Exhibit No.: _____
Issue(s): Customer Experience/ Greenwood Solar Facility/ Dues and Donations/ Electric Vehicle Charging Stations
Witness/Type of Exhibit: Marke/Rebuttal
Sponsoring Party: Public Counsel
Case No.: ER-2016-0285

REBUTTAL TESTIMONY

OF

GEOFF MARKE

Submitted on Behalf of
The Office of the Public Counsel

KANSAS CITY POWER & LIGHT COMPANY

Case No. ER-2016-0285

** **

Denotes Highly Confidential Information that has been redacted

December 30, 2016

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement A General Rate Increase for Electric Service	))))	Case No. ER-2016-0285

AFFIDAVIT OF GEOFF MARKE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Geoff Marke, of lawful age and being first duly sworn, deposes and states:

1. My name is Geoff Marke. I am a Regulatory Economist for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Geoff Marke
Regulatory Economist

Subscribed and sworn to me this 30th day of December 2016.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

JERENE A. BUCKMAN
My Commission Expires
August 23, 2017
Cole County
Commission #13754037

Jerene A. Buckman
Notary Public

My Commission expires August 23, 2017.

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REBUTTAL TESTIMONY

OF

GEOFF MARKE

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2016-0285

I. INTRODUCTION

Q. Please state your name, title and business address.

A. Geoff Marke, PhD, Economist, Office of the Public Counsel (OPC or Public Counsel), P.O. Box 2230, Jefferson City, Missouri 65102.

Q. Are you the same Dr. Marke that filed direct testimony in ER-2016-0285?

A. I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of this testimony is to respond to the revenue requirement direct testimony regarding:

- Energy Burden and the Consumer Price Index
  - Kansas City Power and Light ("KCPL") witness Darrin R. Ives
- Customer Experience
  - KCPL witness Charles A. Caisley
- Energy Usage
  - KCPL witness Albert R. Bass, Jr.
- Greenwood Solar Facility
  - Staff witness Karen Lyons
- EPRI Dues and Donations
  - Staff witness Michael Jason Taylor
- Electric Vehicle Charging Stations
  - KCPL witness Timothy Rush and Missouri Public Service Commission ("Staff") witness Byron Murray

Q. Please state OPC's position.

A. OPC disagrees with the policy narrative presented by KCPL's witnesses Ives and Caisley regarding KCPL's customer experience. OPC also disagrees with KCPL witness Bass's conclusions regarding projected energy usage and demand and opposes Mr. Bass's MEEIA adjustments to the revenue requirement.

OPC opposes including any costs related to the Greenwood facility in rates. OPC has appealed the Commission's decision in the Greenwood solar case. Should OPC not prevail on appeal, the Commission should adopt a 33.33% split for cost allocation across KCPL-MO, KCPL-KS and GMO.

OPC recommends that the Commission disallow all Electric Power Research Institute ("EPRI") related costs accrued in the test year as the Company has failed to show how these costs are providing a benefit or increased service quality to ratepayers.

Finally, OPC recommends that the Commission reject KCPL's request to include capital and O&M related expenses from the Company's Clean Charge Network ("CCN") into rates. Both ratepayers and drivers are best served by a competitive market for charging services rather than a regulated monopoly. As it stands, KCPL's costs to be recovered "above the line" do not justify the espoused benefits, especially if those benefits are gained through the creation of barriers to entry from competition for a non-essential service. The deployment of electric vehicle ("EV") charging infrastructure should be left to the Company's non-regulated services and to free market competition.

II. ENERGY BURDEN AND THE CONSUMER PRICE INDEX

Q. KCPL witness Mr. Ives suggests that the average KCPL residential household only spends 3% of their income on electricity. Do you agree?

A. No. Mr. Ives states that if a residential household earns $40,000 in annual income, it will spend about 3% on electricity (assuming a monthly bill of $109.42). This calculation is misleading because it fails to account for the estimated tax burden a $40,000 household would experience in Kansas City, MO. If all potential taxes are taken into account, a married couple earning $40,000 would spend approximately 4.6% of their income on electricity and single filing household would spend 4.9% on electricity.[1] As an aside, it is important to note the energy burden on all households will increase this upcoming year regardless of whether or not KCPL is awarded a rate increase due to the expected MEEIA surcharge increase which accounts for throughput disincentive and program costs from Cycle I and Cycle II as well as a generous performance incentive that includes $10 million in profit.[2] Figure 1 provides a breakdown of the estimated tax burden of the "average" household Mr. Ives presented in his direct testimony.

[1] Assumes an after-tax income of $28,734 (married) and $26,575 (single) see Figure 2 and footnote 5.
[2] See ER-2017-0167, Direct Testimony of Tim Rush. P. 6, 12.

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Figure 1: Estimated Tax Burden of $40,000 annual income single household in Kansas City, MO [3]

Your Income Taxes

Tax Type	Marginal Tax Rate	Effective Tax Rate	Tax Amount
Federal	15.00%	9.96%	$3,984
FICA	7.65%	7.65%	$3,060
State	6.00%	3.58%	$1,432
Local	1.00%	1.00%	$400
Total Income Taxes			$8,876
Income After Taxes			**$31,124**

Your Tax Breakdown

Income Tax	$8,876
Sales Tax	$910
Fuel Tax	$171
Property Tax	$3,468
Total Estimated Tax Burden	**$13,425**

Total Estimated Tax Burden
$13,425

Percent of income to taxes = 34%

Q. Mr. Ives declares that electricity is an excellent value compared to Dish TV. Do you agree?

A. This is a nonsensical comparison. Direct-broadcast satellite television service is luxury item and not an essential utility service. Moreover, unlike local electric service providers such as KCPL, Kansas City, Missouri consumers are free to choose other satellite television providers or elect to have no satellite service at all. Interruption of direct-broadcast satellite television service could be an inconvenience. However, the loss of an essential serviced like

[3] Federal Income Tax Calculator (2016). Smartasset.com (Filing Status: married) using the tool located at: https://smartasset.com/taxes/missouri-tax-calculator; (Filing status: single) using the tool located at: https://smartasset.com/taxes/missouri-tax-calculator

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electricity has the potential to endanger the life, health, or personal safety of the whole or part of the population.

Q. Mr. Ives presents several daily (or monthly) price estimates for common Energy Star labeled household appliances to illustrate KCPL's "affordability." Do you agree?

A. Energy Star certified appliances are high-priced efficient products in which consumers pay a premium relative to other appliances on the market. It would seem inappropriate to offer up Energy Star appliances as the standard bearer for illustrating "affordable" electric appliance usage especially when KCPL's most recent DSM market potential study found that **

** The breakdown in residential market profile sales, energy and seasonal demand usage for KCPL can found in Table 1:

Table 1: Modification of KCPL's 2016 Draft Residential Market Profile[4] **

As an aside, it is worth noting that (according to KCPL's own data) low-income households use approximately ** less annual average

[4] Sources of information include KCP&L 2016 Residential Customer Survey, KCPL&L Billing data and AEG Energy Market Profiles. This data was taken from the draft copy provided to stakeholders 9/16/2016. Residential Market Profile data is not expected to change in the final version. See also GM-1 for specific draft slide.

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energy than their non-low-income counterparts. Moreover, low-income households place considerably less of a demand burden on the grid in both the summer and winter seasons compared to their non-low-income counterparts on average. This data runs counter to assertions made by KCPL in its last rate case (ER-2014-0370) where Company witness Tim Rush claimed that low-income customers have usage levels similar to the residential class at large.[5] Residential Market Profiles across all segments (Kansas and Missouri) can be found in GM-1.

Q. Mr. Ives contends that on a national level, energy rates have risen at a slower pace than other common everyday necessities. Do you agree?

A. In part. The graphic Mr. Ives produces (and reprinted here as Figure 2) shows price comparisons that are five years old (annual average increases from 2002 to 2012) that also omit other items listed in the Consumer Price Index ("CPI") Average Price Data website. Additionally, electricity is placed on the far left of the graph next to unleaded gasoline to heighten the percent change difference. Moreover, any increase should be viewed in the context of wage growth or lack thereof. Viewing this chart from the customer perspective it is easy to see that affordability is an issue.

[5] See ER-2014-0370, Item No. 9, Direct Testimony of Tim Rush, p. 67, 3-15 & p. 68-69.

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Figure 2: Reprint of Ives "Value of Electricity" Graph, 2002 - 2012

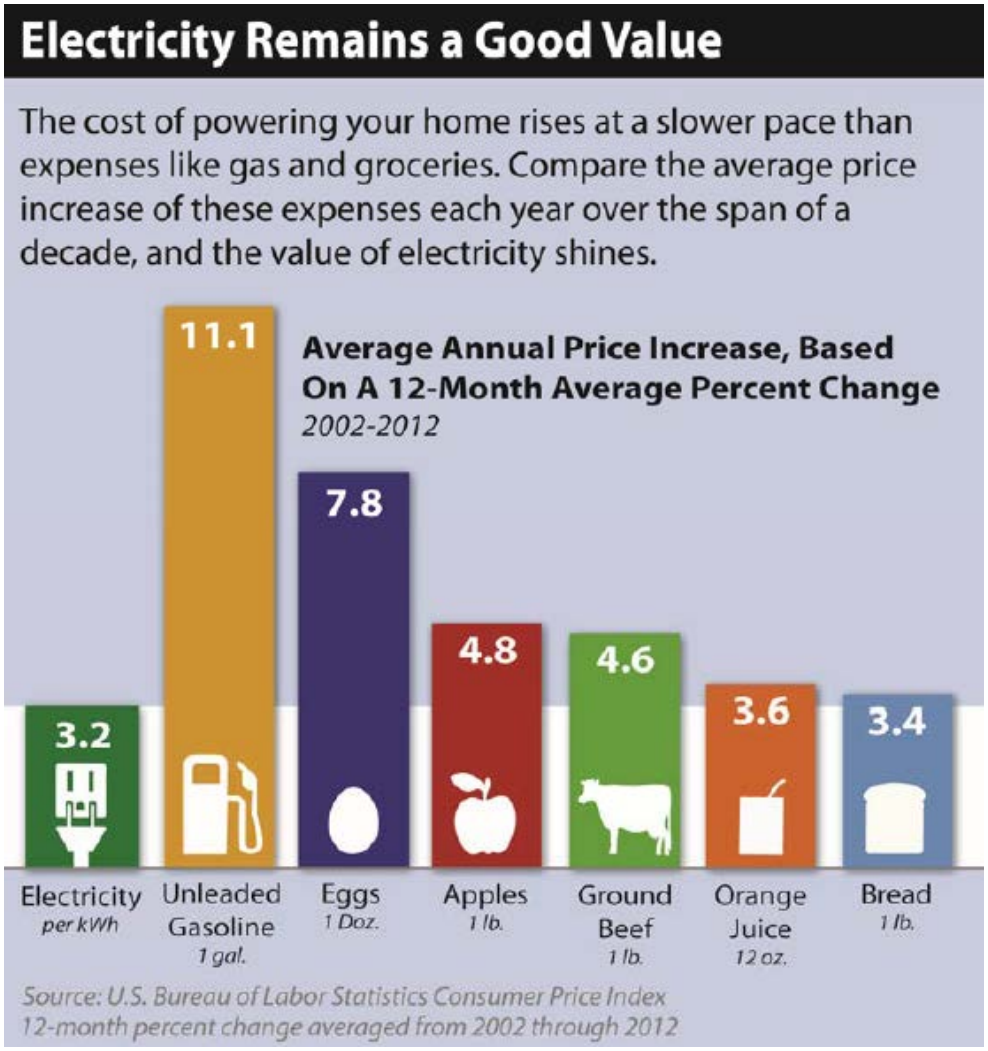

Figure 3 provides more current results of the U.S. Bureau of Labor Statistics CPI 12-month percent change averaged from 2005 through 2015. Figure 4 includes items excluded from Mr. Ives's chart but included in the CPI data set along with electricity.

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Figure 3: Updated "Value of Electricity" Graph, 2005 - 2015[6]

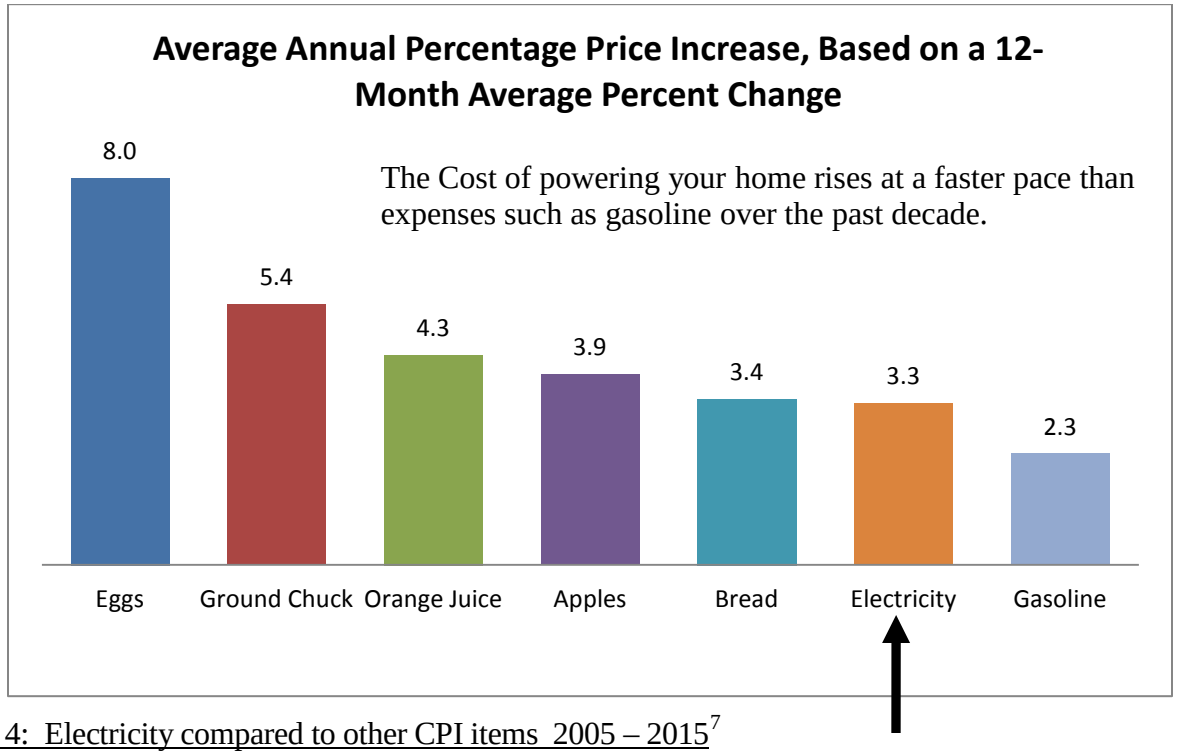
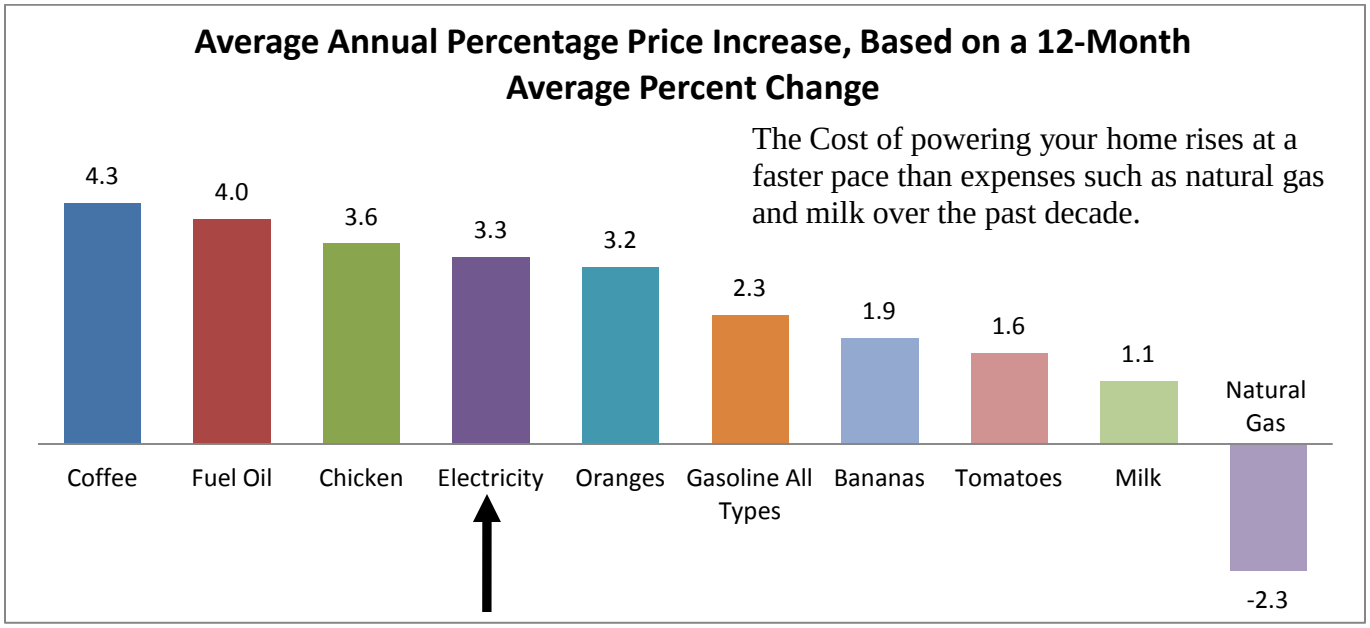


Figure 4: Electricity compared to other CPI items 2005 – 2015[7]



[6] U.S. Bureau of Labor Statistics Consumer Price Index (2016) http://data.bls.gov/cgi-bin/surveymost?ap
[7] Ibid.

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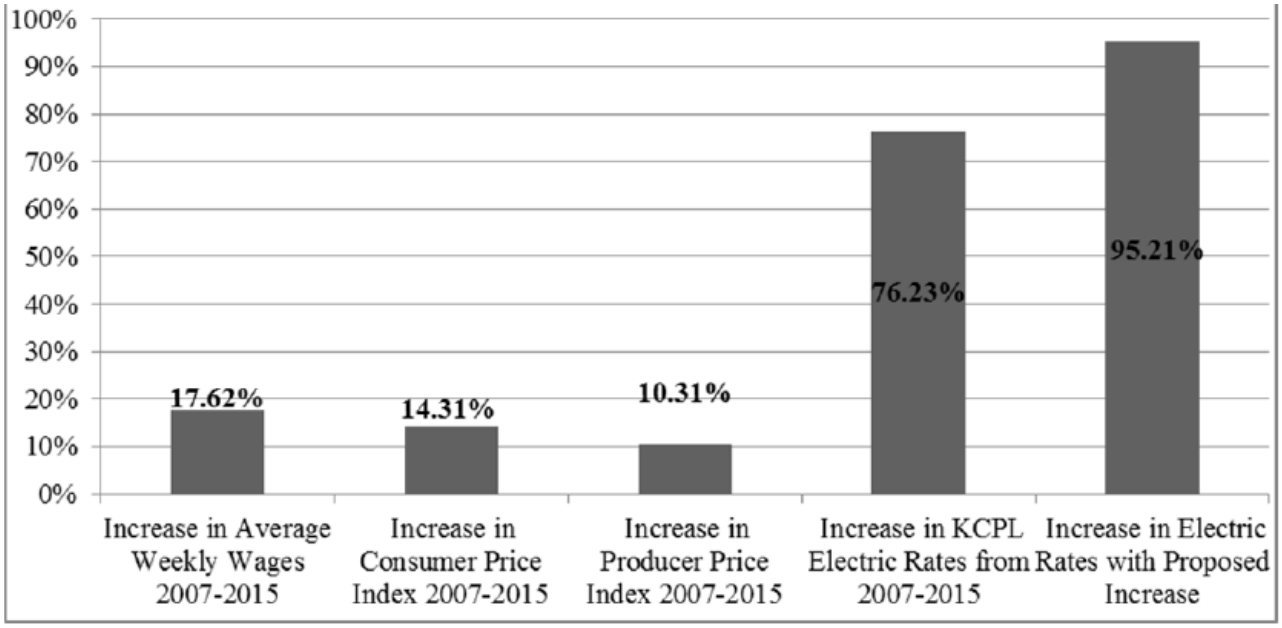
Q. What are some of OPC's concerns regarding the points raised in Mr. Ives testimony?

