Exhibit No.:	_____
Issue(s):	KCP&L Imprudence
Witness/Type of Exhibit:	Mantle/Rebuttal
Sponsoring Party:	Public Counsel
Case No.:	EO-2019-0067 (lead)
	EO-2019-0068 (consolidated)
	ER-2019-0199 (consolidated)

REBUTTAL TESTIMONY

OF

LENA M. MANTLE

Submitted on Behalf of
The Office of the Public Counsel

KANSAS CITY POWER & LIGHT COMPANY

KCP&L GREATER MISSOURI OPERATIONS COMPANY

CASE NOS.:
EO-2019-0067 (lead)
EO-2019-0068 (consolidated)
ER-2019-0199 (consolidated)

** **

Denotes Confidential Information that has been Redacted

June 6, 2019

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Eighth Prudence Review of Costs Subject to the Commission-Approved Fuel Adjustment Clause of KCP&L Greater Missouri Operations Company	)))))	**Case No. EO-2019-0067 (Lead Case)**
In the Matter of the Second Prudence Review of Costs Subject to the Commission-Approved Fuel Adjustment Clause of Kansas City Power and Light Company	)))))	Case No. EO-2019-0068 (Consolidated)
In the Matter of the Application of KCP&L Greater Missouri Operations Company Containing its Semi-Annual Fuel Adjustment Clause True-Up	))))	Case No. ER-2019-0199 (Consolidated)

AFFIDAVIT OF LENA M. MANTLE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Lena Mantle, of lawful age and being first duly sworn, deposes and states:

1. My name is Lena M. Mantle. I am a Senior Analyst 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.

Lena M. Mantle
Senior Analyst

Subscribed and sworn to me this 6th day of June 2019.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

JERENE A. BUCKMAN
My Commission Expires
August 23, 2021
Cole County
Commission #13754037

Jerene A. Buckman
Notary Public

My Commission expires August 23, 2017.

INDEX

REBUTTAL TESTIMONY

OF

LENA M. MANTLE

KCP&L GREATER MISSOURI OPERATIONS COMPANY
CASES NO. EO-2019-0067 and ER-2019-0199

KANSAS CITY POWER & LIGHT COMPANY
CASE NO. ER-2019-0068

Q. Please state your name and business address.

A. My name is Lena M. Mantle and my business address is P.O. Box 2230, Jefferson City, Missouri 65102. I am a Senior Analyst for the Office of the Public Counsel ("OPC").

Q. Please briefly describe your experience and your qualifications.

A. I have been employed by the OPC in my current position since August 2014. In this position, I have provided testimony and support in electric, natural gas, and water cases for OPC. Prior to my employment at the OPC, I worked for the Staff of the Missouri Public Service Commission ("Staff") from August 1983 until I retired in December 2012. When I was employed at the Missouri Public Service Commission ("Commission"), I worked as an Economist, Engineer, Engineering Supervisor, and, ultimately, Manager of the Energy Department.

Attached as Schedule LMM-D-1 is a brief summary of my experience with OPC and Staff, along with a list of the Commission cases in which I filed testimony, Commission rulemakings in which I participated, and Commission reports to which I contributed. I am a Registered Professional Engineer in the State of Missouri.

Q. What is the purpose of your testimony?

A. The purpose of this testimony is to respond to the direct testimony of KCP&L Greater Missouri Operations Company ("GMO") witness Linda J. Nunn regarding the cost of the auxiliary power for its steam operations at its Lake Road Generation Facility ("Lake Road"). I show that the Commission-approved base cost of fuel in

the fuel adjustment clause ("FAC") has not included the cost of energy to generate the steam necessary for its steam operations but the FAC Actual Net Energy Costs ("ANEC") has included this cost. Electric customers should not be paying for the cost of electricity used to generate steam for GMO's steams operations. Therefore, I provide the costs that the electric customers paid for the auxiliary power for the steam operations and request the Commission order GMO to return that amount, plus interest, to GMO's customers.

