KCP&L**

	NSI	Hourly Peak Demand
	GWh	MW
<b>2011</b>	16,134	3,610
<b>2012</b>	16,437	3,677
<b>2013</b>	16,588	3,741
<b>2014</b>	16,846	3,798
<b>2015</b>	17,101	3,849
<b>2016</b>	17,409	3,895
<b>2017</b>	17,614	3,939
<b>2018</b>	17,865	3,983
<b>2019</b>	18,133	4,032
<b>2020</b>	18,450	4,116