A. The foremost concern is the general narrative that KCPL residential households are "fine" and not paying too much for electricity relative to other services. Staff witness Michael Stahlman aptly points out in the Staff Revenue Requirement Report that:

> From 2007 to 2015, the increase in average weekly wages for Missouri counties in the KCPL service area is about one-fourth of the increase in electric rates for KCPL customers. If KCPL receives its requested 10.77% increase, the increase in average weekly wages would be less than one-fifth of the increase in electric rates[8]

The contrast in weekly wage and consumer and producer price indexes to KCPL's electric rate increases is made clear in Figure 5. With a breakdown of historical KCPL rate increases listed in Table 2.

Figure 5: Reprint of comparison of weekly wages, consumer price index, producer price index, and electric rates for Kansas City citizens 2007-2015[9]



[8] ER-2016-0285 (2016) Staff Report: Revenue Requirement Cost of Service. p. 8.
[9] Ibid.

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Table 2: KCPL Rate Case History 2007-2016[10]

Case Number	Effective Date	Dollar Value	Percent Increase
ER-2006-0314	1-Jan-07	$50,616,638	10.46%
ER-2007-0291	1-Jan-08	$35,308,914	6.50%
ER-2009-0089	1-Sep-09	$95,000,000	16.16%
ER-2010-0355	4-May-11	$34,817,199	5.25%
ER-2012-0174	26-Jan-13	$67,390,893	9.64%
ER-2014-0370	29-Sep-15	$89,671,644	11.76%
Total Dollars		$372,805,288	
Total Compounded Increase			76.23%
ER-2016-0285	(Proposed)	$90,076,613	10.77%
Total with Proposed		*$462,881,901*	*95.21%*

A secondary concern is how Mr. Ives has presented a more favorable picture of the financial burden of electricity costs on KCPL's customer's households based on selective annual income and on dated Consumer Price Index information.

[10] Ibid. p. 9

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III. CUSTOMER EXPERIENCE

Q. Initially, what should the Commission consider when reading KCPL witness Mr. Caisley's testimony?

A. It is important to bear in mind that Mr. Caisely's testimony does not differentiate between KCPL-MO, KCPL-KS and GMO L&P and MPS service territories—it is simply "KCPL" across the board. It is not clear at any point in his testimony what "KCPL" means or if the Commission is expected to believe that price and regulatory differentials between service territories are inconsequential for customer experience purposes. As a result, it is difficult to draw any meaningful conclusions from the testimony about the KCPL customer's experience. Please note, unless otherwise stated, to avoid confusion, I will be referring to KCPL primarily as "the Company" in this section of my testimony. Additionally, it should be noted that Mr. Caisley's testimony is identical to what he filed in ER-2016-0156, KCP&L's Greater Missouri Operations ("GMO") rate case earlier this year. In turn, this portion of my testimony is largely duplicative from what I filed in the aforementioned case which was settled and not taken to evidentiary hearing.

Q. Please summarize Mr. Caisley's testimony.

A. Mr. Caisley provides a generalized description of the Company's approach to collecting and utilizing customer demographic data from third-party and in-house consumer analytic surveys. He then provides the following Q & A with two conclusions for the Commission to consider:

> Q. What does the research KCP&L conducts or participates in tell you about KCP&L's residential customer experience?
>
> A. At a high level, it says that KCP&L has a solid residential customer experience that **marginally exceeds our peers in Missouri** and regionally (Schedule CAC-1, page 13). . . . Despite higher raw scores in nearly all areas of the JDP residential customer satisfaction index, **our**

> **rank has fallen relative to peer utilities in the last couple of years**. (emphasis added) [11]

To summarize, the Company's paid consultants (Wilson Perkins Allen Opinion Research) found "marginally" better residential customer perception results when they compared the Company to other Missouri utilities. However, this was not true for the JD Power survey which cast the Company as consistently below its peer utilities the last couple of years.

Q. Did Mr. Caisley provide any reasons why residential customer satisfaction has fallen in the JD Power Survey?

A. Yes. Mr. Caisley provides two specific reasons:

> We believe that there are a number of drivers behind our drop relative to other utilities. Chief among them is a higher number of rate cases in recent years, more than almost all of our regional peers, as well as **spending significantly less on advertising** the KCP&L brand relative to other utilities in our peer group. (emphasis added)[12]

To be clear, Mr. Caisley provides no context, comparisons, or budgets to substantiate that KCPL has spent significantly less on advertising than other utilities. Nor is there any support for Mr. Caisley's inference that increasing a utility's advertising budget is strongly correlated with prudent customer satisfaction induced results. Mr. Caisley's conclusions are without merit.

[11] ER-2016-0285 Direct Testimony of Charles A. Caisley p. 12, 18-21 & p. 13, 6-7.
[12] Ibid. p. 13, 10-13.

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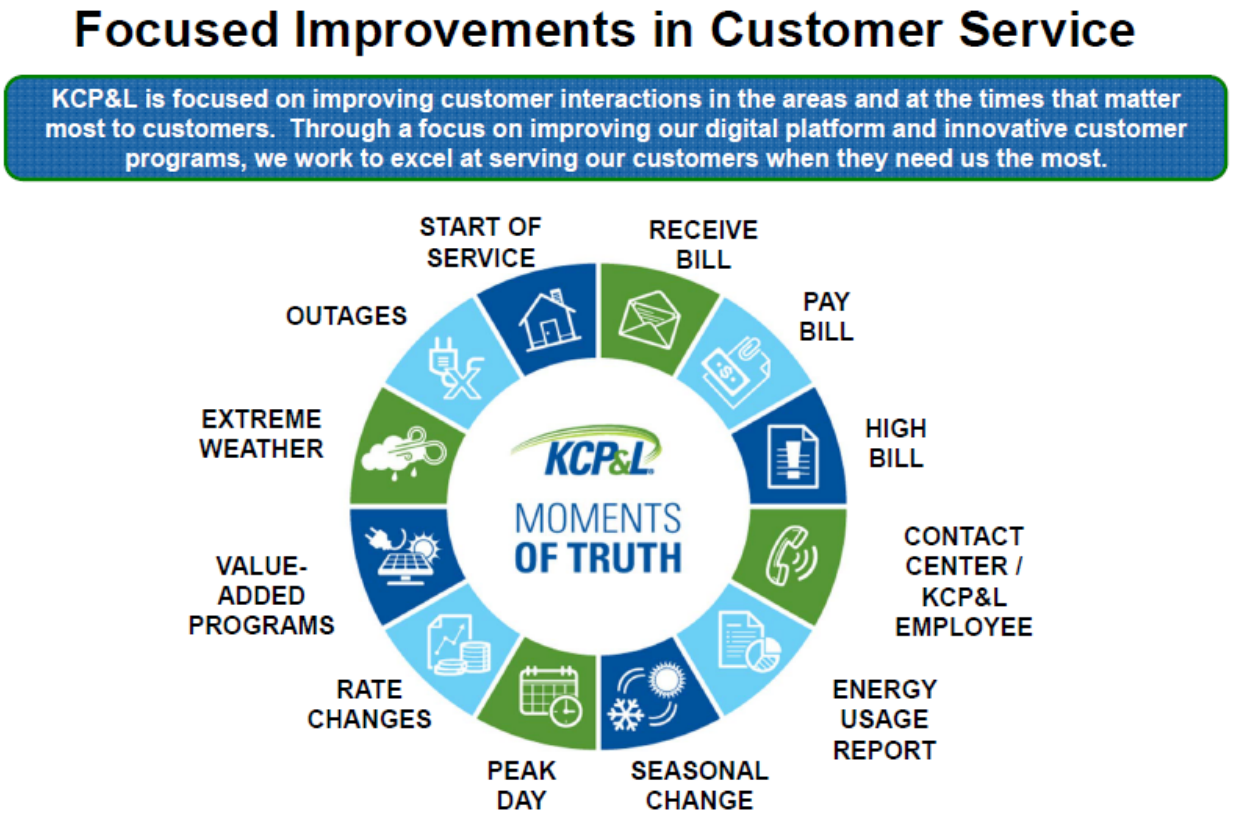
Q. Mr. Caisley's testimony refers to "Moments of Truth." What is that?

A. According to Mr. Caisley:

> These are simply the most important moments in customer service for our customers.[13]

Figure 6 reprints the 12 specific "Moments of Truth" found in Schedule CAC-1.

Figure 6: KCPL's Moments of Truth



Q. Have other utilities approached customer satisfaction in this manner?

A. Yes. A cursory Internet search revealed a 2015 whitepaper from OPower (a third-party customer engagement platform for utilities) titled "Moments that Matter: A customer-centric approach to experience management" which includes the following graphic found in Figure 7.

[13] Ibid. p. 7, 11-12.

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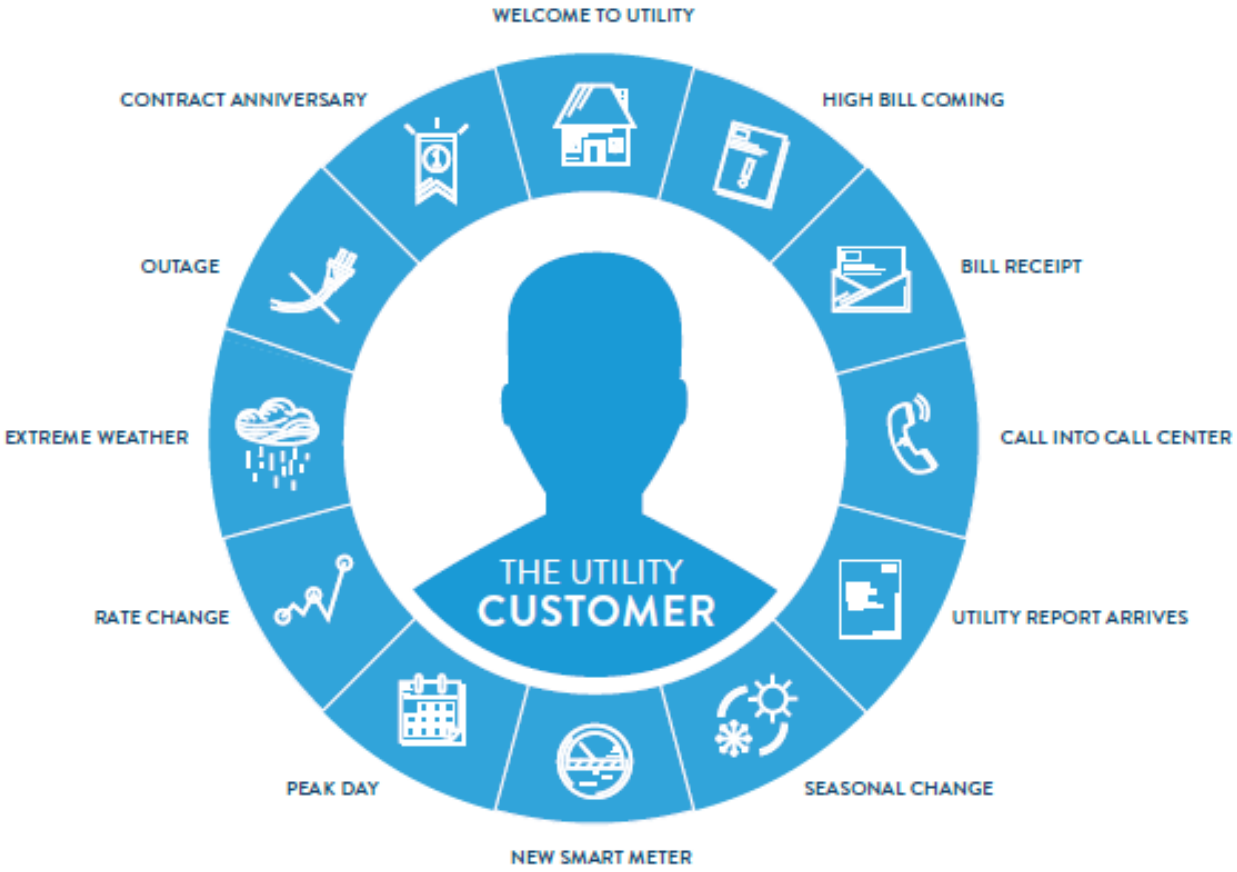
Figure 7: OPower's Moments that Matter[14]



The paper cites nine utilities that were consulted for the paper. Neither KCPL's holding Company Great Plains Energy ("GPE") nor any of its affiliates are listed suggesting that KCPL's customer experience philosophy, if driven by OPower's research, is still in its infancy.

I will address several of these moments of truth including *Rate Changes* and *High Bill* in greater detail later in this testimony.

[14] Atta. C.D. (2015). Moments that Matter. OPower Blog. https://blog.opower.com/2015/04/moments-that-matter

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Q. Mr. Caisley suggests that ratepayers value outage updates from the utility more than outage restoration from the utility. Is this true?

A. No. Ratepayers value restoration of lost power more than they do a text message on the status of the lost power. It is not entirely clear what basis Mr. Caisley has for making the following claim:

> Restoring power quickly after a storm is important to good customer service. But our research has shown that **customers care even more about good communication** during an outage. (emphasis added)[15]

OPC attempted to confirm this conclusion in OPC DR-2075 (submitted in ER-2016-0156) which contains the following Question and Response:**

**

The Company's response to OPC DR-2075 also contained an attachment, a 2012 JD Power Special Report titled: *Customer Impact Report: Utility Outage Communications Preferences*

[15] ER-2016-0285 Direct Testimony of Charles A. Caisley p. 7, 12-14.
[16] See GM-2.

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There is nothing in the attached report that substantiates Mr. Caisley's testimony or the Company's response to OPC's DR that ratepayer's value outage status more than they value outage restoration. The JD Power Report makes a point of clearly stating what the primary focus should be in power outage:

**

**

Q. Does KCPL research substantiate Mr. Caisley's assertion?

A. No, it does not; at least none of the research that has been provided in discovery. In response to OPC DR-2067 (submitted in ER-2016-0156), the Company provided a breakdown of its KCP&L Customer Experience Opportunity Index which includes the category "Power Quality."[18] Those results are adapted and reprinted in Table 3 to specifically address Mr. Caisley's assertion:

Table 3: "Power" Results of KCPL's 2015 Customer Experience Opportunity Index

Power Quality Category	Attribute Weight %	2015 Score (1-10)	Most impactful if improved
Supply electricity during extreme temperature	25%	7.59	168.7
Promptly restart power after outage	17%	7.10	138.0
Provide electric power	17%	7.33	127.1
Avoid brief interruptions	15%	7.24	115.9
Avoid lengthy outages	13%	7.22	101.2
Keep you informed during outage	13%	5.85	151.1

[17] Smith, L.D. et al. (2012) Customer Impact Report: Utility Outage Communications Preferences. J.D. Power and Associates. P.3
[18] See GM-3.

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Based on Table 3, the Commission can see that "Keeping you informed during outages" is weighted last in terms of importance (13%) in the Power Quality Category. Furthermore, far from being an insight, "keeping ratepayers informed on the status of a power outage" is an area that is perceived to be deficient with a 5.85 out of a possible 10 score. This makes the subcategory the most likely to have a positive impact moving forward (with a 151.1 score). To be clear, this is only made possible due to the perceived subpar performance of the Company in keeping its customers informed during outages, not on some overall intrinsic value that places communication of outage status above restoring power in order of perceived customer importance.

Q. Please describe KCPL's Customer Experience Opportunity Index?

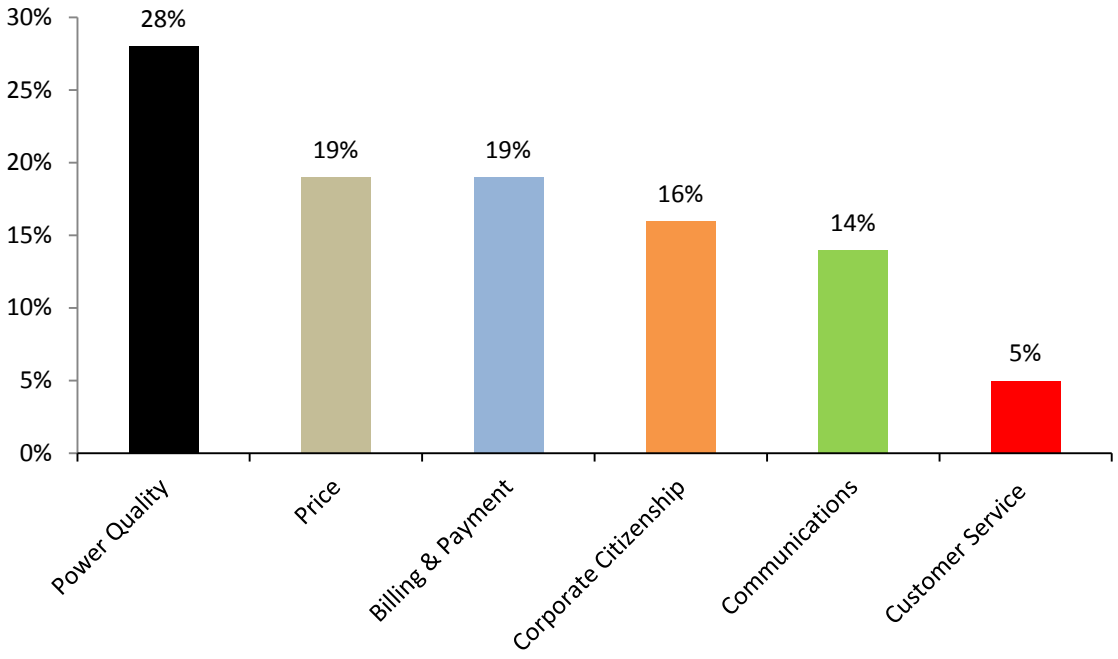
A. According to the Company's response to OPC DR-2067 (submitted in ER-2016-0156):

> KCP&L has developed an Opportunity Index that indicates the areas that would be most impactful in raising customer satisfaction. We use the data from JD Power's Electric Utility Residential Customer Satisfaction study to calculate the index scores. The index score is calculated by subtracting KCP&L's score from 10 (the highest score possible) and multiplying it by the weighting of each component and individual attribute. That number is than multiplied by 1,000 to create the index score.[19]

The Company has identified six categories that, all together, contain thirty-six total subcategories. Each of the six categories and thirty-six subcategories are weighted differently according to perceived customer satisfaction. It is not entirely clear if JD Power, the Company, or a combination of the two entities chose the designated weights. Figure 8 provides a breakdown of the six customer satisfaction categories and their respective weighted values.

[19] Ibid.

Figure 8: JD Power Weighted Categories of Customer Satisfaction



Q. What are the greatest opportunities to improve customer satisfaction in each of the aforementioned categories?

A. The subcategory within each of the six categories that has the greatest potential for raising customer satisfaction moving forward is listed in Figure 9.

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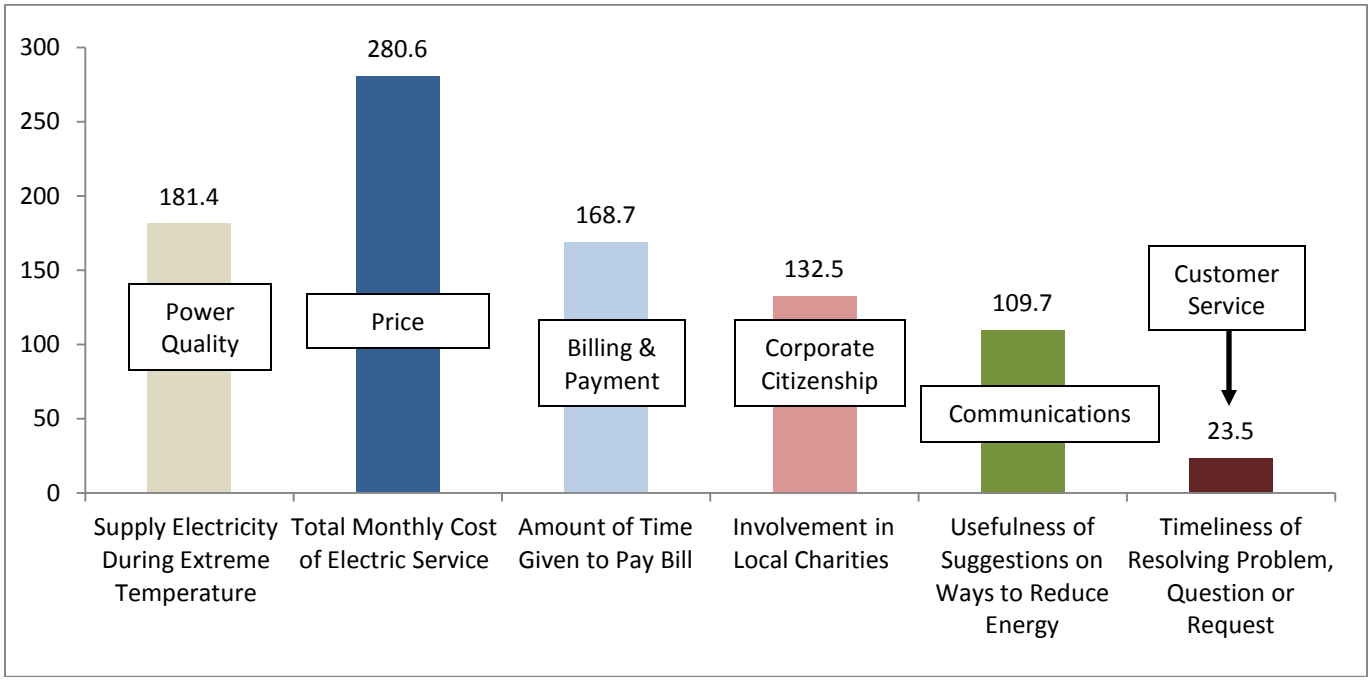
Figure 9: KCP&L's Greatest Opportunity for Increased Customer Satisfaction in each Category



Based on the Company's analysis, the greatest opportunities to provide an increase in meaningful customer experiences include: decreasing (or controlling) total monthly costs of electric service, maintaining reliable service in extreme weather, and increasing the amount of time given for payment of bills. This is closely followed with the Company becoming more engaged with local charities and the Company providing useful suggestions to ratepayers on how they can reduce energy usage.