In this testimony I respond to the direct testimony of Kansas City Power & Light Company ("KCPL") and GMO (collectively "KCP&L") witness Burton L. Crawford regarding the prudency of the decisions by KCP&L to enter into contracts with Osborn Wind Energy, LLC, and Rock Creek Wind Project, LLC to provide wind energy to KCP&L. I present evidence of what KCP&L knew at the time it entered into the contracts, and why KCP&L's decisions were imprudent. I show that the costs of the energy from these purchased power agreements ("PPAs") is substantially greater than the revenues received from the Southwest Power Pool ("SPP"). KCP&L did not enter into these contracts to meet the Missouri Renewable Energy Standards. These PPAs were not entered into because GMO's or KCPL's customers needed additional energy or capacity. Instead, KCP&L entered into these contracts based on a projected revenue stream from an immature market. Because these are PPAs and PPA costs flow through the FAC, KCP&L has seen very little, if any, harm from its imprudent action to enter into these PPAs. On the other hand, since the customers pay for these PPAs through the FAC, KCP&L's customers fully realized the risks from the PPAs, and ultimately, suffered harm due to KCP&L's decision to enter into the PPAs.

OPC witness Dr. Geoff Marke is providing rebuttal testimony to KCPL witness Jeff Martin regarding the imprudence of KCPL retiring Renewable Energy Credits ("RECs") instead of selling the RECs.

Q. What recommendations do OPC have for the Commission?

A. With respect to the inclusion of the costs to provide auxiliary power to GMO's steam operations, OPC recommends the Commission:

1) Find GMO imprudent for including costs for its steam operation in its fuel costs to be recovered from its electric customers;
2) Order GMO to return $469,409 from the prudence period plus interest at its short-term borrowing rate back to its customers;
3) Order GMO to calculate the fuel cost of the steam operations auxiliary power that was recovered through the FAC since July 1, 2011, and return that amount plus interest at its short-term borrowing rate back to its customers;
4) Order GMO to calculate the correct adjustment for the 23rd Accumulation Period and make the appropriate adjustment in the true-up of that period; and
5) Order GMO to make adjustments to exclude the cost of the auxiliary power necessary to generate steam for its steam system from future FAC rate changes.

With respect to the Rock Creek and Osborn PPAs, OPC recommends the Commission:

1) Find KCP&L imprudent for entering into PPAs with Osborn Wind Energy, LLC, and Rock Creek Wind Project, LLC;
2) Order an adjustment to the FAC charges for the losses the KCPL and GMO customers paid in the prudence period; and
3) Order KCP&L to calculate and apply the interest at its short-term borrowing rate to these amounts.

Finally, with respect to KCP&L's decision to let its excess RECs retire instead of selling them, OPC joins Staff in requesting the Commission find KCPL acted

imprudently when it chose not to sell the renewable energy credits ("RECs") provided through its wind PPAs, and request the Commission order:

1) An adjustment to the FAC charges for revenues not received due to KCP&L's imprudent decision to allow RECs created through its renewable generation retire;
2) Order KCP&L to calculate and apply the interest at its short-term borrowing rate to this amounts; and
3) Order KCP&L to sell, prior to the expiration date of KCPL and GMO's RECs, all of its RECs not needed to meet the Missouri Renewable Energy Standards until this order is changed by the Commission.

Q. What are the adjustments OPC is recommending for this prudency period?

A. The total company adjustments to the actual net energy costs for the prudency periods[1] for these cases are in the table below.

Total Company Adjustments to Actual Net Energy Costs

	KCPL	GMO
Steam Aux Power		($495,815)
Wind PPAs	($17,470,895)	($11,205,946)
RECs	($343,125)	
Total	($17,814,020)	($11,701,761)

However, the FAC tariff sheets show that the prudence adjustment is made after the jurisdictional factor and 95% adjustment is applied. Making those adjustments to the amounts above results in the following prudence adjustments.

[1] Prudence period for KCPL is January 1, 2017 through June 30, 2018. Prudence period for GMO is December 1, 2016 through May 31, 2018.

95% of Missouri Jurisdictional

	KCPL	GMO
Steam Aux Power		($469,409)
Wind PPAs	($9,484,315)	($11,070,668)
RECs	($184,300)	
Total	($9,668,615)	($11,540,077)

Q. Do these prudence adjustments include interest?

A. No, they do not. Commission rule 4 CSR 240-20.090(11)(A) requires that all amounts refunded by the Commission include interest at the electric utility's short-term borrowing rate. Therefore, interest would need to be added to these amounts.