OPC would agree with the Company's internal evaluation that improvement in any of these areas would increase the overall customer experience. Both KCPL and ratepayers alike would benefit from an increased focus on these actionable items.

Q. Of the thirty-six subcategories examined, what were the five highest and lowest scoring areas?

A. Those results are included in Tables 4 and 5 below:

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Table 4: Top 5 Highest Scoring Subcategories

Subcategory	Score 1-10	Subcategory Weight	Category Weight	Value out of 100
Ease of Navigating Website	8.04	26%	5%	1.30
Clarity of Information Provided (website)	7.97	21%	5%	1.05
Timeliness of Resolving Problem, Question or Request (website)	7.93	31%	5%	1.55
Appearance of the Website	7.97	22%	5%	1.11
Ease of Paying Your Bill	7.65	28%	19%	5.32

Based on the Company's valuation of subcategories, the total value of the Company's top five performing subcategories represents 10.33% of the overall value of the thirty-six total subcategories.

Table 5: Top 5 Lowest Scoring Subcategories

Subcategory	Score 1-10	Subcategory Weight	Category Weight	Value out of 100
Fairness of Pricing	5.73	16%	19%	3.05
Total Monthly Cost of Electric Service	5.78	35%	19%	6.65
Keeping You Informed about Outages	5.85	13%	28%	3.64
Creating Messages that get Attention	5.90	18%	14%	2.52
Involvement in Local Charities	5.95	28%	16%	4.48

Based on the Company's valuation of subcategories, the total value of the Company's bottom five performing subcategories represents 20.34% of the overall value of the thirty-six total subcategories.

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Q. What should the Commission note from these results?

A. That on a whole, the Company is successfully providing a meaningful customer experience on its website. Unfortunately, those interactions are not perceived to hold much value or represent dominant "moments of truth" for customer experiences with only a 5% categorical weighted ranking. As an aside, the Company scored high marks in customer *perceived* value of the Company's ability to collect bills from ratepayers.

More troubling is the fact that the Company is scoring poorly in subcategories with larger weighted rankings. Based on this analysis, the Company's ratepayers are more likely to perceive it as both unfair and providing service that is too expensive.

This is a far different picture than what Mr. Caisley's testimony would have the Commission believe. The Complete chart of all thirty-one subcategories and their respective rankings can be found in GM-3.

Q. Mr. Caisley identified two issues on the cover of his testimony: "Customer Service and Experience;" and "Community Involvement." Did he speak to KCPL's involvement with its community?

A. Yes, he did. "Community Commitment and Involvement" is one of the targeted areas he speaks to in the opening of his testimony. He later expounded on the Company's efforts in this area:

> As a result, KCP&L developed a couple of programs to assist customers. First, **we developed and implemented the Connections Campaign** (which eventually turned into an ongoing program). This program was an aggressive effort to educate customers on programs that KCP&L has to assist with bill payment. We partnered with relief agencies and other community groups and went all over the service territory conducting educational meetings and educating people on how to access, not just KCP&L programs, but a range of assistance programs. . . . **We also developed the Economic Relief**

> **Program,** which targeted working poor families and seniors who might not be eligible for financial assistance from the State of Missouri, but were in need of help.(emphasis added)[20]

Q. What is OPC's position on the Connections Program?

A. We support the concept. As it stands, it is not entirely clear how successful it has been. In response to OPC DR-2092[21] (submitted in ER-2016-0156), which requested the annual expenditures of the program, the Company responded with the following amounts:

- 2011: $3,300
- 2012: $26,000
- 2013: $18,000
- 2014: $7,800
- 2015: $4,700

OPC needs to make further inquiry on this subject, as it is not entirely clear if these amounts reflect KCPL alone or encompass, GMO, KCPL-MO and/or KCPL-KS. The responses make no distinction, regardless; the decrease in program expenditures suggests the Company is not placing as great of an emphasis on this form of outreach as it has in the past.

Q. What is OPC's position on the Economic Relief Program?

A. OPC supports the program and will discuss the requests made to alter the program by the Company and Staff later in this testimony.

Q. Does OPC have any additional comments to make regarding the KCPL customer experience?

A. Yes. OPC would like the Commission to be aware of some general concerns regarding specific data that is being collected from customers through the Company's surveys. **

[20] ER-2016-0285 Direct Testimony of Charles A. Caisley p. 16, 9-15 & p. 17, 18-21.
[21] See GM-4

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** Based on OPC's previous objections regarding the lack of consumer disclosure in regards to AllConnect complaint case in EC-2015-0309 as well as potential privacy issues, further inquiry will be warranted.

Finally, the Commission should be cognizant that a series of data requests regarding billing practices (see GM-5) were submitted to KCPL consistent with what was filed in OPC's direct testimony in Ameren's rate case, ER-2016-0179. KCPL's legal counsel replied via email and requested an extension until January 10th due to the Holiday season. Further comment on KCPL's billing practices and "customer experience" may be warranted based on these responses in surrebuttal testimony.

NP

IV. HISTORICAL & PROJECTED CUSTOMER USAGE

Q. Please summarize KCPL witness Mr. Bass's position on GMO's most recent weather normalized billed sales and what he believes is likely GMO's projected future.

A. Mr. Bass provides a general list of perceived historical factors that may have induced slower than expected billed sales since 2009. These include:

- Continued lag from the Recession
- Federal Appliance Standards
- Company Energy Efficiency Programs
- Stagnant Housing Market
- Increased Electric Prices[22]

I agree with some of these conclusions. Clearly, overall energy usage was impacted by the economic recession that resulted from the housing market collapse. Recovery has produced uneven growth across the country and across employment sectors resulting in both winners and losers.[23] I am much less inclined to agree the Company's energy efficiency efforts have significantly impacted KCPL's recent historical trend.

In projecting out to the future, Mr. Bass concludes:

> It is not expected that the Company will return to the previous trend prior to 2008 due to continued federal standards initiatives, company sponsored energy efficiency programs and increasing electricity prices.[24]

Q. Do you agree?

A. No. When this case was filed, KCPL could be more accurately characterized as experiencing low growth compared to pre-recession levels. However, uncertainty abounds. For example,

[22] ER-2016-0285 Direct Testimony of Albert R. Bass Jr. p. 12-15.
[23] Economic Innovation Group. (2016). The new map of economic growth and recovery. http://eig.org/wp-content/uploads/2016/05/recoverygrowthreport.pdf
[24] ER-2016-0285 Direct Testimony of Albert R. Bass Jr. p. 15, 13-15.

Great Plains Energy's ("GPE" is the holding company that owns KCPL) news release issued August 4th states:

> "Our company delivered solid financial and operational performance for the quarter," said Terry Bassham, chairman and chief executive officer of Great Plains Energy. "We continue to optimize the performance of our business. Our generating units performed well during the extreme heat conditions that blanketed our region, **where temperatures in June were the warmest since 1980."** . . .
>
> On a per-share basis, drivers for the increase in second quarter 2016 adjusted earnings (non-GAAP) per share compared to the same period in 2015 included the following:
>
> - Approximately $0.14 of new Missouri and Kansas retail rates that became effective September 29, 2015 and October 1, 2015, respectively;
>
> - **An approximately $0.11 increase due to warmer weather driven by a 31 percent increase in cooling degree days compared to the second quarter 2015;** and
>
> - An approximately $0.07 increase in other margin primarily due to new cost recovery mechanisms and an increase in the recovery of throughput disincentive associated with our energy efficiency programs. . . .
>
> **Overall retail MWh sales were up 3.4 percent in the second quarter 2016, compared to the 2015 period with the increase driven by weather.** The favorable weather impact in the second quarter 2016, when compared to normal, was approximately $0.08 per share. (emphasis added) [25,26]

And Great Plains Energy's news release issued November 3rd states:

[25] Great Plains Energy Reports Solid Financial Performance; Westar Acquisition on Track for Completion in Spring 2017. (2016). http://phx.corporate-ir.net/phoenix.zhtml?c=96211&p=irol-newsArticle&ID=2193335

[26] To provide further context, the Electric Reliability Council of Texas (ERCOT) set four new peak demand records in that same week. See Walton. R. (2016) ERCOT: High temperatures spark 4 peak demand records in 1 week. *UtilityDive*. http://www.utilitydive.com/news/ercot-high-temperatures-spark-4-peak-demand-records-in-1-week/424265/

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On a per-share basis, drivers for the increase in third quarter 2016 adjusted earnings (non-GAAP) per share compared to the same period in 2015 included the following:

- An estimated $0.18 from new Missouri and Kansas retail rates that became effective September 29, 2015 and October 1, 2015, respectively;
- **An estimated $0.05 increase due to warmer weather driven by a 7 percent increase in cooling degree days compared to the third quarter 2015**;
- An estimated $0.03 impact from an increase in weather-normalized retail demand; and
- An estimated $0.04 increase due to new cost recovery mechanisms. . .

Overall retail MWh sales were up 3.2 percent in the third quarter 2016, compared to the 2015 period with the increase driven by weather. The favorable weather impact in the third quarter 2016, when compared to normal, was approximately $0.04 per share. (emphasis added)[27]

According to the Great Plains Energy Third Quarter 2016 Business update and Earnings Review (Nov. 4, 2016) slide 21 shows the weather-normalized demand trends for the 12-months ending September 30, 2016 as seen in Figure 11.

[27] Great Plains Energy Reports Strong Third Quarter Results. (2016). http://phx.corporate-ir.net/phoenix.zhtml?c=96211&p=irol-newsArticle&ID=2219603

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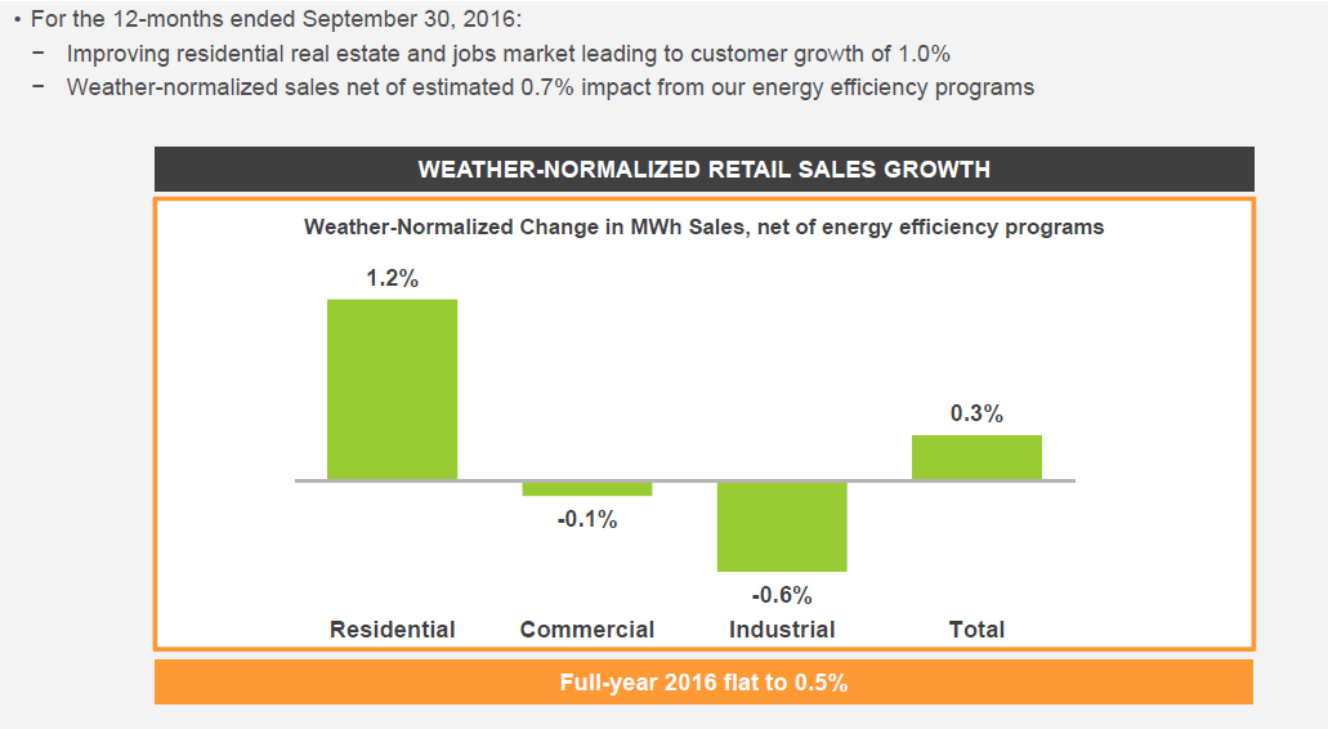
Figure 11: Great Plains Energy weather-normalized retail sales growth[28]



Whether this heat wave represents an anomaly or if more erratic weather patterns are likely to occur can be just as reasonably debated as whether or not the economy will bounce back and induce increased consumption. These variables are almost entirely outside anyone's control. As it stands, it would seem premature to declare energy consumption growth dead.[29,30]

[28] Great Plains Energy (2016) Q3 2016 Great Plains Energy, Inc. Earnings Call Presentation. Slide 21. http://phx.corporate-ir.net/phoenix.zhtml?c=96211&p=irol-presentations

[29] Risky Business: The Economic Risks of Climate Change in the United States(2015) Heat in the Heartland: Climate Change and Economic Risk in the Midwest. http://riskybusiness.org/site/assets/uploads/2015/09/RBP-Midwest-Report-WEB-1-26-15.pdf

[30] Hayhoe, K. (2015) Climate Change in the Midwest: Projections of future temperature and precipitation. Union of Concerned Scientists. http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/midwest-climate-impacts.pdf

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Q. Mr. Bass also proposes to make an annualized adjustment to recognize the impact of the Company's energy efficiency programs on test year's sales. Do you agree with that adjustment?

A. No. Such an adjustment has already taken place through the MEEIA surcharge and to do it again here would result in double recovery of assumed lost revenues. Mr. Bass is mistaken if he believes that the energy efficiency adjustment should occur based on the stipulation in EO-2015-0240.

V. GREENWOOD SOLAR FACILITY

Q. Please summarize the issue.

A. Staff proposes to allocate the Greenwood solar capital costs and any related expenses based on the number of customers. Staff witness Lyons provides the following breakdown:

Utility	Customer #	%
GMO	318,150	37.73%
KCPL	524,999	62.27%

In the previous GMO case (ER-2016-0156), the Staff proposed to utilize an energy allocator for dispersing the costs from the facility and demand allocator for production plant and reserve costs. In that case, Staff had not completed the in-service criteria review as a result of the black box settlement. In both the previous GMO case and the currently contested case, Staff recommended that some of the costs be allocated to KCPL's Kansas jurisdiction; however, Staff has not provided specific cost numbers for KCPL Kansas.

Q. What is OPC's position on this matter?

A. OPC opposes including any costs related to the Greenwood facility in rates. OPC has appealed the Commission's decision in the Greenwood solar case. Should OPC not prevail on appeal, the Commission should adopt a 33.33% split for cost allocation across KCPL-MO, KCPL-KS and GMO. Based on the Company's response to previous OPC DRs, neither

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KCPL-MO nor GMO are in need of Solar Renewable Energy Credit compliances for at least another decade. As all of GPE's "affiliated companies" share the same employees a shared spilt between utilities to reflect the putative value gained on the basis of "learning" would appear reasonable.

VI. EPRI DUES & DONATIONS

Q. What is Staff's position on dues and donations?

A. Staff reviewed a list of membership dues paid and donations made to various organizations that KCPL charged to its utility accounts during the test year. Furthermore, Staff utilized criteria outlined in Case No. EO-85-185 to establish when dues and donations expenses should not be included in customer rates. That criterion is as follows:

1. The expenses are involuntary ratepayer contributions of a charitable nature;
2. The expenses are supportive of activities which are duplicative of those performed by other organizations to which the Company belongs or pays dues;
3. The expenses are associated with active lobbying activities which have not been demonstrated to provide any direct benefit to the ratepayers; or,
4. The expenses represent costs of other activities that provide no benefit or increased service quality to the ratepayer.[31]

Staff witness Taylor recommends that the Commission reject the Company's Edison Electric Institute ("EEI") dues based on criterion 4 listed above. The Staff was silent on other Company expensed dues and donations.

Q. Do you agree?

A. In part. OPC is in agreement with Staff as it relates to disallowing EEI related dues as the Company has continually failed to show any benefit to ratepayers from participation in EEI. However, OPC also believes that all Electric Power Research Institute ("EPRI") related costs

[31] ER-2016-0285 Staff Direct Revenue Requirement Report. P. 112, 3-10.

accrued in the test year should be disallowed under the same rationale outlined in criterion #4 above.

Q. What is EPRI?

A. EPRI is a nonprofit organization funded by the electric utility industry that conducts research on various aspects of electric power generation, transmission and distribution.

Q. What issue does OPC take with KCPL's recovery of dues for EPRI?

A. OPC has not been able to obtain copies of KCPL/EPRI related products. In GMO's most recent rate case, ER-2016-0156, OPC requested five copies of KCPL/EPRI related products in which ratepayers funded. Each of the studies (presumably) contained information germane to customer service and distribution system related activity including but not limited to: demand response, time-of-use rates, EV charging and electrification, smart thermostat implementation and customer acceptance of utility sponsored technology. Those works and their applicable publically available prices are listed on EPRI's website are as follows:

1. Demand Response Standards and Interoperability: Kansas City Power & Light Smart Grid Demonstration (Price: $25,000)[32]
2. The Kansas City Power & Light Residential Time-of-Use Impact Study: EPRI Smart GRID Demonstration (Price $25,000)[33]
3. The Electrification Initiative: Kansas City Power & Light (KCP&L) Case Study Report (Price: Not available) [34]
4. The Practical Considerations for Designing and Implementing Experiments Involving Customers and Enabling Devices: Lessons Learned from EPRI's Smart Thermostat Collaborative Project (Price: $10,000)[35]

[32] EPRI (2016) Demand Response Standards and Interoperability: Kansas City Power & Light Smart Grid Demonstration http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004639
[33]EPRI (2015) The Kansas City Power & Light Residential Time-of-Use Impact Study: EPRI Smart GRID Demonstration http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004632
[34] EPRI (2016) The Electrification Initiative: Kansas City Power & Light (KCP&L) Case Study Report http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002003529

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5. The Case Study on Customer Acceptance and Technology Adoption: Kansas City Power & Light (Price: $10,000)[36]

Q. What was the Company's response to your request?

A. In response to OPC DR-2102 (submitted in ER-2016-0156) the Company stated:

> Due to the sensitivity of the information requested contact Amy Murray at 816-556-2067 to make arrangements for review. If an actual copy of the report is needed, OPC will need to request the document directly from EPRI.[37]

Q. Did OPC inquire why the EPRI documents could not be provided yet still be available to the public for a fee?

A. Yes. OPC sent DR-2019 asking for clarification on that question. The Company responded with the following statement:

> *"Disclosure of EPRI Materials shall be strictly limited to Member's employees, consultants, contractors, and governmental agencies for regulatory compliance purposes, on a need to know basis only and subject to a written agreement which protects EPRI Materials at least as well as the Master Agreement."*
>
> EPRI provides courtesy reports to the PSC, or other governmental agencies, when at least one utility under the agency's jurisdiction already has access to the report. The agency must request any non-public report from EPRI in writing and explain the purpose of the order. If the report is

[35] EPRI (2016) The Practical Considerations for Designing and Implementing Experiments Involving Customers and Enabling Devices: Lessons Learned from EPRI's Smart Thermostat Collaborative Project http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002005263
[36] EPRI (2012) Case Study on Customer Acceptance and Technology Adoption: Kansas City Power & Light http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000000001026444
[37] See GM-6.

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> licensed or subject to third party IP or confidentiality requirements, the agency must sign an EPRI license prior to shipping.
>
> EPRI allows utilities or other entities to purchase EPRI Materials produced by EPRI Programs or Supplemental Project they have not funded at the published price. Purchasers are required to sign a license with terms similar to those contained in the MA.[38]

Based on this response, OPC contacted EPRI directly to obtain copies of the aforementioned work products.[39] To date, after multiple emails, phone calls and formal requests made, OPC has still not been able to obtain copies of the ratepayer-funded products requested.

It should be noted that many of the questions posed by the Commission to stakeholders in this very case are topics in which ratepayers funded KCPL and EPRI to study. Perhaps more importantly, in ER-2014-0370, the Commission ordered KCPL to perform a time-of-use and real time pricing rates study.[40] Company witness Rush references this order in his direct testimony and responds by stating that, "The Company is working on these studies and will provide the results of the studies in a timely manner."[41] OPC would like to take this opportunity to point out that the second document listed above and requested is as follows:

1. The Kansas City Power & Light Residential Time-of-Use Impact Study: EPRI Smart GRID Demonstration (Price $25,000)[42]

Judging from the title of the work product, it would seem as though the Company concluded a time-of-use study in 2015. Further clarification on what additional work is needed that is preventing disclosure of the results from the Commission's previous orders may be warranted.

[38] See GM-7
[39] See GM-8
[40] ER-2014-0370. Report and Order p. 90-92.
[41] ER-2016-0285 Direct Testimony of Tim Rush p. 32, 18-19.
[42] EPRI (2015) The Kansas City Power & Light Residential Time-of-Use Impact Study: EPRI Smart GRID Demonstration http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004632

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Finally, it bears mentioning that the Company relies heavily on an EPRI/KCPL funded study on EV charging stations in Company witness Rush's testimony as justification for including capital costs into base rates in this case—yet, no copy or link to any study is provided.

As it stands, OPC has not been able to verify that EPRI expenses are providing any benefit or increased service quality to ratepayer and recommends that the Commission disallow EPRI related expenses in Accounts: 165008, 512010, 566000, and 930232 which amount to approximately $2 million in expenses.

VII. ELECTRIC VEHILCE CHARGING STATIONS

Q. Please summarize the issue.

A. KCPL is seeking to recover approximately $6 million in budgeted capital costs and $250 thousand in annual operations and maintenance expense for Company-owned EV charging stations in its service territory. KCPL is seeking to collect all costs "above the line" or through ratepayers. Staff witness Murray has recommended that all costs be collected "below the line" or through shareholders.

Q. What support does the Company provide to substantiate placing $6 million dollars of nonessential capital costs into base rates?

A. Company witness Rush devotes roughly two-and-half pages of his 32-page testimony to provide policy justification for the inclusion of expenses related to nonessential services into base rates. The espoused purported "benefits" stated by Mr. Rush are included in their entirety in the following two block quotes:

> All of KCP&L's customers, both EV users and non-EV users alike, will benefit from the Company's EV CCN ["Clean Charge Network"] project. Benefits include increased off-peak electricity usage, environmental benefits from reduced CO_2 emissions and lower ozone-reducing pollutants, economic impacts resulting in job creation, improved customer programs, and lower costs and efficiency by having the utility install, own and operate the EV

> charging stations. The increase in home-based usage to charge EVs will also provide a broader base over which to spread system costs.[43]

One page later, Mr. Rush provides the second and final block quote of purported "benefits" in which the first block quote benefits are restated again (but omitted here) at the conclusion of this quote.

> Yes. First, the benefits identified in the EPRI Study show that the program is in the public interest. Additionally, as noted in our Application, KCP&L's Clean Charge Network is in the public interest in Missouri because it places Missouri in the forefront of accommodating and promoting development of an industry that is expected to advance quickly in the near future, it proposes a plan that brings the network to Missouri in an efficient and effective manner, and it provides benefits to KCP&L's Missouri customers and to Missouri citizens overall. Approval of KCP&L's Application and tariff allows KCP&L to evolve in its service offerings to meet demands of mobile customers in its certified territory, ensuring continued provisioning of sufficient and efficient electric service at just and reasonable rates.[44]

Two key points are worth noting regarding this second block quote. OPC is unaware of any EPRI study showing that KCPL's CCN is in the public interest. As stated earlier, OPC has had difficulty obtaining any EPRI/KCPL related material to date. Regardless, Mr. Rush did not include a copy of the EPRI study in his testimony nor did he provide a hyperlink to its online access. Second, OPC is unaware of what CCN "Application" Mr. Rush is referring to. There does not appear to be any CCN application filed in this case nor is OPC aware of any CCN application placed as an attachment on Mr. Rush or any Company witness's testimony. Further clarification on both topics is warranted.

[43] ER-2016-0285 Direct Testimony of Tim Rush p. 29, 3-9.
[44] ER-2016-0285 Direct Testimony of Tim Rush p. 31, 17-22 & p. 32, 1-4.

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To be clear, Mr. Rush provides no substantive evidence and only the briefest of generalities to support that the Company's CCN should be funded by KCPL ratepayers. The sheer lack of supporting information runs in stark contrast to how the Company approached the same issue with the Kansas Corporation Commission ("KCC") this same year. In docket 16-KCPE-160-MIS, the Company submitted a detailed application, as well as testimony from three company witnesses and an outside expert from EPRI. Stated differently, the Company submitted well over 300 pages to substantiate their case.

Q. Did the KCC approve KCPL's request?

A. No.

Q. What were the KCC's concluding remarks?

A. On September 13, 2016 the Kansas Corporation Commission rejected KCPL's application stating:

> KCP&L claims it will take several years to gather sufficient data to draw reasonable conclusions from the CCN. Based on that timeframe, the Commission questions the timing of KCP&L's Application. Adding to the Commission's consternation is Caisley's testimony that it takes upwards of one year to plan and install a station. The Commission believes KCP&L would have been better served to gradually expand its EV network and seek approval of the CCN after it had sufficient data to establish actual demand for the program.
>
> **The Commission denies KCP&L's request to have ratepayers finance the CCN**. **The evidence demonstrates the CCN is not necessary**. To the contrary, private businesses are already installing stations to incentivize customers, employees, and guests. **Rather than burden the ratepayers, the Commission believes either KCP&L shareholders or private businesses should bear the costs of building and operating EV charging stations**, as they are the beneficiaries of increased EV

ownership. Relying on the private sector to finance an EV network also eliminates concerns of cross-subsidization. (emphasis added)[45]

Anti-Competitive Behavior

Q. Is there a problem with providing a guaranteed rate of return on nonessential, competitive services?

A. Yes. By placing the charging stations into rate base, utilities receive a guaranteed rate of return on an investment. This is problematic for services that can be considered both nonessential and/or in which a competitive market already exists as it effectively creates a regulatory barrier for new entries, unfairly punishes existing competition, and shifts risk from utility shareholders to ratepayers. Instead of promoting growth, an insulated regulated monopoly can undermine competition which may reduce efficiency.

Q. Will permitting Ameren Missouri to install and own EV charging stations impact other market participants?

A. Yes. Regulated utilities operate in a system that is designed, in part, to provide a level of certainty to investors based on the large sums of capital needed to finance long-term generation, transmission and distribution projects. EVs and the current and future state of the transportation market is one shrouded in uncertainty and outstanding questions leading to a greater level of investment risk. Investors in private EV charging stations expect to be rewarded for bearing these risks and by operating in a market in which the return on investments are not guaranteed. Introducing a regulated entity, a protective incumbent, into a competitive market creates the potential for inefficiencies as the negative consequences of any given risk are merely shifted to captive ratepayers.[46] Because risk and reward is distorted, innovation is less likely to proliferate at the local level. For example, this could be

[45] 16-KCPE-160-MIS (2016). Order denying KCP&:'s application for approval of its Clean Charge Network Project and electric vehicle charging station tariff. http://estar.kcc.ks.gov/estar/ViewFile.aspx/20160913110134.pdf?Id=4b0556f3-425d-4469-8eb1-a105109511ec

[46] See also, "Moral Hazard." http://www.rpieurope.org/Beesley/2010/Lecture%205%20Clare%20Spottiswoode.pdf

especially problematic if Missouri elects to regulate EV charging stations but surrounding states do not (e.g., Kansas). In that scenario, non-regulated EV charging station states let the free market effectively determine the appropriate demand, while Missouri is relegated to a quasi-command-and-control model that increases the likelihood of stranded assets.

Q. What do you mean by stranded assets?

A. Stranded assets are assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities. Assets can become stranded in a dynamic system when new technologies are introduced and new companies out-compete incumbents. Regulated electric utilities are also exposed to the risk of having stranded assets on their books. [47,48,49] A project that is cost-effective (from one vantage point) should also account for future cost and market considerations. Failure to account for this may result in ratepayers funding an asset that no longer operates the way it was designed to or is poorly supported by the utility because it is operating and maintaining version 2.0 while the retail market is working on version 4.0.

Q. Could you provide examples of the potential risks KCPL's EV charging stations could be exposed to?

A. Yes. First, it should be recognized that there is no guarantee that EVs will materialize at the levels predicted or displace the incumbent technology—internal combustion engines. Consumers no doubt will respond to price signals if gasoline fuel decreases, or conversely, if electric prices increase. It is also possible that new business models such as ride-sharing services like Uber or Lyft will depress overall new vehicle sales in densely populated areas.

[47] Boyd, J. (1998). The "Regulatory Compact" and Implicit Contracts: should stranded costs be recoverable? *The Energy Jounal*, 19(3), 69-83. http://www.bcuc.com/Documents/Proceedings/2012/DOC_30551_A2-12-1998%20Energy%20Journal%20Article%20%E2%80%93%20The%20Regulatory%20Compact.pdf

[48] Brennan T. & James B. (1996) Stranded costs, takings, and the law and economics of implicit contracts. *Journal of Regulatory Economics*, 11(1), 41-54. http://www.economics.jku.at/members/Buchegger/files/Juristen/brennan_1997_implicit%20contracts.pdf

[49] Baumol, W. & J. G. Sidak (1995) Stranded Costs. *Harvard Journal of Law & Public Policy*, 18, 835-849. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=283232

Even if everything aligns for a seamless transition into an electrified transportation sector, it is not entirely clear that "plug-in" charging stations will be the preferred venue for charging cars in the future. For example, earlier this year, plug-less (or wireless) charging was demonstrated at 20-kilowatts by the Oak Ridge National Laboratory, which is three times the rate of the plug-in systems commonly used for EVs today.[50,51]

Putting aside the potential risk that KCPL's deployed infrastructure becomes obsolete over its lifetime, it is important to consider that the very fear of "range anxiety" may already be overstated.

For example, this past September, Idaho National Laboratory released the results of a three-year study which captured the profiles for 125 million miles of driving and 6 million charging events through partnerships with states, municipalities, electric utilities, and other stakeholders across 22 regions in the United States. The study reached the following conclusions:

> **The answer is clear: despite installation of extensive public charging infrastructure, in most of the project areas, the vast majority of charging was done at home and work**. About half the EV Project participants charged at home almost exclusively. Of those who charged away from home, the vast majority favored three or fewer away-from-home charging locations, with one or more of these locations being at work for some drivers. . . . In the end, it was apparent that exact factors that determine what makes a public charging station popular are predominantly community-specific. More research is needed to pinpoint these local factors. Nevertheless, **the projects demonstrated that a ubiquitous charging network is not needed to support PEV driving**. Instead, charging

[50] Walli, R. (2016) ORNL surges forward with 20-kilowatt wireless charging for vehicles. Oak Ridge National Laboratory. https://www.ornl.gov/news/ornl-surges-forward-20-kilowatt-wireless-charging-vehicles
[51] Qtd in. Roberts, D. (2016) Wireless charging: the key to unlocking an electric vehicle revolution. Vox. http://www.vox.com/2016/5/24/11677684/wireless-charging-electric-vehicles

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> infrastructure should be focused at home, workplaces, and in public "hot spots," where demand for AC Level 2 EVSE or DCFC stations is high (emphasis added).[52]

In another study released in *Nature Energy*, a team of researchers from the Massachusetts Institute of Technology ("MIT") and the Santa Fe Institute modeled variation in vehicle trips to determine whether or not current EV battery capacity could achieve the desired trip length outcomes of U.S. drivers. That is, whether or not "range anxiety" is real or largely imagined.

The results showed that 87 percent of vehicles on the road could be replaced by a low cost EV with current battery size (assuming a 2013 Nissan Leaf battery at 19.2 kWh) even if there is no possibility to recharge during the day. The authors also concluded that if useful battery capacity were increased to 55 kWh, then 98 percent of all daily trips would be covered.[53] To offer some perspective, the 2017 Chevy Bolt is expected to have a 60 kWh battery system.[54]

Such analysis, goes a long way in explaining why EV charging stations have struggled even in regions where EV adoption has accelerated like the Pacific Northwest. For example, in Eugene-Springfield, Oregon the taxpayer-funded EV fast charging stations deployed throughout the city sit idle most of the time and run the risk of becoming a stranded asset. According to the *Seattle Times*:

> In the city of Eugene's public parking garages, for example, each charging unit is used an average of once every two weeks. Springfield officials want seven charging units removed from downtown because some are little used and others are broken.

[52] Idaho National Laboratory (2016). Plug-in electric vehicle and infrastructure analysis.https://avt.inl.gov/sites/default/files/pdf/arra/ARRAPEVnInfrastructureFinalReportHqltySept2015.pdf
[53] Needel, Z.A. et al. (2016) Potential for widespread electrification of personal vehicle travel in the United States. *Nature Energy*. (1) 1- 7. http://www.nature.com/articles/nenergy2016112
[54] Chevrolet. (2016) Drive unit and battery at the heart of Chevrolet Bolt EV http://media.chevrolet.com/media/us/en/chevrolet/news.detail.html/content/Pages/news/us/en/2016/Jan/naias/chevy/0111-bolt-du.html

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In 2013, the last year that data were collected for the federal government, electric vehicles throughout Oregon were plugged into public chargers installed through The EV Project just 4 percent of the time, compared with 42 percent of the time at home-charging units.

The same pattern is true in the eight other states and District of Columbia where the devices also were installed by the federal government, at a total cost to the taxpayer of about $100 million.[55]

Environmental Concerns

Q. Will increased use of EVs reduce KCPL's carbon emissions?

A. No. KCPL is largely dependent on coal and natural gas/oil fossil fuel mix to supply its generation needs. This means that electric vehicles will require KCPL to continue burning carbon intense fossil fuels. Table 6 breaks down KCPL's resource mix by capacity and energy resource according to its most recent Integrated Resource Plan filed in EO-2015-2054:

Table 6: KCPL capacity and energy by resource type[56]

Resource Type	Capacity (MW)	% of Total Capacity	Estimated Energy (MWh)	% of Annual Energy
Coal	2,691	52%	16,657,929	69%
Nuclear	549	11%	4,076,020	17%
Oil	375	7%	0	0%
Nat. Gas	808	15%	155,574	1%
Wind	730*	14%	2,993,481	12%
Hydro	62	1%	181,326	1%
Solar	0.2	0.003%	140	0.001%
Total	5,215	100%	24,064,470	100%
*Nameplate Capacity				

[55] Russo. E. (2015) Public electric-car charging stations sit idle most of time. Seattle Times. http://www.seattletimes.com/seattle-news/public-electric-car-charging-stations-sit-idle-most-of-time/
[56] EO-2015-2054, KCPL Integrated Resource Plan, Volume 1: Executive Summary p. 8.

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It seems a foregone conclusion, both in policy and media representations, that EVs are a climate change solution. A look at KCPL's current fuel mix should give all parties pause over the soundness of ramping-up load building activities. Coal accounts for more than 50% of KCPL's generation and is the most greenhouse gas intensive ("GHG") electricity fuels according to the U.S. Energy Information Administration ("EIA") seen in Table 7:

Table 7: Pounds of CO_2 emitted per million British thermal units (Btu) of energy for various fuels[57]

Fuel Source	Pounds of CO_2 emitted per million British thermal units (Btu)
Coal (anthracite)	228.6
Coal (bituminous)	205.7
Coal (lignite)	215.4
Coal (subbituminous)	214.3
Diesel fuel and heating oil	161.3
Gasoline	157.2
Propane	139.0
Natural Gas	117.0

Moreover, many of the arguments used in favor of promoting the deployment of EVs and EV enabling subsidies centers on the vision of the grid being comprised of substantially less coal and substantially more renewable energy sources. Based on KCPL's integrated resource planning this will neither be a quick nor an inexpensive process. The uncertainty surrounding the Clean Power Plan only magnifies this point.

[57] Energy Information Agency (2016) Frequently Asked Questions: How much carbon dioxide is produced when different fuels are burned?. https://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11

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CAFE Standards, Biofuels, and Power Laws

Q. Should we assume that gasoline vehicles will produce the same amount of average emissions into the future?

A. No. Multiple streams of policy and technological changes are converging in response to the air quality threats facing our environment. Changes in electric vehicle technology are clearly taking place and may very well produce overall net benefits in many important policy arenas. However, even absent nation-wide electrification of the transportation system, the U.S. Corporate Average Fuel Economy ("CAFE") Standards mandate that the average fuel economy of new passenger cars increase from 30 mpg in 2013 to 54 mpg by 2040, this would yield a 44 percent reduction in combustion-related GHG emissions from ICEs.

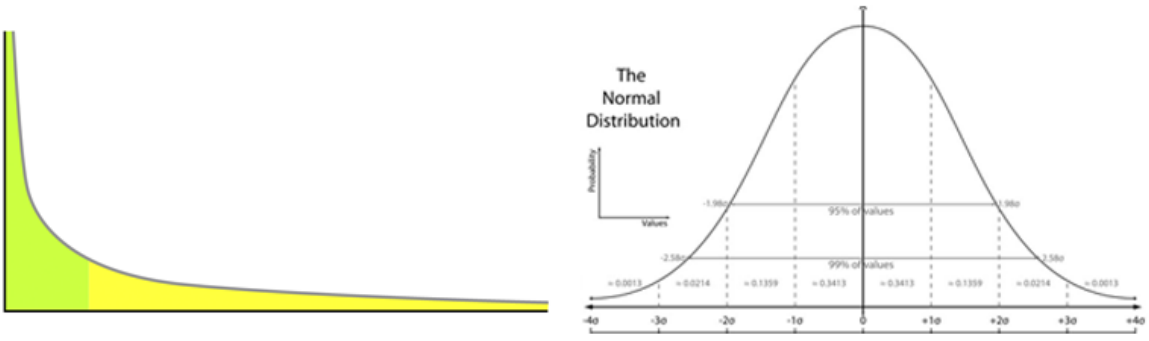
Furthermore, the U.S. Environmental Protection Agency ("EPA") recently issued a statement that the federal government would be requiring energy companies to use a record amount of biofuel in 2017 setting a total target for renewable fuel at 19.28 billion gallons which is 6% higher than the 18.8 billion gallons the EPA had initially proposed in May. The EPA also set the advanced biofuels mandate (fuels that are more environmentally friendly than ethanol) at 4.28 billion gallons for 2017.[58]

Finally, it would be incorrect to assume that emissions from vehicles follow a normal distribution. Most cars, especially new ones, are extraordinarily clean. In contrast, a polluting car in need of repair can stay on the road for quite awhile before it requires inspection. In fact, it is largely believed that emissions from vehicles follow a power law distribution where a relatively small but extremely dense concentration of offenders produces most of the emissions.[59,] An illustrative difference between a normal ("bell-curve") and power law distribution can be seen in Figure 12.