Lake Road Auxiliary Power Allocation

Q. Would you describe the Lake Road generation facility?

A. Staff provided the following description of the Lake Road Plant in its Cost of Service Report in the last GMO general rate case:

> The Lake Road Plant is located at 1413 Lower Lake Road in St. Joseph, Missouri. Seven electric generators are located at the site along with equipment for the production and delivery of industrial steam. Four of the seven generators are driven by steam turbines and have a combined name plate capacity of 150.5 megawatts ("MW"). Units 1, 2, and 3 are part of the 900 lb. steam system and Unit 4 is part of the 1800 lb. steam system. Units 5, 6, and 7 are combustion turbines and have a combined name plate capacity of 127.6 MW.
>
> The 900 lb. Steam System: The boilers on the 900 lb. steam system create steam that is used to pressurize two steam headers. The first steam header operates at a nominal pressure of 900 pounds per square inch ("psi") and provides steam to an industrial steam customer along with steam that can be used to drive Units 1 and 2. The boilers on the 900 psi header are fueled by coal, natural gas, and fuel oil. The 900 psi header also provides steam to a second steam header that operates at a nominal pressure of 200 psi. Additional boilers directly supply the 200 psi steam header. These boilers are

> fueled by natural gas and fuel oil. The 200 psi steam header provides steam to multiple industrial steam customers, steam that can be used to drive Unit 3, and steam for use in auxiliary steam loads at the Lake Road Plant.
>
> The 1800 lb. Steam System: Boiler 6 provides the steam necessary to drive Unit 4 on the 1800 lb. steam system. Boiler 6 is capable of burning natural gas and fuel oil. The 1800 lb. steam system is only used for the generation of electricity and does not produce any steam for use by industrial steam customers.
>
> The Combustion Turbines: Three combustion turbines are located at the Lake Road Plant. Unit 5 burns natural gas as its primary fuel, while Units 6 and 7 primarily burn fuel oil. The combustion turbine systems are only used for the generation of electricity and do not produce any steam for use by industrial steam customers. (footnotes omitted)[2]

Staff's true-up fuel run in that case showed that **

** The summary of Staff's true-up fuel run from case no. ER-2018-0146 is attached to this testimony as Schedule LMM-R-2.

However, a work paper provided in GMO's recent request to change the Quarterly Cost Adjustment for its steam customers in Case No. HT-2019-0319, shows the Lake Road facility consistently provides steam to its steam customers. This work paper is attached as Schedule LMM-R-3.

[2] Case No. ER-2019-0146, Staff Cost of Service Report, pg. 70 - 71

What this shows is that, although the Lake Road facility can be used to generate electricity, it is mostly used to provide steam for its steam operations in the St. Joseph area.

Q. Would you explain what auxiliary power is?

A. Auxiliary power is the electricity used by the generating facility in the process of generating electricity or, in the case of the Lake Road generating facility, the process of generating steam for its steam operations and electricity for its electric operations at the Lake Road generating facility.

Q. In the case of Lake Road, is it easy to differentiate the amount of auxiliary power used for the generation of electricity from that used for the provision of steam to its steam operations?

A. No. It is not.

Q. Then how can the auxiliary power for each system be determined?

A. That was a quandary faced by the Commission in the early 1990s when the system was owned by St. Joseph Light and Power Company ("SJLP"). On August 3, 1993, the Commission established docket EO-94-36 for the purpose of considering issues related to the allocation of costs between SJLP's electric, gas, and steam operations. On January 13, 1995, the parties to that case filed a Stipulation and Agreement, which included an allocations procedures manual. That manual contained a procedure for allocating auxiliary power of the Lake Road facility between the steam and electric operations that takes into account the thermal efficiencies of the plants and the amount of steam and electricity generated by each plant. The portion of the allocation manual that describes the auxiliary power allocation process is attached as Schedule LMM-R-4.

This allocation factor is applied to the measured auxiliary power (in MWh) of the Lake Road facility to determine the amount of auxiliary power assigned to electric operations and steam operations.

Q. Why is it important to know the amount of auxiliary power that the steam operations is using?

A. Electric customers should not pay the fuel and purchased power costs for the auxiliary power necessary to generate steam used in GMO's steam operations. The fuel and purchased power costs included in the FAC include fuel and purchased power costs for the auxiliary power that is used by GMO's steam operations. If the cost to provide auxiliary power to the steam operations is not removed from the actual net energy cost of the FAC, then the electric customers are paying all of the fuel costs for the auxiliary power and therefore subsidizing GMO's steam operations.

Q. How should the amount of the adjustment to ANEC be calculated?

A. The allocations manual from the EO-94-39 case states "the auxiliary power will be priced using the average system energy cost ($/MWh) for each month, which includes all Lake Road Plant and Iatan generation costs, fuel handling expenses, and all purchased power expenses." With respect to the FAC ANEC, an average system energy cost can be calculated using the FAC generation and purchased power costs. Using this average system energy cost, a cost for the auxiliary power can be calculated by multiplying the steam auxiliary power MWh by the average system energy cost. The FAC ANEC then should be reduced by the cost of the steam auxiliary power.

The calculation of the cost of Lake Road auxiliary power for steam operations during the prudence period for GMO is provided on Schedule LMM-R-5.

Q. Has GMO made such an adjustment to its ANEC for the cost of its steam operations fuel cost?

A. Yes. In the case to change its FAC rates for costs of Accumulation Period 22, case no. ER-2018-0400, GMO adjusted the ANEC for five of the six months of the Accumulation Period. The Commission approved the FAC rates that included this adjustment.

Q. Was the adjustment that GMO made in Case No. ER-2018-0400 to the fuel costs included in its FAC rates calculated in the manner you described above?

A. No. In its calculation of average system fuel costs, GMO included some costs that were not in the FAC. This resulted in a slightly higher adjustment.[3]

Q. Did GMO make the same adjustment when it filed for its next change to its FAC rate in Case No. ER-2019-0198?

A. No. There was no mention of such an adjustment in the next FAC rate change case. However, in the companion FAC true up case, case no. ER-2019-0199, GMO requested that it be allowed to recover the adjustment it made in the prior FAC rate change case along with interest.

Q. Why did GMO change its position?

A. In her direct testimony provided in Case no. ER-2019-0199, GMO witness Lisa A. Starkebaum provided the following explanation:

> In GMO's last semi-annual FAC filing, Case No. ER-2018-0400, an entry was recorded in the general ledger for steam auxiliary power and was reflected in the 22nd accumulation period Actual Net Energy Costs as a reduction to electric fuel expense. This adjustment was intended to coincide with the allocation methodology proposed by the Company in GMO's most recent electric rate case, Case No. ER-2018-0146. However, following discussions with Staff and resulting

[3] The adjustment calculated using all fuel costs for Accumulation Period 22 as GMO provided in ER-2018-0400 is shown on Schedule LMM-R-5, page 3 of 3.

settlement negotiations in that case, the Company believes that no additional entry is necessary for the allocation of auxiliary power.

Q. Do you agree that no entry is necessary for the allocation of auxiliary power since there was a settlement in Case No. ER-2018-0146?

A. No. There is a need to allocate auxiliary power between electric and steam operations for the purpose adjusting the costs in the FAC to exclude the cost of the steam operations auxiliary power, even though there was no need for auxiliary power to be allocated in case no. ER-2018-0146. According to an email from Charles Poston of the Commission Staff, who ran the Staff fuel run in the last case, Lake Road was modeled as "electric only" and the net heat rate that he used in the model accounted only for the auxiliary power used to produce electricity.[4] It would thus have been inappropriate to adjust fuel costs for steam operations at Lake Road in case no. ER-2018-0146 because the steam operations were not modeled and therefore the fuel costs did not include the fuel for auxiliary power for steam operations.

However, that does not mean that there is no need for the allocation of auxiliary power for the calculation of fuel costs to be included in the FAC rates. Without an adjustment for the steam operations auxiliary power, the electric customers pay through the FAC for the fuel for all of the auxiliary power used at the Lake Road facility - steam and electric operations.

Q. Does what was done in Case No. ER-2018-0146 affect what should be done in this prudence period?

A. No. This prudence period ends prior to when new tariff sheets went into effect for case no. ER-2018-0146.

[4] Schedule LMM-R-6 Staff response to OPC data request 71.

Q. What cases are appropriate to look at to see if an adjustment should have been made for this prudence period?

A. The appropriate rate cases to review are case nos. ER-2012-0175 and ER-2016-0356.

Q. Did Staff model steam operations auxiliary power in case nos. ER-2012-0175 and ER-2016-0156?

A. No. According to Staff response to OPC data request 69 attached as Schedule LMM-R-7, 'the industrial steam business at Lake Road was not modeled in any way and Units 1, 2, and 3 at Lake Road were modeled as "electric only"' in case nos. ER-2012-0175 and ER-2016-0156

Q. Then was an auxiliary power allocation factor needed in these two cases?

A. No. In both of these cases only the electric auxiliary power was modeled. Therefore, there was no need to allocate the Lake Road auxiliary power to adjust the fuel cost for auxiliary power for steam operations.

Q. GMO witness Nunn states in her direct testimony that "GMO's cost allocation between its electric and steam business appropriately allocate the costs associated with the auxiliary electric power between the electric operations and the steam operations at GMO's Lake Road plant."[5] Do you agree with Ms. Nunn?