[58] US EPA (2016) EPA finalizes increase in renewable fuel volumes https://www.epa.gov/newsreleases/epa-finalizes-increase-renewable-fuel-volumes

[59] Wang, J.M. et al (2015) Plume-based analysis of vehicle fleet air pollutant emissions and the contribution from high emitters. Atmospheric Mesaurement Techniques. 8.8.3263-3275. http://www.atmos-meas-tech.net/8/3263/2015/; see also supplement of at http://www.atmos-meas-tech.net/8/3263/2015/amt-8-3263-2015-supplement.pdf

Figure 12: Power Law "Long Tail" and Bell-Shaped Curve Distribution

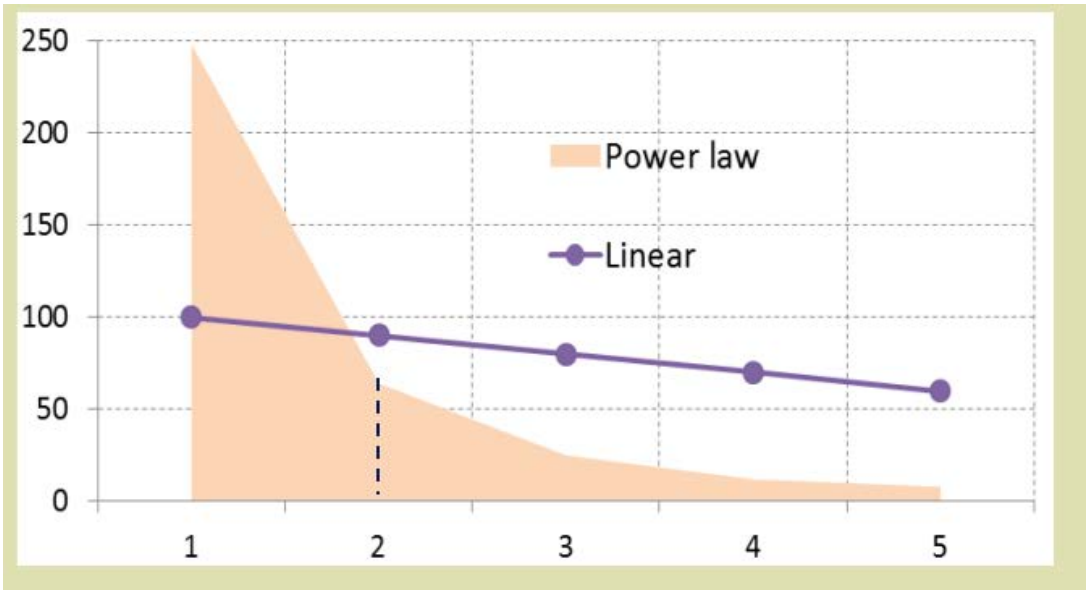


Power Law Distribution

Normal Distribution

Power law distribution occurs when one quantity varies as a power of another. This would be graphed exponentially, not linearly. An illustrative example of this can be seen in Figure 13 which shows how much pollution cars 1,2,3,4, and 5 emit. Under a power law distribution, car #1 had emissions of 250, while car #2 emits fewer than 100. If this data were graphed linearly, the first car would show emissions of 100 and the second car at emissions at 90.

Figure 13: Example of exponential vs. linear graphing of emissions.



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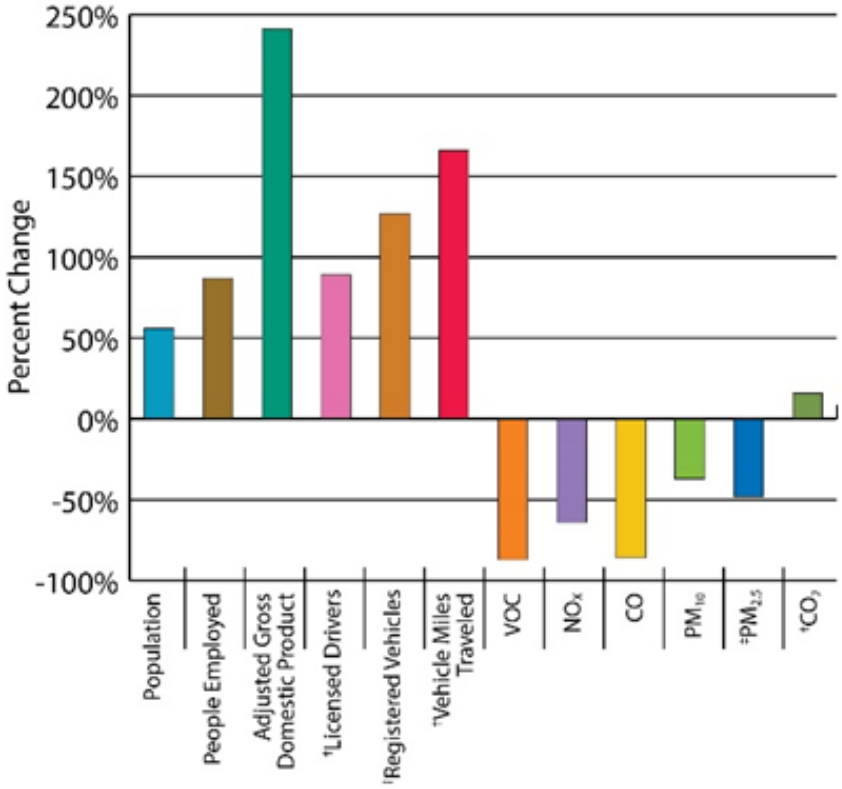
This suggests that curbing vehicle emissions isn't so much a policy problem as it is an enforcement or compliance issue. That being said, there has been a long and steady progress in emission reductions in the United States despite overall increases in population, employment, and adjusted gross domestic product as illustrated in Figure 14 from the U.S. Department of Transportation, Federal Highway Administration's data fact book.

Figure 14: Percent change in motor vehicle emissions, demographics, and travel (1970-2013)[60]



If the goal is to reduce greenhouse emissions, policy ought to seek out the cheapest reductions first, which would (ideally) be administered through a price-based instrument and/or targeting specific outlier emission offenders. More to the point, if carbon emission reductions are to be met on par with what many environmentalists cite, the least-cost societal

[60] US Department of Transportation. Federal Highway Administration (2016) Transportation Air Quality Selected Facts and Figures. Have we made progress in reducing motor vehicle emissions? https://www.fhwa.dot.gov/environment/air_quality/publications/fact_book/page07.cfm

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solution revolves less around promoting EVs and more on public transit and/or less driving overall.

Equity Considerations

Q. Does OPC have any equity concerns regarding rate based treatment of the EV charging stations?

A. Yes, there is a concern that the purported long-term benefits suggested by KCPL for all ratepayers are highly speculative, will not materialize until well into the future, and are contingent on multiple moving policy objectives coming to fruition. In the near-term, only EV drivers and KCPL shareholders would reap the financial rewards with non-participants bearing most of the risk and cost. Equally troubling, at least for the immediate future given the current tax code, is that only a small subset of largely affluent KCPL ratepayers are likely to benefit from this service. It is difficult to justify raising rates on households that struggle to make ends meet to enable higher income households a more convenient lifestyle, especially in light of the rising electric bills regardless of this proposal.

Q. Is there any data to substantiate your claim that affluent ratepayers would likely reap most of the benefits?

A. Yes. The University of California, Berkeley Energy Institute at Haas examined the distributional effects of all U.S. Clean Energy Tax Credits since 2006 to get a sense of what type of households were benefiting from these subsidies. Since 2006, U.S. households have received more than $18 billion in federal income tax credits to promote clean energy such as rooftop solar and energy efficiency. An analysis of federal tax return data over the past decade showed that:

> Taxpayers with AGI [adjusted gross income] in excess of $75,000 have received about 60% of all credit dollars aimed at energy-efficiency, residential solar, and hybrid vehicles, and **about 90% of all credit dollars**

aimed at electric cars. Thus while there may well be political or other rationales to prefer this approach to first-best policies, it would seem to be difficult to argue for these policies on distributional grounds.[61]

The socio-economic disparity is most pronounced for affluent households when the *Qualified Plug-in Electric Drive Motor Vehicle Credit* is analyzed. The size of that credit ranges from $2,500 to $7,500 depending on the battery capacity of the vehicle. Table 8 provides an overview of the distribution of tax credits across income groups for select clean energy and other major tax credits.

Table 8: The Distributional Outcomes of Selected Tax Credits[62]

	Percent of Credit Received by Income Category (in thousands)						Concentration Index
	$0–$10	$10–$20	$20–$40	$40–$75	$75–$200	$200+	
Panel A. Clean Energy Tax Credits							
Residential Energy Credits	0%	1%	10%	28%	48%	14%	0.606
Alternative Motor Vehicle Credit	0%	1%	9%	32%	47%	11%	0.584
Plug-in Electric Drive Vehicle Credit	0%	0%	1%	10%	54%	35%	0.801
Panel B. Other Major Tax Credits							
Earned Income Tax Credit	18%	49%	32%	1%	0%	0%	–0.415
Making Work Pay Credit	7%	14%	25%	28%	26%	0%	0.163
Child Tax Credit	2%	13%	31%	31%	23%	0%	0.185
First-time Home Buyer Credit	7%	6%	23%	40%	24%	1%	0.222
Foreign Tax Credit	0%	0%	1%	2%	9%	88%	0.954

Each of three selected Clean Energy Tax Credits listed above are largely concentrated within the top two quintile income categories; the Plug-in Electric Drive Vehicle Credit is most

[61] Borennstein S. & L. Davis (2016) The Distributional Effects of U.S. Clean Energy Tax Credits. Chapter in the National Bureau of Economic Research book Tax Policy and the Economy. Volume 30. U. of Chicago press. http://www.nber.org/chapters/c13692 see also. NBER working paper 21437 http://www.nber.org/papers/w21437
[62] Ibid.

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pronounced in high income earning households and most closely aligned with the Foreign Tax Credit in terms of high-income concentrated distribution.

It is worth noting that much of the explanation for the disparity in the distribution of these clean tax credits centers on its non-refundable provision. In short, the tax credits can be used to offset a filer's tax bill, but a filer cannot go negative and receive a net payment from the IRS like a filer can from the Earned Income Tax Credit and many other tax credits. This becomes problematic from an distributional standpoint because roughly one-third of U.S. tax returns had zero tax liability and thus were not eligible for any clean energy tax credit return. Additional eligibility issues are present with energy efficiency and solar PV for filers who are renters. This is known as the "split-incentive" problem and has been addressed at length in multiple MEEIA proceedings in front of this Commission.

Maintenance of Roads

Q. Are there other potential equity issues to consider?

A. Yes. EV drivers would not be paying their fair share of the transportation infrastructure in Missouri.

Q. How are Missouri roads funded?

A. Highway construction and road maintenance is primarily supported through a combination of revenues collected at the gas pump from federal and state taxes. Both the federal and state fuel taxes/fees are based on gallons sold, which means as the price of gas goes up and down the taxes/fee remain constant, regardless of whether or not you are paying $4.02 per gallon (US average monthly high in July 2008)[63] or $0.90 per gallon (US average monthly low in February 1999).[64] The federal gas tax has not been raised since 1993 and Missouri has not raised its gas tax since 1992. Neither revenue stream has kept pace with inflation as the costs

[63] Federal Reserve Bank of St. Louis. (2016) US Regular Conventional Gas Price https://fred.stlouisfed.org/series/GASREGCOVM
[64] Ibid.

of this infrastructure do not scale with the consumption of these fuels. [65,66] Consequently, funding for the nation's transportation infrastructure and Missouri's roads in particular are constantly at risk of becoming insolvent. [67,68]

Missouri's Department of Transportation ("MoDOT") had been operating with a capital program budget of $1.4 billion in 2009 but has since seen that budget shrink to around $325 in recent years until its road reserve balance funds were tapped into earlier this year bringing its capital budget to approximately $800 million annually over the next five years. However, this amount still falls well short of the estimated $125 billion needed to replace the 34,000-mile MoDOT managed system. According to MoDOT Director, Patrick McKenna, "If you were putting the same percentage into your own homes, your house would depreciate in value. That's the situation we're in. We know we can't take care of this entire system with that level of funding, even in its current condition, even if that condition is not satisfactory."[69]

Table 9 magnifies the difference in gasoline taxes a driver in Missouri pays compared to the US average based on amounts compiled by the American Petroleum Institute.

[65] US Department of Transportation. Federal Highway Administration. Highway History (2016) https://www.fhwa.dot.gov/infrastructure/gastax.cfm
[66] Missouri Department of Transportation: Funding History (2016) http://www.modot.org/about/funding/fundinghistory.htm
[67] Baker P. & J. Weisman (2014) House passes interim fix for highway trust fund. *The New York Times.* http://www.nytimes.com/2014/07/16/us/politics/house-passes-interim-fix-for-highway-trust-fund.html?_r=0
[68] CBS St. Louis (2016). MoDOT cites dwindling funds for State's poor infrastructure. http://stlouis.cbslocal.com/2016/11/07/modot-cites-dwindling-funds-for-states-poor-infrastructure/
[69] Hunsicker J. (2016) Kirksville Daily Express. MoDOT director: Transportation funding issues must be addressed for Missouri to move forward http://www.kirksvilledailyexpress.com/news/20160720/modot-director-transportation-funding-issues-must-be-addressed-for-missouri-to-move-forward

Table 9: Comparison of US and Missouri average gasoline taxes[70]

	US Average	Missouri (47th)	Difference
State Excise Tax	20.76¢/gal	17.00¢/gal	-18%
Other State Taxes/Fees	9.71¢/gal	0.30¢/gal	-96.9%
Total State Taxes/Fees	30.46¢/gal	17.30¢/gal	-43.2%
Total State and Federal Taxes	48.86¢/gal	35.70¢/gal	-26.9%

Q. What should the Commission note from this table?

A. That it is relatively inexpensive to drive an internal combustion engine vehicle in Missouri compared to the US average. The low price of gas at the pump in Missouri relative to the rest of the country serves as a large barrier towards the full adoption of EVs and diminishes the likelihood that nonparticipant ratepayers will realize the benefits that Mr. Rush champions. Kansas City drivers, for their part, pay approximately 7 cents less on the Missouri-side as opposed to the Kansas-side.[71] Given current and historical prices (as well as the current fossil-fuel intensive generation fuel mix of the incumbent utilities), from a policy, economic and environmental perspective, almost any other state would be a more attractive alternative as a "first mover" for the deployment of EV charging stations than Missouri.

Moreover, the low cost of fuel means that our State's roads are largely dependent on inefficient cars and/or more miles traveled by the average driver relative to the rest of the nation (all else being equal). The emergence of more fuel efficient cars or cars that are gasoline independent (EVs) will shift those road maintenance costs to those nonparticipants. For example, a Ford Escort may tear up the same pavement as a Tesla Model S, but only the former is going to be paying for those repairs.

[70] American Petroleum Institute. Gasoline Tax (2016) http://www.api.org/oil-and-natural-gas/consumer-information/motor-fuel-taxes/gasoline-tax
[71] Ibid.

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Similar to an influx of rooftop solar panels on the electric grid, the emergence of EV cars creates a situation where individual consumers (heavily subsidized through federal tax incentives) make choices, in part, driven by opportunities to shift costs onto others. Far from an equitable solution, as pointed out earlier, the data suggests that these subsidies are largely regressive with only the affluent most likely to benefit. Although federal subsidies *may* be justified in moving emerging technology for a brief period, it is important to not dismiss the spirit of the free market or fail to recognize the unintended consequences a top-down policy "solution" can create. Clearly, **promoting vehicles that do not use gasoline that drive on roads maintained largely through the purchase of gasoline** exacerbates one policy problem (funding of roads) at the expense of trying to solve for others (load growth, curbing carbon emissions).

Q. What if a user fee or a miles traveled tax were imposed?

A. Although clearly outside the authority of the Commission, such a tax would certainly more accurately reflect the cost causation principles sought after, at least, in utility regulation. However, it would also diminish the benefits enjoyed by the EV participant which would likely negatively impact adoption rates. As of January 1st, 2016 Missouri, actually has imposed a modest user fee. A $75 dollar annual "special decal fee" for alternative fuel cars that use liquid petroleum, electricity and natural gas was implemented this year. First, it should be noted, that it is unclear whether or not Ameren Missouri has properly accounted for the $75 annual user fee in its UCT cost justification analysis. Second, even though the $75 user fee for EV cars provides some level of recognition of the cost causation of EV drivers to Missouri roads it still means non-EV drivers are bearing the majority of costs a conclusion.[72,73] To give a sense of the size of that subsidy, Figure X provides a breakdown of

[72] IUPUI Newsroom. (2016)Study shows tax on plug-in vehicles is not answer to road-funding woes. http://news.iupui.edu/releases/2016/05/plug-in-vehicles-road-funding.shtml
[73] Dumortier. J. et al. (2016) Plug-in vehicles and the future of road infrastructure funding in the United States. *Energy Policy*. 995:187-194. http://www.sciencedirect.com/science/article/pii/S0301421516302312

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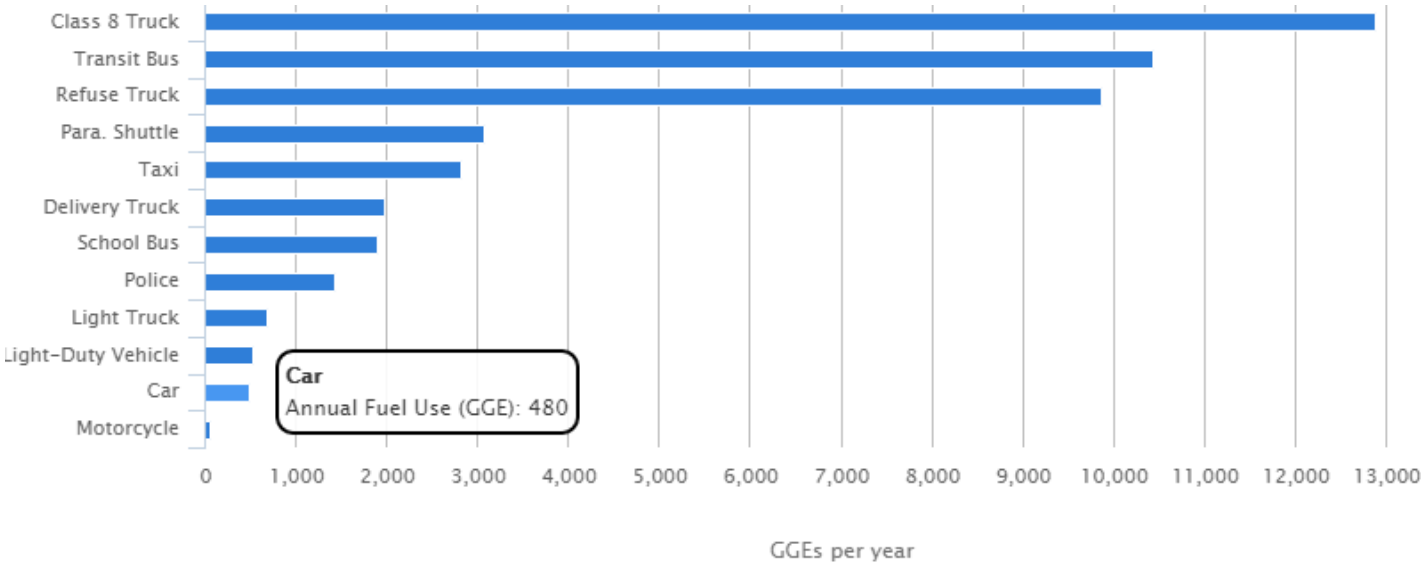
the average annual US gasoline gallon equivalents ("GGEs") for major vehicle categories according to the US Department of Energy ("DOE").

Figure 15: Average US annual fuel use of major vehicle categories[74]



If the average US annual fuel use for a car is assumed for a Missouri driver the annual expenditures towards road upkeep would be as follows:

1 gallon = 0.36¢ (Missouri state & federal gas tax)

480 gallons = $172.80 a year

This would only be a crude conservative estimate. A more granular calculation can be estimated using MoDOTs Transportation Dollars Calculator. For example, if the annual average US miles traveled (13,476)[75] are entered along with the 2017 "EPA Window Sticker" CAFÉ Standard adjustment of 33 miles per gallon[76] for a new fuel efficient Ford

[74] US Department of Energy: Alternative Fuels Data Center. (2016) http://www.afdc.energy.gov/data/10308
[75] US Department of Transportation. Federal Highway Administration. (2016) Average annual miles per driver by age group. https://www.fhwa.dot.gov/ohim/onh00/bar8.htm
[76] US Environmental Protection Agency (2016) Fuel economy label updates. https://www.epa.gov/recalls/fuel-economy-label-updates

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Fiesta,[77] the monthly and annual contribution to Missouri's transportation system for this fuel-efficient driver would be as follows:[78]

How many miles did you drive in Missouri last year?	13,476
What is your vehicle's average miles per gallon?	33
Does your vehicle use diesel fuel? Check if Yes	No
Monthly Missouri User Fees & Other Revenues	$9.45
Monthly Federal Revenue	$6.23
Missouri General Revenue	$0.00
Monthly contribution	$15.68
Annual contribution	$188.16

Under both scenarios, the average fuel efficient non-EV Missouri participant is contributing significantly more to the upkeep of Missouri's roads than the EV driver is. It is also worth pointing out that EV drivers will be susceptible to a rebound effect. This is where the increased fuel efficiency of a new car is strongly correlated with increased driving miles which will in turn mitigate gains in carbon emission reductions and hasten wear-and-tear of roads. For perspective, it has been estimated that a one percent fuel economy increase raises driving 0.2 to 0.4 percent.[79]

[77] Google. (2016) Ford Fiesta Manufactures Suggested Retail Price https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=2016+ford+fiesta+msrp&stick=H4sIAAAAAAAAAOPgE-LVT9c3NEyqzLIoME620FLKTrbSTywtyc_NL8ksS9XPzU9JzYmvTE0sssrNzFPILS4qAABZF3I5NQAAAA

[78] Missouri Department of Transportation. Transportation Dollar$. (2016) http://www.modot.org/TransportationDollars/TransportationDollars.html

[79] Linn, J. (2012) The Rebound Effect for Passenger Vehicles. Resources for the Future. http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-13-19.pdf

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Q. What does OPC recommend?