A. No. GMO's cost allocation referred to by Ms. Nunn do not allocate auxiliary electric power because none of the allocation factors are applied to fuel costs. There was no need for an allocation factor to allocate auxiliary power between electric operations and steam operations because only electric operations were modeled in

[5] Page 2.

the rate cases that were used to set fuel costs in the permanent rates and the FAC base fuel costs.

Q. When was the last rate case in which auxiliary power needed to be allocated between steam and electric operations?

A. The last case in which fuel was estimated for both steam and electric operations for GMO was case no. ER-2009-0090. In GMO's next rate case, case no. ER-2010-0356, only the electric operations were modeled. The tariff sheets in case no. ER-2010-0356 became effective on July 1, 2011.

Q. What is significant about the date these tariff sheets became effective?

A. Since July 1, 2011, GMO has been collecting 95% of the cost of the auxiliary power for its steam operations from its electric customers through the FAC.

Q. Do you have an estimate of the amount GMO has collected from July 1, 2011 through December 1, 2016, the beginning of this prudence period, for fuel costs for auxiliary power used by GMO's steam operations?

A. Using information from the prudence period, I estimate that GMO has collected approximately $2 million[6] from its electric customers for auxiliary power for its steam operations.

Q. Was there an adjustment for the auxiliary power in the calculation of the FAC rate for Accumulation Period 23 in the last FAC rate change case, Case No. ER-2019-0198?

A. Yes. In ER-2019-0198 GMO agreed to make an adjustment of $263,061 in setting the FAC rates. According to the letter filed by GMO with its revised tariff sheet on February 21, 2019, this amount, along with the amount that GMO was asking to be

[6] I used a simple average of the monthly adjustments in the prudence period to of $40,262 to develop this estimate.

refunded from Accumulation Period 22, is deferred on GMO's books with interest pending the resolution of the dispute regarding the treatment of this issue. This letter, regarding the third substitute tariff schedule to adjust the FAC rate filed on February 21, 2019 in case no. ER-2019-0198, is attached as Schedule LMM-R-8.

Q. How was the adjustment amount for Accumulation Period 23 calculated?

A. The adjustment amount was estimated using the average of the five monthly adjustment in Accumulation Period 2 that had been provided by GMO based on all fuel and purchased power costs.

Q. Should this adjustment be corrected?

A. Yes. It should be corrected using the actual steam operation auxiliary power estimated for the months of Accumulation Period 23 and the monthly FAC average fuel and purchased power costs.

Q. What is OPC's recommendation regarding the inclusion of steam operations auxiliary power in the actual net energy cost of the FAC?

A. OPC recommends the Commission:

1) Find GMO imprudent for including costs for its steam operation in its fuel costs to be recovered from its electric customers;
2) Order GMO to return $469,409 from the prudence period plus interest at its short-term borrowing rate back to its customers;
3) Order GMO to calculate the fuel cost of the steam operations auxiliary power that was recovered through the FAC since July 1, 2011, and return that amount plus interest at its short-term borrowing rate back to its customers;
4) Order GMO to calculate the correct adjustment for the 23rd Accumulation Period and make the appropriate adjustment in the true-up of that period; and

5) Order GMO to make adjustments to exclude the cost of the auxiliary power necessary to generate steam for its steam system from future FAC rate changes until otherwise authorized by the Commission.

Rock Creek and Osborn Wind farm PPAs

Q. Would you provide a brief description of the Rock Creek and Osborn Wind farm PPAs?

A. As provided in the direct testimony of KCP&L witness Burton L. Crawford,

> PPAs for the 200 MW Osborn wind project were executed in May 2015. Osborn reached commercial operation in December 2016. PPAs for the 300 MW Rock Creek wind project were executed in April 2015. Rock Creek reached commercial operation in November 2017. Both wind projects are located in northwest Missouri, Osborn in DeKalb County, and Rock Creek in Atchison County, Missouri. KCP&L takes 60% of the energy from each wind facility and GMO takes the remaining 40%.

Q. Are these the only wind PPAs that KCP&L have entered into?

A. No. The table below shows the wind PPAs that KCP&L is receiving energy from.

KCP&L Wind Contracts

	Date Contract Signed	Start	End	GMO Share (MW)	KCPL Share (MW)	**		
Cimmarron II	03/28/11	06/01/12	05/31/32		131.1			
Spearville 3	11/03/11	10/01/12	09/30/32		100.8			
Ensign	11/03/11	11/22/12	11/21/32	98.9				
Waverly	11/18/13	01/04/16	01/03/36		200			
Slate Creek	06/11/14	12/30/15	12/29/35		150.0			
Gray County	12/18/14	11/26/16	11/25/31	110.0				(a)
Rock Creek	04/07/15	11/08/17	11/07/37	120.0	180.0			
Osborn	05/22/15	12/15/16	12/14/36	80.0	120.0			
Pratt	10/12/17	12/13/18	12/12/48	134.0	110.0		**	
			Total	542.9	991.9			

(a) Price escalates at 1.8% a year

Q. Were the monthly revenues received from the SPP energy market greater than the costs of these contracts during the prudence period?

A. No. During the prudence periods, the costs of GMO's and KCPL's PPAs were approximately $31.7 million and $72.6 million more than revenues for their respective prudence periods.

Q. With losses over $104 million in the prudence period, why are you asking for the Commission to only find the Rock Creek and Osborn PPAs imprudent?

A. At this time, OPC is asking for a determination of imprudence only for losses from the Rock Creek and Osborn wind project PPAs because the imprudence of these two PPAs is the most obvious.

Q. Why should the Commission find KCP&L's decision to enter into the Rock Creek and Osborn wind PPAs imprudent?

A. It is imprudent for KCP&L to include the costs and revenues in its FACs from the Rock Creek and Osborn wind PPAs for the following reasons:

1) KCP&L did not enter into these PPAs to meet the Missouri renewable energy standard ("RES") requirements;
2) These PPAs were not identified as least-cost resources to meet customers' needs in resource planning analysis;
3) The forecasted market prices used to calculate the cost/benefit of these contracts used had been shown to be inaccurate;
4) KCP&L did not issue a Request for Proposals ("RFP") prior to entering into these PPAs; and
5) The contract prices for wind PPAs were declining yet these PPAs are priced at the same price of KCP&L earliest PPAs and much higher than KCP&L's next PPA.

KCP&L did not enter into these PPAs to meet the Missouri RES

Q. KCP&L witness Burton L. Crawford states in his testimony that the Missouri RES was a factor considered in the decision to enter into the Rock Creek and Osborn PPAs.[7] Did you find in your research any indication that these two wind projects are being used to meet Missouri's RES?

A. No. Information provided by KCP&L is very inconsistent regarding which of its renewable resources are being used to meet Missouri's RES.

Q. Are any of KCP&L's wind PPAs used specifically to meet the Missouri RES?

A. KCP&L gives inconsistent answers to that question. Contract Approval Forms for KCPL's Spearville 3, Cimmarron II, Waverly, and Slate Creek PPAs provided in response to OPC's data request 8000 in case no. EO-2019-0068 state that these

[7] Page 3, lines 4-5.

PPAs would be used to meet Missouri and/or Kansas renewable energy requirements.

In response to OPC's data request 8001 in that same case, KCPL states "KCPL does not have any wind PPA's that were executed to meet the statutory requirements" of Missouri or Kansas.

When asked to reconcile these two answers in OPC data request 8000.1, KCPL replied "KCPL did not enter into any of these contracts to meet Missouri and/or Kansas renewable energy requirements. However, once KCPL has the contracts they are used to meet the statutory requirements."

Similarly, GMO responded to OPC's data request 8005 to identify which PPAs were entered into to meet statutory requirements that "GMO does not have any wind PPA's that were executed to meet the statutory requirements."

Q. Is this consistent with the 2019 Annual KCPL and GMO RES Compliance Reports[8] and Compliance Plans filed by KCP&L in compliance with Commission rule 4 CSR 240-20.100?

A. Again, KCP&L gives conflicting information regarding which resources it uses to meet the Missouri RES requirements. In its 2019 reports in compliance with 4 CSR 240-20.100(5), KCP&L provides information on all of its renewable energy resources. However, on page 7 and 8 of its 2019 Annual Renewable Energy Standard Compliance Plan filed in case no. EO-2019-0317, attached as Schedule LMM-R-11,[9] KCP&L identified KCPL's Spearville 1 and 2 facilities, which it owns, as the sole resources it uses to meet KCPL's Missouri RES requirements. KCP&L also identifies the Gray County wind PPA as the sole resource GMO needed to meet its own Missouri RES requirements on page 7 of GMO's 2019

[8] Case nos. EO-2019-0315 and EO-2019-0316, 2019 Compliance Reports for KCPL and GMO respectively attached to this testimony as Schedules LMM-R-9 and LMM-R-10.
[9] Schedules LMM-R-11 and LMM-R-12 do not include the confidential Attachment A to these reports which contain retail rate impact and carry forward amount.