A. It is OPC's opinion that KCPL and its ratepayers would be better served by having the regulated utility promote regulated activity such as educating and attracting potential EV drivers through proper rate design and leave competitive entities to determine the appropriate demand for EV charging stations. If one of the primary goals are the reduction of greenhouse gas emissions, policy ought to seek out the cheapest reductions first which would be administered in a price-based instrument such as rate design. Offering a favorable, easily understood rate design for potential drivers will likely have more of an impact on adoption rates of EVs than KCPL's current proposal.

OPC would recommend that the EV charging stations resale of electricity be left to the market to decide as far as most efficient pricing. Second, OPC would recommend that an opt-in TOU tariff be considered in the near future if EV adoption increases. This recommendation will be addressed more completely in rate design rebuttal testimony. Although not proposed, OPC would be categorically against providing free electricity service to EV drivers.

The federal government has deemed it appropriate to allocate tax dollars to spur clean investment and promote disruptive market forces. Ratepayers should not be confused as taxpayers. They represent an entirely different classification by virtue of their captive status. As proposed, KCPL's CCN project blurs and distorts that distinction by undermining the market element that tax dollars were designed, in part, to promote, and will ultimately inhibit the promotion of the desired policy outcomes. Ratepayers (especially non-EV participating ratepayers) should not shoulder the risk of a regressive, command-and-control hypothetical policy initiative when opportunity costs dictate that utility resources would be better allocated towards endeavors focusing on cost-effective regulated services benefitting all ratepayers.

Similar conclusions were reached by the Kansas Corporation Commission recently in its Order Denying KCP&L's Application of its Clean Charge Network Project and Electric Vehicle Charging Station Tariff (see GM-9).

Q. Does this conclude your testimony?

A. Yes.

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Attachments

GM-1 through GM-2

have been deemed

“Highly Confidential”

in their entirety

2015 Opportunity Index

KCP&L

KCP&L has developed an Opportunity Index that indicates the areas that would be most impactful in raising customer satisfaction. We use the data from JD Power's Electric Utility Residential Customer Satisfaction study to calculate the index scores. The index score is calculated by subtracting KCP&L's score from 10 (the highest score possible) and multiplying it by the weighting of each component and individual attribute. That number is than multiplied by 1,000 to create the index score.

The "Total monthly cost of electric service" attribute has the highest index score of 280.6 and would have the highest impact on KCP&L's overall customer satisfaction if we increase customer satisfaction with that attribute. Therefore, KCP&L is continuously working towards improving customer's perception of what they receive for the price they pay for their electricity. It is a combination of several things such as the monthly cost of electricity, reliable service, good customer service, etc. that customers think of when responding to these types of JD Power questions.

		2015 KCP&L Calendar	Attribute Weight	Component Weight	2015 KCP&L Customer Service Weight	2014 JDP KCPL Calculated Index	2015 JDP KCPL Calculated Index	Difference 2015 vs 2014
Overall CSI	**Overall Customer Satisfaction Index**	667						
Power Quality	**Power Quality & Reliability**	714						
Price	**Price**	591						
B&P	**Billing & Payment**	735						
Corp Citizenship	**Corporate Citizenship**	614						
Communications	**Communications**	619						
Customer Service	**Customer Service**	734						
Customer Service	**Customer Service - Phone**	706						
Customer Service	**Customer Service - Online**	796						
Price	PA5 RATING: Total monthly cost of electric service	5.78	35%	19%		339.0	280.6	(58.4)
Corp Citizenship	CCA3 RATING: Involvement in local charities and civic organizations	5.95	28%	16%		179.8	181.6	1.7
Power Quality	PQRA6 RATING: Supply electricity during extreme temperatures	7.59	25%	28%		142.7	168.9	26.2
Power Quality	PQRA5 RATING: Keep you informed about outage	5.85	13%	28%		141.4	151.1	9.7
Corp Citizenship	CCA1 RATING: Actions to take care of environment	6.17	24%	16%		125.5	147.2	21.7
Corp Citizenship	CCA2 RATING: Variety of energy efficiency programs offered	6.23	24%	16%		129.8	144.7	15.0
Corp Citizenship	CCA4 RATING: Efforts to develop energy supply plans for the future	6.25	23%	16%		118.5	138.2	19.7
Power Quality	PQRA4 RATING: Promptly restore power after outage	7.10	17%	28%		156.2	137.9	(18.3)
B&P	BPA3 RATING: Amount of time given to pay bill	7.21	25%	19%		139.3	132.5	(6.8)
Price	PA3 RATING: Fairness of pricing	5.73	16%	19%		173.1	129.8	(43.3)
B&P	BPA2 RATING: Usefulness of information on bill	7.20	24%	19%		147.9	127.9	(20.0)
Power Quality	PQRA1 RATING: Provide quality electric power	7.33	17%	28%		127.4	127.0	(0.4)
B&P	BPA7 RATING: Ease of paying your bill	7.65	28%	19%		N/A	125.0	N/A
Price	PA1 RATING: Availability of pricing options that meet needs	5.94	16%	19%		138.6	123.4	(15.2)
Price	PA4 RATING: Efforts of utility to help manage monthly usage	5.96	16%	19%		185.4	122.9	(62.5)
B&P	BPA5 RATING: Variety of methods to pay bill	7.31	24%	19%		95.7	122.5	26.8
Price	PA2 RATING: Ease of understanding pricing options	6.28	17%	19%		166.0	120.3	(45.8)
Power Quality	PQRA2 RATING: Avoid brief interruptions	7.24	15%	28%		130.7	116.0	(14.7)
Communications	COMA3 RATING: Usefulness of suggestions on ways to reduce energy	6.27	21%	14%		96.1	109.5	13.4
Communications	COMA2 RATING: Keep you informed about keeping costs low	5.95	19%	14%		117.8	107.8	(10.0)
Communications	COMA5 RATING: Efforts to communicate changes	6.19	20%	14%		117.6	106.6	(11.0)
Communications	COMA4 RATING: Communicating how to be safe around electricity	6.56	22%	14%		98.6	106.0	7.4
Communications	COMA1 RATING: Creating messages that get attention	5.90	18%	14%		124.4	103.2	(21.2)
Power Quality	PQRA3 RATING: Avoid lengthy outages	7.22	13%	28%		98.6	101.0	2.4
Customer Service - Phone	CSA10 RATING: PHONE - Timeliness of resolving problem, question, or request	6.93	26%	5%	58.8%	N/A	23.5	N/A
Customer Service - Phone	CSA3 RATING: PHONE - Clarity of information provided	7.05	18%	5%	58.8%	9.4	15.6	6.2
Customer Service - Online	CSA15 RATING: ONLINE - Timeliness of resolving your problem, question, or request	7.93	31%	5%	41.2%	22.3	13.2	(9.1)
Customer Service - Online	CSA14 RATING: ONLINE - Ease of navigating the website	8.04	26%	5%	41.2%	11.8	10.5	(1.3)
Customer Service - Phone	CSA1 RATING: PHONE - Ease of navigating phone menu prompts	7.03	11%	5%	58.8%	N/A	9.6	N/A
Customer Service - Online	CSA12 RATING: ONLINE - Appearance of the website	7.92	22%	5%	41.2%	14.9	9.4	(5.5)
Customer Service - Phone	CSA2 RATING: PHONE - Ease of understanding phone menu instructions	7.15	11%	5%	58.8%	9.6	9.2	(0.4)
Customer Service - Phone	CSA7 RATING: PHONE - Courtesy of the representative	7.48	12%	5%	58.8%	13.8	8.9	(4.9)
Customer Service - Online	CSA13 RATING: ONLINE - Clarity of the information provided	7.97	21%	5%	41.2%	12.2	8.8	(3.5)
Customer Service - Phone	CSA6 RATING: PHONE - Promptness in speaking to a person	6.77	9%	5%	58.8%	14.3	8.5	(5.7)
Customer Service - Phone	CSA9 RATING: PHONE - Representative's concern for needs	6.90	7%	5%	58.8%	10.8	6.4	(4.4)
Customer Service - Phone	CSA8 RATING: PHONE - Knowledge of the representative	7.19	5%	5%	58.8%	8.5	4.1	(4.3)

Primary Studies:
JD Power Electric Utility Residential CSI - Online

GM-3

KCPL GMO
Case Name: 2016 GMO Rate Case
Case Number: ER-2016-0156

Response to Geoff Marke Interrogatories - OPC_20160404
Date of Response: 04/12/2016

Question:2042

Please provide all estimates that the Company has of the following information for the next ten years, by customer class:

☐☐ Number of customers

☐☐ Retail electricity sales

☐☐ Revenues collected

☐☐ Rates, including energy charges, demand charges, customer charges, RESRAM, DSM charges, and other surcharges included in customer rates.

Response:

In the attached file labeled "Q2042_GMO-OPC-2042_Forecast.xls" you will find the following:

A. GMO average number of customer by Revenue Class (Residential, Commercial, Industrial, and Lighting) for the forecasted ten years (2016-2025).

B. GMO Billed Kilowatt Hour Sales by Revenue Class (Residential, Commercial, Industrial, and Lighting) for the forecasted ten years (2016-2025). Does not include reduction for new company DSM programs, base case forecast.

C. GMO Billed Revenue to the customer by Revenue Class (Residential, Commercial, Industrial, and Lighting) for forecasted five years (2016-2020). Does not include reduction for new company DSM programs (base case forecast). GMO revenue is not projected out past five years.

D. GMO Billed Revenue Per kWh (Cents) by Revenue Class (Residential, Commercial Industrial, and Lighting) for the forecasted five years (2016-2020). This is based on actual price. Please note, the detailed charges are not available systematically but are found in the paper records of the Company. The actual tariff sheets associated with this period would be voluminous and the effective dates would vary based on respective rate changes. If a particular, historic tariff is needed, please specify the sheet and period needed. Does not include reduction for new company DSM programs (base case forecast). GMO revenue is not projected out past five years.

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Forecasted customers and billed Kilowatt Hour Sales are based on the current long term Integrated Resource Plan (IRP) forecast assuming normal weather.

Prepared By: Al Bass

Attachments:
Q2042_GMO-OPC-2042_Forecast.xls
Q2042_Verification.pdf

GM-4

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2016-0285

PUBLIC COUNSEL DATA REQUESTS 2001-2034 TO KCPL-MO

The Office of Public Counsel (Public Counsel) hereby provides the following Data Requests to KCPL-MO pursuant to the Commission's Rule 4 CSR 240-2.090. Public Counsel is requesting Kansas City Power & Light Company ("KCPL-MO" or "Company") to respond to these requests within twenty (15) days of receipt. Please provide electronic responses to the following: opcservice@ded.mo.gov.

DEFINITIONS

As used herein, the words "document" or "documents" include any original and all copies of any written, printed, typed, electronically stored, or graphic matter of any kind or nature, however produced or reproduced, now in your possession, custody or control, or in the possession, custody or control of your agents, representatives, employees of you or any and all persons acting in your behalf, including documents at any time in the possession, custody or control of such individuals or entities, or known by you to exist.

DATA REQUESTS

2001. Please provide the process employed as to how the Company determined what to include on its bill as well as how it is currently formatted. Additionally, please indicate how long the present format has been in place.

2002. Is there a difference in formatting or presentation of a bill between rate classes?

2003. Please provide sample bill copies of each customer class.

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2004. Was the Company bill design conducted in-house or by a third-party? If the latter, please provide the name and whether a competitive bid process was used to select the designer.

2005. What portion of the retail customer base (by rate classification) has requested electronic billing over the last three years? Please provide a breakdown in overall numbers as well as percentages within each class relative to the class as a whole (e.g., 10% of residential utilize paperless).

2006. How do you educate your customers on the various ways to pay their bills, especially if the customer is receiving electronic billing?

2007. Is the format of the electronic bill the same as the format of the paper bill? If not, how do they differ? If not, why are they different?

2008. When a customer asks for an explanation of various charges on the bill, does the Company have a standard, scripted explanation? If so, please provide a copy of the script.

2009. Please provide a two-year breakdown on all reported complaints to your call center, customer service centers, walk-ins, etc… Complaints should be categorized according to the Company's preferred in-house designation (e.g., billing, power failure, faulty meter, etc…).

2010. What is the most frequent reported complaint about billing in your call center, customer service centers, walk-ins, etc?

2011. What are the five billing issues consumers have most frequently contacted the utility about over the past three years? How do billing inquiries compare to all other inquiries received?

2012. Do all Company bills for service show the volumetric (unit) rate and monthly customer (flat) charge? If not, please explain why and is that information available to customers on request.

2013. Does the Company place information about payment options on the bill? If so, are they easy to find on the bill?

2014. Please list any and all actions taken to communicate to customers in general (e.g., quarterly bill inserts) about their monthly bills over the past year.

2015. What physical location options are available for customers to make in-person payments and what consumer educational materials are offered at those locations (if any)?

2016. Please provide a narrative explanation as to how the Company educates consumers on their bill and/or through any other channel of the following:

i. New rates
ii. Trackers
iii. The FAC and its changes
iv. The MEEIA surcharge and its changes
v. The RESRAM surcharge and its changes
vi. The ISRS surcharge and its changes
vii. Fixed charges
viii. Consumption usage (e.g., declining blocks—the more you use the less it costs).
ix. Customer Charge
x. Other

2017. If the Company issues a single bill for multiple services (electric and gas), how do you communicate to the customers about partial payments or how to apply a payment to only one utility service on that bill?

2018. Does the Company use bills to communicate energy efficiency methods and information? Additionally:

i. How does the Company communicate energy efficiency methods and information when the consumer is receiving an electronic bill?
ii. How often does the Company communicate about energy efficiency programs?

2019. Does the Company utilize a behavioral modification energy usage report? If yes, please answer the following:

i. Is the energy usage report included with the monthly bill? If separate, please explain why.
ii. Are paperless billing homes eligible for MEEIA-sponsored home energy usage reports?
iii. Can a consumer request to have a MEEIA-sponsored home energy usage report?
iv. Please provide a sample of the Company's MEEIA-sponsored home energy usage report.

2020. Does the Company provide a new customer with additional educational information about the bill's makeup?

2021. Of those receiving an electronic bill, what percentage actively look at their online account for detailed information about their bill?

2022. What are the benefits from the Company's perspective, of electronic billing?

2023. Please provide the percentage of late payments of electronic bills relative to paper bills on a monthly basis for the past year?

2024. Has the Company taken any actions to alleviate perceived concerns of identity theft related to paperless billing? If yes, please provide a narrative explanation.

2025. What actions does the Company take to provide customers advance notice of rate changes? Specifically, post-Commission approved rate increase.

2026. What actions are taken on a bill to indicate that the usage estimate is actual or estimated?

2027. For consumers on payment arrangements, is that displayed on the bill? How?

2028. For consumers on budget billing, is the balance clearly noted? Additionally:

i. What percentages of customers are on budget billing?
ii. Does the communication about the details on the bill differ for those who are on budget billing?

2029. Do you offer simple or detailed billing in Spanish? Bosnian? Or other language versions?

2030. How many non-English speaking calls were received this past year? Please provide a breakdown by language.

2031. For those consumers who request detailed bills, is there additional effort in explaining the lists of costs such as trackers, surcharges, etc?

2032. What are the ways the Company communicates disconnect notices (bills, inserts, separate mailings, text message, phone call, etc)?

2033. Has the Company conducted any research or hired third-parties to conduct research involving focus groups or surveys of Company specific-ratepayer perspectives involving the Company's billing education, format, and process? If yes, please provide any and all examples over the past five years. Please indicate whether said research was centered on billing that paper, paperless, or both.

2034. Regarding OPC-DR 2033, if a focus group was selected, what criteria were utilized?

Issued 12/19/2016

KCPL GMO
Case Name: 2016 GMO Rate Case
Case Number: ER-2016-0156

Response to Marke Geoff Interrogatories - OPC_20160520
Date of Response: 06/02/2016

Question:2102

Please provide a copy of the *Demand Response Standards and Interoperability: Kansas City Power & Light Smart Grid Demonstration* Report conducted with EPRI, published on January 8, 2016 and found at the following link:

http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004639

Response:

Due to the sensitivity of the information requested contact Amy Murray at 816-556-2067 to make arrangements for review. If an actual copy of the report is needed, OPC will need to request the document directly from EPRI.

Information provided by Ed Hedges.

Attachment: Q2102_Verification.pdf

GM-6

KCPL GMO
Case Name: 2016 GMO Rate Case
Case Number: ER-2016-0156

Response to Marke Geoff Interrogatories - OPC_20160621
Date of Response: 7/1/2016

Question:2109

Please provide a narrative explanation why documents requested in OPC DR-2102 to 2107 relating to EPRI and Kansas City Power & Light activities cannot be provided to OPC yet are available to the public for a fee.

Response:

In the Master Agreement for EPRI Participation (MA) provided in response to OPC DR 2108, EPRI grants Great Plains Energy Services (GPES) an Internal Use License (MA par 5.1) to use EPRI Materials produced under Programs or Supplemental Projects funded by GPES. The license restrictions (MA par 5.2) preclude GPES from distributing this licensed material to 3rd parties unless specifically allowed under other provisions of the agreement. MA par 5.11(B), Protection of Confidential Information, reads in part:

> *"Disclosure of EPRI Materials shall be strictly limited to Member's employees, consultants, contractors, and governmental agencies for regulatory compliance purposes, on a need to know basis only and subject to a written agreement which protects EPRI Materials at least as well as the Master Agreement."*

EPRI provides courtesy reports to the PSC, or other governmental agencies, when at least one utility under the agency's jurisdiction already has access to the report. The agency must request any non-public report from EPRI in writing and explain the purpose of the order. If the report is licensed or subject to third party IP or confidentiality requirements, the agency must sign an EPRI license prior to shipping.

EPRI allows utilities or other entities to purchase EPRI Materials produced by EPRI Programs or Supplemental Project they have not funded at the published price. Purchasers are required to sign a license with terms similar to those contained in the MA.

Information provided by Ed Hedges.

Attachment: Q2109_Verification.pdf

GM-7

James Owen
Acting Public Counsel

State of Missouri

Jay Nixon
Governor

Office of the Public Counsel
Governor Office Building
200 Madison, Suite 650
PO Box 2230
Jefferson City, Missouri 65102

Telephone: 573-751-4857
Facsimile: 573-751-5562
Web: http://www.opc.mo.gov
Relay Missouri
1-800-735-2966 TDD
1-866-922-22959 Voice

10/18/2016

VIA ELECTRONIC MAIL

Electric Power Research Institute
Legal Department
3420 Hillview Avenue
Palo Alto, CA 94304
askepri@epri.com

RE: Case Nos. ER-2016-0156 and ER-2016-0285
Missouri Public Service Commission

To Whom It May Concern:

This letter should be considered a request for access to reports compiled in partnership between EPRI and Kansas City Power & Light Company.

The Missouri Office of the Public Counsel ("OPC") is a state agency charged with representing and protecting the interests of the public in any proceeding before the Missouri Public Service Commission under section 386.710.1(2) RSMo.

Kansas City Power & Light Company ("KCPL") and its affiliate KCP&L Greater Missouri Operations Company ("GMO") are both regulated public utilities in Missouri. Each has filed recent rate cases with the Missouri Commission. In the course of reviewing the companies regulatory filings, OPC has requested access to certain documents that were compiled in partnership between EPRI and KCPL (*see* document 1 attached).The Company responded that OPC must request any non-public report from EPRI in writing and explain the purpose of the order, explaining:

> In the Master Agreement for EPRI Participation (MA) provided in response to OPC DR 2108, EPRI grants Great Plains Energy Services (GPES) an Internal Use License (MA par 5.1) to use EPRI Materials produced under Programs or Supplemental Projects funded by GPES. The license restrictions (MA par 5.2) preclude GPES from distributing this licensed material to 3rd parties unless specifically allowed under other provisions of the agreement. MA par 5.11(B), Protection of Confidential Information, reads in part:

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"Disclosure of EPRI Materials shall be strictly limited to Member's employees, consultants, contractors, and governmental agencies for regulatory compliance purposes, on a need to know basis only and subject to a written agreement which protects EPRI Materials at least as well as the Master Agreement."

EPRI provides courtesy reports to the PSC, or other governmental agencies, when at least one utility under the agency's jurisdiction already has access to the report. The agency must request any non-public report from EPRI in writing and explain the purpose of the order. If the report is licensed or subject to third party IP or confidentiality requirements, the agency must sign an EPRI license prior to shipping.

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(*see* document 2 attached).

Following receipt of the Company's response, an employee of OPC contacted EPRI and was directed to submit this request in writing listing the material requested via email.

OPC requests permission to review and access to the following materials:

1. Please provide a copy of the *Demand Response Standards and Interoperability: Kansas City Power & Light Smart Grid Demonstration* Report conducted with EPRI, published on January 8, 2016 and found at the following link:

   http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004639

2. The *Kansas City Power & Light Residential Time-of-Use Impact Study: EPRI Smart GRID Demonstration* conducted with EPRI, published on October 15, 2015 and found at the following link:

   http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004632

3. The *Electrification Initiative: Kansas City Power & Light (KCP&L) Case Study Report* conducted with EPRI, published on May 6, 2016 and found at the following link:

   http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002003529

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4. The *Practical Considerations for Designing and Implementing Experiments Involving Customers and Enabling Devices: Lessons Learned from EPRI's Smart Thermostat Collaborative Project*, conducted with EPRI, published on February 18, 2016 and found at the following link:

   http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002005263

5. The *Case Study on Customer Acceptance and Technology Adoption: Kansas City Power & Light* conducted with EPRI, published on October 31, 2012 and found at the following link:

   http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000000001026444

OPC intends to review the information in the context of KCPL's pending rate proceeding in Case No. ER-2016-0285.

Please do not hesitate to contact me with any questions you may have as our request. Your prompt attention to this matter is very much appreciated.

Respectfully,

OFFICE OF THE PUBLIC COUNSEL

/s/ Tim Opitz

Tim Opitz
Senior Counsel
Missouri Bar No. 65082
P. O. Box 2230
Jefferson City MO 65102
(573) 751-5324
(573) 751-5562 FAX
Timothy.opitz@ded.mo.gov

GM-8

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement a General Rate Increase for Electric Service.	))))	Case No. ER-2016-0156

PUBLIC COUNSEL DATA REQUESTS 2102-2107 TO KCP&L-GMO

The Office of Public Counsel (Public Counsel) hereby provides the following Data Requests to KCP&L Greater Missouri Operations (GMO) pursuant to the Commission's Rule 4 CSR 240-2.090. Public Counsel is requesting GMO to respond to these requests within twenty (20) days of receipt. Please provide electronic responses to the following: opcservice@ded.mo.gov.

DEFINITIONS

As used herein, the words "document" or "documents" include any original and all copies of any written, printed, typed, electronically stored, or graphic matter of any kind or nature, however produced or reproduced, now in your possession, custody or control, or in the possession, custody or control of your agents, representatives, employees of you or any and all persons acting in your behalf, including documents at any time in the possession, custody or control of such individuals or entities, or known by you to exist.

DATA REQUESTS

2102. Please provide a copy of the *Demand Response Standards and Interoperability: Kansas City Power & Light Smart Grid Demonstration* Report conducted with EPRI, published on January 8, 2016 and found at the following link:

- http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004639

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2103. Please provide a copy of the *Kansas City Power & Light Residential Time-of-Use Impact Study: EPRI Smart GRID Demonstration* conducted with EPRI, published on October, 15, 2015 and found at the following link:

- http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002004632

2104. Please provide a copy of the *Electrification Initiative: Kansas City Power & Light (KCP&L) Case Study Report* conducted with EPRI, published on May, 6, 2016 and found at the following link:

- http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002003529

2105. Please provide a copy of the *Practical Considerations for Designing and Implementing Experiments Involving Customers and Enabling Devices: Lessons Learned from EPRI's Smart Thermostat Collaborative Project*, conducted with EPRI, published on February, 18, 2016 and found at the following link:

- http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002005263

2106. Please provide a copy of the *Implementing the IEC 61850 Substation Automation Standard*, conducted with EPRI, published on August, 11, 2015 and found at the following link:

- http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002006451

2107. Please provide a copy of the *Case Study on Customer Acceptance and Technology Adoption: Kansas City Power & Light* conducted with EPRI, published on October, 31, 2012 and found at the following link:

- http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000000001026444

Issued 5/20/2016

KCPL GMO
Case Name: 2016 GMO Rate Case
Case Number: ER-2016-0156

Response to Marke Geoff Interrogatories - OPC_20160621
Date of Response: 7/1/2016

Question:2109

Please provide a narrative explanation why documents requested in OPC DR-2102 to 2107 relating to EPRI and Kansas City Power & Light activities cannot be provided to OPC yet are available to the public for a fee.

Response:

In the Master Agreement for EPRI Participation (MA) provided in response to OPC DR 2108, EPRI grants Great Plains Energy Services (GPES) an Internal Use License (MA par 5.1) to use EPRI Materials produced under Programs or Supplemental Projects funded by GPES. The license restrictions (MA par 5.2) preclude GPES from distributing this licensed material to 3rd parties unless specifically allowed under other provisions of the agreement. MA par 5.11(B), Protection of Confidential Information, reads in part:

> *"Disclosure of EPRI Materials shall be strictly limited to Member's employees, consultants, contractors, and governmental agencies for regulatory compliance purposes, on a need to know basis only and subject to a written agreement which protects EPRI Materials at least as well as the Master Agreement."*

EPRI provides courtesy reports to the PSC, or other governmental agencies, when at least one utility under the agency's jurisdiction already has access to the report. The agency must request any non-public report from EPRI in writing and explain the purpose of the order. If the report is licensed or subject to third party IP or confidentiality requirements, the agency must sign an EPRI license prior to shipping.

EPRI allows utilities or other entities to purchase EPRI Materials produced by EPRI Programs or Supplemental Project they have not funded at the published price. Purchasers are required to sign a license with terms similar to those contained in the MA.

Information provided by Ed Hedges.

Attachment: Q2109_Verification.pdf

GM-8

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Jay Scott Emler, Chairman
Shari Feist Albrecht
Pat Apple

In the Matter of Kansas City Power & Light's Application to Deploy and Operate its Proposed Clean Charge Network.	)))	Docket No. 16-KCPE-160-MIS

ORDER DENYING KCP&L'S APPLICATION FOR APPROVAL OF ITS CLEAN CHARGE NETWORK PROJECT AND ELECTRIC VEHICLE CHARGING STATION TARIFF

This matter comes before the State Corporation Commission of the State of Kansas (Commission) for consideration and decision. Having reviewed the pleadings and record, the Commission makes the following findings:

1. On January 26, 2015, Kansas City Power & Light Company (KCP&L) announced its planned Clean Charge Network (CCN) to install and operate more than 1,000 electric vehicle (EV) charging stations capable of supporting more than 10,000 EVs in KCP&L's service territories. On June 17, 2015, in Docket No. 15-KCPE-116-RTS, the Parties filed a Joint Motion for Approval of Unanimous Partial Settlement Agreement on Revenue Requirement (Settlement),[1] which included an agreement to jointly petition the Commission to investigate and evaluate the issue of EV charging stations. Accordingly, on September 24, 2015, KCP&L, Commission Staff (Staff), and the Citizens' Utility Ratepayer Board (CURB) filed a Joint Petition to Open a General Investigation Docket (Petition) requesting the Commission open a docket to investigate issues related to EV charging stations.

2. On February 2, 2016, the Commission issued an Order Opening Docket to address KCP&L's proposed CCN and EV charging station tariff. While KCP&L requested a general

[1] The Settlement was approved by the Commission on September 10, 2015.

investigation, since the Commission was presented with a specific program proposed by KCP&L, the Commission limited the scope of this Docket to evaluating the CCN proposed by KCP&L.[2] On February 16, 2016, KCP&L filed its Application for Approval of its Clean Charge Network Project and Electric Vehicle Charging Station Tariff. KCP&L intends the tariff to take effect January 1, 2017.[3] The CCN will consist of EV charging stations manufactured by ChargePoint, Inc. (ChargePoint), and which will be part of ChargePoint's network of more than 20,000 charging spots in North America.[4] Through partnerships with companies at host locations and with Nissan Motor Company, KCP&L plans to offer free charging on every station in its CCN to all drivers for the first two years or until a tariff is in place.[5]

3. The CCN is expected to cost approximately $16.6 million, of which approximately $5.6 million would be borne by Kansas jurisdictional customers.[6] KCP&L is requesting Kansas ratepayers pay for the appropriately $5.6 million in capital costs, along with the depreciation and approximately $250,000 in annual operations and maintenance costs.[7] Currently 230 of the planned 315 stations are in service,[8] with the CCN expected to be completed by the end of the third quarter of this year.[9] According to Charles A. Caisley, Vice President – Marketing and Public Affairs for KCP&L, based on customer research and national studies, there is "significant customer interest in electric vehicles."[10] KCP&L claims its proposed CCN is in the public interest "because it places Kansas in the forefront of

[2] Order Opening Docket, Feb. 2, 2016, ¶ 4.
[3] Application of Kansas City Power & Light Company for Approval of Its Clean Charge Network Project and Electric Vehicle Charging Station Tariff (Application), Feb. 16, 2016, ¶ 10.
[4] Attachment A to Application, Feb. 16, 2016, p. 1.
[5] *Id.*
[6] Direct Testimony of Charles A. Caisley (Caisley Direct), Feb. 16, 2016, p. 8.
[7] Direct Testimony of Darrin Ives (Ives Direct), Feb. 16, 2016, p. 15.
[8] Rebuttal Testimony of Darrin R. Ives (Ives Rebuttal), June 16, 2016, p. 18.
[9] Direct Testimony of Kristin L. Riggins, Feb. 16, 2016, p. 11.
[10] Caisley Direct, p. 10.

accommodating and promoting development of an industry that is expected to advance quickly in the near future."[11] Specifically, Caisley explains:

> The [EV] industry can only advance if there are adequate charging stations throughout the country, similar to what we now have for gasoline-powered vehicles. The lack of EV charging station infrastructure presents a barrier to market penetration at scale in the industry and the lack of a standardized financial transaction infrastructure also inhibits the industry's growth. KCP&L can help alleviate those barriers in its service territory.[12]

4. As part of its Application, KCP&L filed a brief addressing the legal issues presented in this Docket. The first issue that KCP&L raises is whether providing EV charging services qualifies as a public utility function under Kansas law. After explaining offering EV charging services is a legitimate public utility function under Kansas law under K.S.A. 66-104 and K.S.A. 66-101a,[13] KCP&L noted:

> should the Commission determine that promoting and provisioning electric service for transportation purposes is necessary for carrying out Kansas public policy with regard to promoting and expanding the use of EVs in the state, then it would become part of the services and activities a public utility should make available to Kansas customers in order to meet the legal standard of providing "efficient and sufficient service and facilities" at just and reasonable rates, as required by K.S.A. 66-101b.[14]

5. In essence, K.S.A. 66-101b requires every electric public utility to furnish reasonably efficient and sufficient service.

6. On June 6, 2016, Commission Staff filed their Brief on Legal Issues, explaining while "EV charging service is a public utility function, the Kansas statutes do not answer important questions pertaining to the necessity or scale of such service."[15] Staff characterized the crux of this Docket as "what, if any, CCN property and operating expenses are reasonably

[11] Application, ¶ 14.
[12] Caisley Direct, pp. 10-11.
[13] Brief of Kansas City Power & Light Company on Legal Issues, Feb. 16, 2016, p. 2.
[14] *Id.*, p. 3.
[15] Commission Staff's Brief on Legal Issues, June 6, 2016, ¶ 4.

necessary to maintain reasonably sufficient and efficient electric service."[16] CURB did not brief the legal issues.

7. On June 6, 2016, Joshua P. Frantz and Robert H. Glass, Ph.D. filed direct testimony on behalf of Staff and Andrea Crane filed direct testimony on behalf of CURB. All three testified against the proposed program. Staff's main critique of the proposed program is KCP&L has not demonstrated a demand for charging stations.[17] Frantz characterized the proposed CCN program as a speculative investment to create demand for EVs.[18] Furthermore, Frantz opined that KCP&L is already providing reasonably sufficient and efficient service to its EV customers without the CCN.[19] Frantz concluded EV drivers typically charge their EVs at home[20] based on: (1) the testimony of KCP&L witness Daniel Bowermaster,[21] (2) Tesla recommending home charging for its vehicles, and (3) studies of EV drivers' charging habits conducted by Idaho National Laboratory. He explained EVs can easily be charged at home with a proper cord and ordinary three-prong 120-volt outlet.[22] Frantz also questioned whether the CCN stations would be used or useful throughout the expected lifespan of the project based on technological advances.[23] With improved battery life and the possibility that wireless charging could become the dominant charging method, Frantz cautions the CCN could be obsolete before 2025.[24]

[16] *Id.*, ¶ 6.
[17] Direct Testimony of Robert H. Glass Ph.D. (Glass Direct), June 6, 2016, p. 7.
[18] Direct Testimony of Joshua P. Frantz (Frantz Direct), June 6, 2016, p. 5.
[19] *Id.*, p. 6.
[20] *Id.*, pp. 6-7.
[21] *Id.*
[22] *Id.*, p. 6.
[23] *Id.*, p. 9.
[24] *Id.*, pp. 11, 13.

8. Dr. Glass explained Staff opposed the proposed network as a highly speculative, ratepayer-funded program to expand rate base, customer load, and customer demand.[25] According to Glass, "KCP&L does not present any statistical evidence of correlation between interest in EVs and a demand for commercial charging stations."[26] As an alternative, Glass suggested recommending the legislature amend K.S.A. 66-104 to grant an exemption to private charging stations akin to the one given to private natural gas providers, and establishing a time of use rate for home charging of EVs.[27]

9. Crane also urged the Commission to reject the proposed CCN program because: (1) KCP&L has not demonstrated a need for the program; (2) the program is potentially anti-competitive; and (3) the program would result in all Kansas customers cross-subsidizing EV owners.[28]

10. On June 16, 2016, Darrin R. Ives and Charles A. Caisley filed rebuttal testimony on behalf of KCP&L. Ives reiterated that customers have requested and are utilizing the EV stations installed as part of the CCN.[29] In doing so, Ives admits, "it is true that KCP&L does not have a specific forecast for the growth in EV purchases within the KCP&L service territory, the fact is that customers are demonstrating firsthand that there is a need and a demand for the charging stations."[30] Ives also appears to acknowledge the speculative aspect of the CCN proposal by expressing a willingness to share the costs of the program between customers and shareholders "to be reassessed at the time of KCP&L's next full general rate case, when additional information and analysis will be available".[31]

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[25] Direct Testimony of Robert H. Glass, Ph.D., June 6, 2016, p. 3.
[26] *Id.*, p. 6.
[27] *Id.*, p. 26.
[28] Direct Testimony of Andrea C. Crane, June 6, 2016, p. 5.
[29] Ives Rebuttal, p. 2.
[30] *Id.*, p. 12.
[31] *Id.*, p. 25.

11. Caisley disputes Frantz's assertion that home charging is adequate for the majority of KCP&L customers who own or are considering purchasing EVs.[32] He cites four factors to argue home charging is not sufficient: (1) drivers sometimes travel more miles than their average daily use; (2) EVs lose some functionality as battery life diminishes; (3) fully recharging a nearly depleted battery at home could take twelve to sixteen hours; and (4) range anxiety is more pronounced for EV drivers.[33] Caisley also explained that 52% of households cannot park a car within 20 feet of an electrical outlet, and thus cannot charge at home.[34] In addressing Frantz's concerns that CCN stations will not be useful throughout their lifetime, Caisley testified "KCP&L is unaware of any automaker, especially U.S. automakers, that has provided commercially available EVs with built-in wireless charging as Navigant predicted in early 2014. Nor is the Company aware of any U.S. automaker that plans to introduce this technology in their commercial product line within the immediate future."[35] But wireless charging is only one example of a technological advancement that Frantz identified that might render the CCN obsolete.[36] Another possibility is improved battery life. Caisley ignored his own testimony on the potential for improved battery life ("[i]n just a few, short years, we have seen the second generation of EVs nearly double their battery life and range").[37] As Frantz points out, with continued improvements to battery life, there is less need for public charging stations, as EVs can remain charged on one night's worth of home charging.[38] Caisley did not rebut Frantz's testimony that improved battery life would decrease the demand for public charging stations.

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[32] Rebuttal Testimony of Charles A. Caisley, June 16, 2016, p. 2.
[33] *Id.*, pp. 4-5.
[34] *Id.*, p. 5.
[35] *Id.*, p. 18.
[36] Transcript of Evidentiary Hearing (Tr.), p. 298.
[37] Caisley Direct, p. 21.
[38] Frantz Direct, p. 13.

12. An evidentiary hearing was held on June 28 and June 29, 2016. KCP&L, Staff, CURB, and ChargePoint appeared by counsel, with KCP&L, Staff, and CURB having submitted prefiled testimony. The Commission heard live testimony from a total of eight witnesses, including four on behalf of KCP&L, two on behalf of Staff, one each on behalf of CURB and ChargePoint. The parties had the opportunity to cross-examine the witnesses at the evidentiary hearing as well as the opportunity to redirect their own witnesses. Following the evidentiary hearing, all of the parties submitted posthearing briefs.

13. The issue facing the Commission is not whether KCP&L can or should build and operate the CCN, but whether KCP&L should be able to recover the costs of building and operating the CCN from all of its customers, rather than its shareholders and EV owners.[39]

14. The threshold issue is whether the CCN network is necessary to provide sufficient and efficient service.[40] The Commission concludes it is not.

15. As the Applicant, KCP&L bears the burden of proof. It failed to meet its burden. As the Commission will explain in greater detail below, based on the evidence presented, the Commission finds KCP&L has failed to demonstrate a legitimate demand for the CCN. Admittedly, KCP&L's CCN is designed to promote EV adoption.[41] At the hearing, Caisley testified, "one of the benefits of the Clean Charge Network is to create the platform to discuss these things [cost of EVs] as part of being an enabler and catalyst for this industry."[42] While stimulating EV ownership and usage may be a laudable goal, it is not within the scope of KCP&L providing sufficient and efficient service. Promoting EV ownership and usage is better left to the automobile industry.

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[39] *See* Initial Post-Hearing Brief of Kansas City Power & Light Company, July 15, 2016, p. 13; *see also* Tr., pp. 25-26.
[40] *See* Tr., p. 26.
[41] Tr., p. 52 (Caisley Cross).
[42] *Id.*, p. 81.

16. Similarly, Caisley acknowledges that under KCP&L's proposal, KCP&L's ratepayers, rather than retail businesses will bear the cost of the CCN.[43] Caisley explained businesses "want to do something that will attract customers and be valuable to their customers that they don't have to outlay capital for."[44] The Commission does not agree that ratepayers should be subsidizing the cost of the CCN for the benefit of businesses. Businesses have already demonstrated that they are willing to install stations to attract and retain employees, customers, or tenants.[45] As Anne Smart, Director of Government Relations and Regulatory Affairs for ChargePoint, testified 92 charging ports have already been sold outside KCP&L's program to private entities in Kansas, such as universities, cities, and Sprint.[46] Even more to the point, Ives cited to his colleague Caisley's testimony that, "our hosts…have been signing up to participate in this. And we probably will have a waiting list when we run out of capacity for the network. And none of them are charging us for the space".[47] Therefore, the evidence suggests that rather than add a costly program to rate base, it is best left to private businesses and landlords to install stations as incentives to attract customers. Accordingly, it is not necessary for ratepayers to fund the CCN. The private sector appears willing to finance an effective EV charging network.

17. KCP&L views the CCN as part of its regulated distribution network necessary to provide efficient and sufficient service.[48] It follows that KCP&L believes that EV owners currently lack efficient electric service in KCP&L's service territory.[49] Yet the evidence does not suggest there is a legitimate demand for the CCN.