Annual Renewable Energy Standard Compliance Plan filed in case no. EO-2019-0318 provided as Schedule LMM-R-12. In both of the compliance plan reports, KCP&L identifies these resources as "the least cost approach for achieving non-solar compliance for the 2019-2021 RES Compliance."[10]

However, Staff in its data request 3 in case no. EO-2019-0317 asked KCPL to specifically list the resources KCPL intends to utilize for compliance over the next ten years. KCPL provided the following response:

> KCP&L in the past has complied with the non-solar RES requirements by retiring RECs from a combination of wind resources under contract. This will also be the case going forward in the 3-year planning period as well as over the next 10 years. Detail on the amounts of which specific resources will be utilized over the next three and 10-year periods for compliance has not been determined[.]

Q. Given all this information, is it your opinion that KCP&L entered into the Rock Creek and Osborn wind PPAs so KCPL and GMO could meet the Missouri RES?

A. No, it did not. Nothing in my research in the prudence cases or the 2019 RES compliance filings with the Commission provide any evidence that KCP&L entered into the PPAs with these wind projects to meet the Missouri RES requirements.

<u>The PPAs Are Not Resources Identified Through Resource Planning Analysis</u>

Q. Since these PPAs were not necessary to meet the Missouri RES, were the Rock Creek and Osborn wind PPAs identified as resources to meet KCPL's and GMO's customers' needs through the resource planning process?

[10] Schedule LMM-R-11, page 8 and Schedule LMM-R-12, page 7.

A. No. In response to OPC data requests 8000[11] and 8004,[12] KCP&L stated "Osborn, and Rock Creek wind acquisitions were not initiated as a result of a KCP&L resource analysis".

Q. Did KCP&L witness Crawford support KCP&L's entering into these contracts as a resource that was needed by KCP&L's customers?

A. I could not find anything in his testimony to support that these contracts were necessary to meet customers' energy needs.

Q. What is the significance of not being initiated through the resource planning process?

A. The objective of the resource planning process is to look at the electric utility's load and determine how to best meet the needs of the utility's customers in a manner that minimizes risk and cost to both the customer and the utility. In resource planning analysis, a wide variety of future scenarios should be analyzed to determine the least-cost resource to meet the customers' *needs* in a manner that minimizes not only the customer's bill but the impact of varying futures on the customer's bill. This is why the Commission's Chapter 22 Electric Utility Resource Planning Chapter, in its Policy Objectives rule 4 CSR 240-22.010(2) requires the electric utility, in its resource planning to:

> (C) Explicitly identify and, where possible, quantitatively analyze any other considerations which are critical to meeting the fundamental objective of the resource planning process, but which may constrain or limit the minimization of the present worth of expected utility costs. The utility shall describe and document the process and rationale used by decision-makers to assess the tradeoffs and determine the appropriate balance between minimization of expected utility costs and these other considerations in selecting the preferred resource plan and developing the resource

[11] EO-2019-0068.
[12] EO-2019-0067.

> acquisition strategy. These consider considerations shall include, but are not necessarily limited to, mitigation of:
>
> > 1. Risks associated with critical uncertain factors that will affect the actual costs associated with alternative resource plans;
> >
> > 2. Risks associated with new or more stringent legal mandates that may be imposed at some point within the planning horizon; and
> >
> > 3. Rate increases associated with alternative resource plans.

Because resource planning is conducted over a 20-year horizon, many inputs are forecasted including fuel prices and market prices. A robust analysis includes variations in those forecasts to determine how well a resource meets future needs under different scenarios.

Q. What conclusion should the Commission draw from the fact that these PPAs were not entered into as a least-cost resource to meet KCP&L customers' energy needs?

A. These PPAs were not necessary to meet customers' energy needs. KCP&L instead justified these PPAs as economic decisions, i.e. it estimated that the revenues from these wind projects would be greater than the costs of the contracts.

Q. Would OPC be challenging the prudence of these PPAs if they had been identified as least-cost resources to meet KCP&L's customers' needs?

A. If these PPAs were identified as least-cost resources to meet customers need in a robust resource planning analysis, it is unlikely that OPC would challenge the prudence of entering into these PPAs.

<u>Cost Benefit Analysis of these PPAs used Flawed SPP Market Prices</u>

Q. KCP&L's witness Burton Crawford stated in his testimony that the wind projects were shown to reduce the 20-year net present value revenue

requirement ("NPVRR") under eight of nine scenarios modeled. What does this mean?