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[43] *Id.*, p. 120.
[44] *Id.*, p. 121.
[45] Tr., p. 161 (Riggins Cross).
[46] Tr., p. 256-257, 271 (Smart Cross).
[47] Tr., p. 247 (Ives Redirect).
[48] *Id.*
[49] *Id.*

18. When presented with a California Transportation Electrification study from his direct testimony, which concluded most drivers of battery/electric vehicles do not need a charge outside their home on most days, Caisley acknowledged "[w]e do believe that 70, 80 percent of the charging occurs at home."[50]

19. When challenged on his claim that 52% of households cannot park a car within 20 feet of an electrical outlet, and thus cannot charge at home, Caisley admitted he had no statistics on EV adoption levels by residents of multi-dwelling units and that since he presumed that such residents did their due diligence, he was not making a demand claim.[51] Accordingly, the Commission does not believe Caisley's testimony offers any reason to believe a significant number of KCP&L customers need the CCN.

20. In evaluating the credibility of the witnesses on the question of the necessity of the CCN program, the Commission finds KCP&L sorely lacking. KCP&L resorts to character assassination, questioning the seriousness of Glass's analysis, which KCP&L alleges arises to a lack of sincerity;[52] and questioning the expertise of both Frantz and Crane. Frantz is criticized for relying on online research.[53] Yet, KCP&L fails to support its conclusions with any studies or data. For example, during KCP&L's cross-examination of Frantz on whether the CCN is necessary for an EV driver who does not have a garage or access to an electrical outlet, Frantz testified that KCP&L did not provide any data to show any EV drivers were unable to charge their vehicles or that the vehicles were underused.[54] While neither KCP&L nor Staff performed any primary research or provided any data on the question of whether such customers exist or

[50] *Id.*, p. 58.
[51] *Id.*, pp. 63-63.
[52] Post-Hearing Reply Brief of Kansas City Power & Light Company, Aug. 5, 2016, ¶ 7.
[53] *Id.*, ¶ 4.
[54] Tr., p. 292 (Frantz Cross).

have experienced difficulty in charging their EVs,[55] KCP&L bears the burden of proving the necessity of the program. Therefore, the lack of supporting studies or data is fatal to their claim.

21. KCP&L relies on Crane's admitted lack of familiarity with the EV network in her home state of Connecticut to question her expertise.[56] But the Commission does not see the relevance in this line of attack. There is no evidence that Crane has consulted on Connecticut's network. Likewise, the record is devoid of any evidence on whether Connecticut has similar legislation to K.S.A. 66-101b. KCP&L tries to undermine Crane's ability to testify on the EV charging network as being outside the scope of her knowledge.[57] Yet her testimony deals with possible rate base treatment of the CCN.[58] Based on her numerous appearances before the Commission, where she has offered expert testimony on rate base treatment of programs, the Commission finds Crane qualified to offer her opinion on whether the CCN should be incorporated in rate base. The Commission agrees with Crane's recommendation that KCP&L's shareholders should absorb the CCN program costs since KCP&L took it upon itself to make the investment and the sheer size of the program.[59]

22. In evaluating the evidence presented, the Commission finds KCP&L did not introduce credible evidence supporting the need for the CCN. First, KCP&L fails to provide support for its claims that there is demand for such a large EV network. As envisioned, the CCN could support 12,000 EVs with no wait time for users, and as many as 25,000 EVs with moderate wait time.[60] But under the Electric Power Research Institute (EPRI)'s most optimistic estimate, there would still be less than 12,000 EVs in KCP&L's service territory by 2020.[61] KCP&L relies

[55] *Id.*
[56] Post-Hearing Reply Brief of Kansas City Power & Light Company, ¶ 8.
[57] *Id.*, ¶ 8.
[58] Tr. p., 285 (Crane Cross).
[59] Tr., p. 285 (Crane Cross).
[60] Tr., p. 157 (Riggins Cross).
[61] Tr., p. 159 (Riggins Cross).

on EPRI to demonstrate demand for the EV network. EPRI also presents a more pessimistic estimate of 2,954 EVs by 2020, and an intermediate estimate of 8,245 by 2020.[62] Through February 2016, an estimated 969 EVs were sold in KCP&L's service territory.[63] Based on the few EVs sold thus far and the wildly varying estimates of future sales presented by EPRI, the Commission appreciates how speculative any demand for a charging station is and questions why ratepayers should fund a CCN scaled to EPRI's most optimistic projections.

23. Despite KCP&L's repeated claims of strong interest for the CCN from its customers, Caisley admits KCP&L did not keep track of residential customers who called his Marketing and Public Affairs Department about charging stations.[64] So, KCP&L has no evidentiary support for its claims of strong consumer interest. Instead, they are forced to extrapolate territory-wide demand based on a survey of 1,169 members of their Customer Advisory Online Panel.[65] In that survey, one-third of the respondents would consider purchasing an EV.[66] KCP&L attempts to use the survey of 1,169 to argue that one-third of its overall Kansas customer base would consider purchasing an EV.[67] It stretches credibility to think 70,000 KCP&L customers would consider purchasing an EV based on an online advisory panel survey of less than 1,200 customers. Not only is the Commission troubled that KCP&L is attempting to extrapolate system-wide demand based on its survey of its online advisory panel, the Commission notes the survey simply asks if they would "consider" purchasing an EV, not whether they were likely to purchase an EV. The distinction is critical. The same survey reveals

[62] *Id.*
[63] *Id.*, pp. 159-160.
[64] Tr. p. 105 (Caisley Cross).
[65] Tr., pp. 162-163 (Riggins Cross).
[66] Tr., p. 166 (Riggins Cross).
[67] Tr., pp. 168-169.

that 64% of KCP&L's customer advisory panel would not consider buying an EV even if KCP&L located a station in their area.[68]

24. If anything, the survey KCP&L relies on indicates there is little demand for the CCN. Darrin Ives, KCP&L's Vice President of Regulatory Affairs, acknowledged KCP&L could not demonstrate customer demand for the CCN when he testified, "while it is true that KCP&L does not have a specific forecast for the growth in EV purchases within the KCP&L service territory, the fact is that customers are demonstrating firsthand that there is a need and demand for the charging station."[69] KCP&L offers no measurable evidence of customer demand for the CCN. Therefore, the Commission cannot in good conscience ask ratepayers to finance the CCN based on mere conjecture.

25. If anything, KCP&L's own witnesses make the case for home charging of EVs or allowing private businesses and landlords to install their own stations, rather than building the CCN. As Caisley testified, "obviously overnight is when a lot of charging is going to occur or when you get to your place of employment, if you can charge there."[70] Since a significant amount of charging will take place overnight or at work, it is difficult to articulate a reason to have ratepayers fund the CCN. Caisley inadvertently advocated for in-home charging by analogizing the CCN to the internet. In his testimony, Caisley recalled going to his college library to access his email and wondering why anyone would ever go to the trouble of going to a computer lab to use email.[71] One of the reasons internet use is so widespread is it can be and is typically accessed on smart phones or on personal computers. People no longer need to go to computer labs or public libraries to use the internet. In other words, people use the internet

[68] Tr. p. 166 (Riggins Cross).
[69] Tr., p. 210 (Ives Cross).
[70] Tr., pp. 129-130 (Caisley).
[71] Tr., pp. 93-94 (Caisley Cross).

because it is convenient. It follows that people are more likely to purchase EVs if they can charge at home, rather than go to an EV station where there may be a wait or they have to leave their EV unattended for a lengthy period of time as the EV charges. It is far more convenient to charge a vehicle in the security of one's own garage or office parking lot. The EV industry is more likely to develop through home charging.

26. KCP&L has given the Commission no reason to believe the stations installed prior to the CCN are inadequate to meet the needs of current and future EV owners. As Smart testified, there are already 92 stations installed at universities, municipalities, and private businesses. Those entities have demonstrated a willingness to finance those stations as an incentive for customers to use their business or rent at their apartment buildings. Similarly, Ives testified that several employers in the Kansas City metropolitan area have installed EV charging stations as a benefit to their employees, guests and customers.[72] In testifying that a number of entities have advised KCP&L that they are never going to charge drivers to use their stations because the entities believe it incentivizes customers to come to their locations, Caisley leads the Commission to believe the best approach is to let private industry install stations as they will be the beneficiaries of increased business.[73] In other words, let the private sector invest in the EV market, rather than have ratepayers finance the speculative venture.

27. Another reason to conclude that the CCN is not necessary to provide service is that KCP&L has no plans on how to proceed if the Commission denies its Application.[74] If the CCN were truly necessary, KCP&L would commit to building the network and having its shareholders finance the project. If KCP&L is as confident in EPRI's projections as it claims to

[72] Ives Rebuttal, p. 17.
[73] Tr., p. 92 (Caisley Cross).
[74] Tr., p. 132 (Caisley Cross).

be, KCP&L should be willing to invest its own money in the CCN as it stands to make a handsome profit if EV usage increases tenfold.

28. Since KCP&L fails to demonstrate the necessity of the CCN, the Commission must reject its Application. Besides there being no showing of necessity, the Commission is also troubled that the CCN might be technologically obsolete before the program expires. Frantz raised concerns that the CCN would not be "used and required to be used" throughout its expected lifespan due to wireless charging, Level 3 DC charging, and improved battery life.[75] Rather than provide facts to support why the CCN will remain used and useful throughout its expected ten-year lifespan, KCP&L engages in pure speculation. Caisley testified, "even if there is inductive charging that is not widespread and useable at that point, we fully expect from our conversations with auto manufacturers, we expect that the Level 2 and Level 3 plugs will still be on every vehicle and not obsolete".[76] Again, in contrast to Frantz's research and reference to studies, KCP&L refers to its expectations, without providing any sources to support those expectations.

29. Even if the Commission were to have found there is a need for the CCN and that the program would be used and useful throughout its lifespan, there is still the issue of cross-subsidization. "One class of consumers should not be burdened with costs created by another class."[77] KCP&L's proposal presents three cross-subsidization concerns: (1) KCP&L customers in Leavenworth, Miami, Wyandotte, and Linn Counties may be subsidizing Johnson County EV owners since all of the stations are deployed in Johnson County;[78] (2) the 275,000-300,000

[75] Frantz Direct, pp . 9, 11-13.
[76] Tr., p. 127 (Caisley Cross).
[77] *Jones v. Kansas Gas & Elec.*, 222 Kan. 390, 401 (1977).
[78] Post-Hearing Brief of the Citizens' Utility Ratepayer Board (CURB Brief), July 29, 2016, p. 25.

Kansas jurisdictional customers[79] will be subsidizing the approximately 1,000 EV owners in KCP&L's service territory; and (3) the EV owners that will benefit are generally high income earners, who will be subsidized by lower income individuals unable to afford EVs.[80] KCP&L's response to concerns over cross-subsidization is essentially all consumers will benefit through cleaner air and increased load, which will spread the overall fixed costs of its system over more kilowatts.[81]

30. The Commission is not convinced that there are benefits to non-EV owners that outweigh its concerns over cross-subsidization. Daniel Bowermaster, a Program Manager at EPRI, who testified on behalf of KCP&L, explained charging an average EV using KCP&L's generation fleet results in power plant emissions equivalent to emissions produced by a gasoline powered vehicle with a 35 mpg fuel economy rating.[82] To conclude there is an environmental benefit, Bowermaster compared that fuel economy to a 25.3 mpg average for new vehicles.[83] On cross-examination, Bowermaster refused to hypothesize whether EVs would replace smaller sedans with higher fuel economies or larger vehicles with lower fuel economies.[84] Based on Bowermaster's testimony, it is far from certain the CCN would produce environmental benefits sufficient to overcome cross-subsidization concerns. Even if KCP&L could demonstrate environmental benefits from the CCN, the Commission has previously rejected societal tests, recognizing that it is too difficult to quantify indirect societal environmental and health benefits.[85]

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[79] Tr., p. 104 (Caisley Cross).
[80] CURB Brief, p. 23.
[81] Ives Rebuttal, p. 20.
[82] Tr., p. 150 (Bowermaster Cross).
[83] *Id.*
[84] *Id.*, pp. 150-152 (Bowermaster Cross).
[85] Order, Docket No. 12-GIMX-337-GIV, March 6, 2013, ¶ 15.

31. The Commission also questions whether additional off-peak electricity sales will occur. As Ives admits, KCP&L has not conducted statistical modeling or forecasting to support its assumptions of future EV load.[86] More importantly, KCP&L's argument of additional off-peak sales is based on nighttime home charging.[87] If anything, the CCN would compete with nighttime home charging. If the CCN deterred nighttime home charging, it might actually impair off-peak sales and cause more electricity sales during peak hours. Again, the supposed benefit of additional load does not overcome concerns related to cross-subsidization.

32. At the time of its announcement, the CCN would have been the largest EV charging network in the country. While KCP&L repeatedly characterizes the CCN as a pilot plan, its scale exceeds that of a typical pilot program. KCP&L downplays its earlier pilot program, a partnership with the United States Department of Energy (DOE), which began around 2012 with approximately 50 stations.[88] The Commission questioned why KCP&L seeks to expand the scale of stations from 50 to 1,000.[89] Essentially, KCP&L explained the pilot program was too small in scope and not supported with enough advertising to affect customer behavior.[90] The lesson KCP&L apparently learned from its pilot program with DOE was not that there was insufficient demand for charging stations, but that the program was not large enough to stimulate demand. The Commission reaches a far different conclusion -- the results of the pilot program do not justify rapid expansion of the build out of charging stations at the ratepayers' expense.

33. Frantz raised an additional reason to discount the utilization data – it did not account for how customers would react if they were asked to pay for the electricity at the EV

[86] Tr., p. 194.
[87] Post-Hearing Brief of Commission Staff, July 29, 2016, ¶ 57.
[88] Tr., p. 109 (Caisley Cross).
[89] Tr., p. 111.
[90] Tr., p. 112-113 (Caisley Cross).

stations.[91] Currently, EV drivers are using the charging stations without having to pay for their electricity. Frantz testified that by providing free electricity at the EV stations, KCP&L's already sparse demand data is skewed, and that once customers are required to pay for the electricity, demand for charging outside the home will decline.[92] The Commission finds Frantz's reasoning compelling. It is a matter of common sense that individuals may be very willing to accept something free, but scoff at having to purchase that same item. Until KCP&L actually charges its customers for using the EV stations, the data collected from its EV charging stations is suspect.

34. KCP&L claims it will take several years to gather sufficient data to draw reasonable conclusions from the CCN.[93] Based on that timeframe, the Commission questions the timing of KCP&L's Application. Adding to the Commission's consternation is Caisley's testimony that it takes upwards of one year to plan and install a station.[94] The Commission believes KCP&L would have been better served to gradually expand its EV network and seek approval of the CCN after it had sufficient data to establish actual demand for the program.

35. The Commission denies KCP&L's request to have ratepayers finance the CCN. The evidence demonstrates the CCN is not necessary. To the contrary, private businesses are already installing stations to incentivize customers, employees, and guests. Rather than burden the ratepayers, the Commission believes either KCP&L shareholders or private businesses should bear the costs of building and operating EV charging stations, as they are the beneficiaries of increased EV ownership. Relying on the private sector to finance an EV network also eliminates concerns of cross-subsidization.

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[91] Frantz Direct, p. 8.
[92] *Id.*
[93] *Id.*
[94] Caisley Rebuttal., p. 8.

THEREFORE, THE COMMISSION ORDERS:

A. KCP&L's Application for approval of its Clean Charge Network project and electric vehicle charging station tariff is denied.

B. The parties have 15 days from the date of electronic service of this Order to petition for reconsideration.[95]

C. The Commission retains jurisdiction over the subject matter and parties for the purpose of entering such further orders as it deems necessary.

BY THE COMMISSION IT IS SO ORDERED.

Emler, Chairman; Albrecht, Commissioner; Apple, Commissioner

Dated: SEP 13 2016

Amy L. Gilbert
Secretary to the Commission

BGF

EMAILED

SEP 13 2016

[95] K.S.A. 66-118b; K.S.A. 77-529(a)(1).

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CERTIFICATE OF SERVICE

16-KCPE-160-MIS

I, the undersigned, certify that the true copy of the attached Order has been served to the following parties by means of Electronic Service on SEP 13 2016.

GLENDA CAFER, ATTORNEY
CAFER PEMBERTON LLC
3321 SW 6TH ST
TOPEKA, KS 66606
Fax: 785-233-3040
glenda@caferlaw.com

THOMAS J. CONNORS, ATTORNEY AT LAW
CITIZENS' UTILITY RATEPAYER BOARD
1500 SW ARROWHEAD RD
TOPEKA, KS 66604
Fax: 785-271-3116
tj.connors@curb.kansas.gov

MICHAEL DUENES, LITIGATION COUNSEL
KANSAS CORPORATION COMMISSION
1500 SW ARROWHEAD RD
TOPEKA, KS 66604-4027
Fax: 785-271-3354
m.duenes@kcc.ks.gov

JAMES ELLIS
CHARGEPOINT, INC.
254 EAST HACIENDA AVENUE
CAMPBELL, CA 95008
james.ellis@chargepoint.com

BRIAN G. FEDOTIN, DEPUTY GENERAL COUNSEL
KANSAS CORPORATION COMMISSION
1500 SW ARROWHEAD RD
TOPEKA, KS 66604-4027
Fax: 785-271-3314
b.fedotin@kcc.ks.gov

JAMES G. FLAHERTY, ATTORNEY
ANDERSON & BYRD, L.L.P.
216 S HICKORY
PO BOX 17
OTTAWA, KS 66067
Fax: 785-242-1279
jflaherty@andersonbyrd.com

ANDREW FRENCH, SENIOR LITIGATION COUNSEL
KANSAS CORPORATION COMMISSION
1500 SW ARROWHEAD RD
TOPEKA, KS 66604-4027
Fax: 785-271-3314
a.french@kcc.ks.gov

ROBERT J. HACK, LEAD REGULATORY COUNSEL
KANSAS CITY POWER & LIGHT COMPANY
ONE KANSAS CITY PL, 1200 MAIN ST 19th FLOOR (64105)
PO BOX 418679
KANSAS CITY, MO 64141-9679
Fax: 816-556-2787
rob.hack@kcpl.com

DARRIN R. IVES, VICE PRESIDENT, REGULATORY AFFAIRS
KANSAS CITY POWER & LIGHT COMPANY
ONE KANSAS CITY PL, 1200 MAIN ST 19th FLOOR (64105)
PO BOX 418679
KANSAS CITY, MO 64141-9679
Fax: 816-556-2110
darrin.ives@kcpl.com

DAVID W. NICKEL, CONSUMER COUNSEL
CITIZENS' UTILITY RATEPAYER BOARD
1500 SW ARROWHEAD RD
TOPEKA, KS 66604
Fax: 785-271-3116
d.nickel@curb.kansas.gov

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CERTIFICATE OF SERVICE

16-KCPE-160-MIS

DAVE PACKARD
CHARGEPOINT, INC.
254 EAST HACIENDA AVENUE
CAMPBELL, CA 95008
dave.packard@chargepoint.com

TERRI PEMBERTON, ATTORNEY
CAFER PEMBERTON LLC
3321 SW 6TH ST
TOPEKA, KS 66606
Fax: 785-233-3040
terri@caferlaw.com

ANNE SMART
CHARGEPOINT, INC.
254 EAST HACIENDA AVENUE
CAMPBELL, CA 95008
anne.smart@chargepoint.com

DELLA SMITH
CITIZENS' UTILITY RATEPAYER BOARD
1500 SW ARROWHEAD RD
TOPEKA, KS 66604
Fax: 785-271-3116
d.smith@curb.kansas.gov

SHONDA SMITH
CITIZENS' UTILITY RATEPAYER BOARD
1500 SW ARROWHEAD RD
TOPEKA, KS 66604
Fax: 785-271-3116
sd.smith@curb.kansas.gov

ROGER W. STEINER, CORPORATE COUNSEL
KANSAS CITY POWER & LIGHT COMPANY
ONE KANSAS CITY PL, 1200 MAIN ST 19th FLOOR (64105)
PO BOX 418679
KANSAS CITY, MO 64141-9679
Fax: 816-556-2787
roger.steiner@kcpl.com

MARY TURNER, DIRECTOR, REGULATORY AFFAIR
KANSAS CITY POWER & LIGHT COMPANY
ONE KANSAS CITY PL, 1200 MAIN ST 19th FLOOR (64105)
PO BOX 418679
KANSAS CITY, MO 64141-9679
Fax: 816-556-2110
mary.turner@kcpl.com

NICOLE A. WEHRY, SENIOR PARALEGAL
KANSAS CITY POWER & LIGHT COMPANY
ONE KANSAS CITY PL, 1200 MAIN ST 19th FLOOR (64105)
PO BOX 418679
KANSAS CITY, MO 64141-9679
Fax: 816-556-2787
nicole.wehry@kcpl.com

/S/ DeeAnn Shupe
DeeAnn Shupe

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