A. This means that, as modeled using the inputs determined by KCP&L, over 20 years these PPAs would be expected to generate more in revenue than the PPAs would cost in eight of the nine different market price forecasts made by KCP&L. Interestingly enough though, even the one market price forecast in which these PPAs actually increased the NPVRR, still forecasted that market prices would only increase over time and almost double over the life of the forecast.

Q. Are you aware of any problems with this analysis?

A. Yes. The one input into the analysis of the NPVRR with the most uncertainty was the projected market prices. This is because the market prices used in KCP&L's analysis to determine the cost/benefit of these PPAs were forecasted at a time when the new SPP day ahead and real time energy markets were being formed and hence was very uncertain.

KCP&L witness Crawford states in his testimony that the evaluations of the PPAs were based on wholesale market prices used in the 2014 resource planning analysis.[13] These market prices were supplied in response to OPC data request 8004.1. The expected value of the future market prices used in the 2014 resource plan analysis along with the actual average annual market price from the SPP Energy Imbalance Market as provided in the SPP market monitor annual State of the Market reports for 2010 through 2013 are shown in the graph below.

[13] Page 5, lines 3 – 4.

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Q. It is not obvious why KCP&L should have known that this was a bad forecast. Would you provide further explanation?

A. Yes. There are several reasons KCPL should not have relied upon its analysis. First, during the time the market forecast was being developed, SPP was designing and implementing a different market. Specifically, as stated in SPP's Market Monitoring Unit 2014 State of the Market report:[14]

> SPP simultaneously put into operation a single Balancing Authority as part of the implementation of the Integrated Marketplace. The real time market that was in place prior to the Integrated Marketplace was supported by 16 balancing authorities consisting of large vertically integrated utilities in the RTO footprint.

As hard as it is to develop a forecast of a market that is known, it is virtually impossible to accurately forecast a market that is being developed. The first few

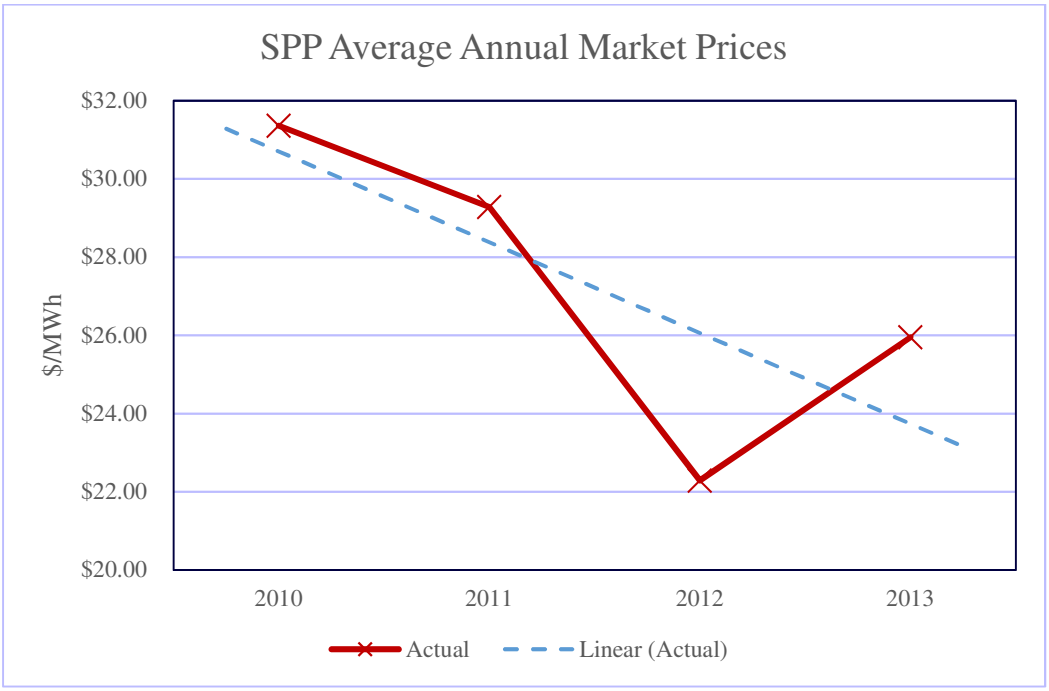
[14] https://www.spp.org/documents/29399/2014%20state%20of%20the%20market%20report.pdf, page 15.

years of a new market is a learning curve for the market and its participants. This is recognized by the SPP Market Monitoring Unit as evidenced in its 2015 State of the Market report, when it stated that the "second year of the Integrated Market shows significant maturing."[15] Then again, in its 2016 State of the Market Report, the Market Monitoring Unit provides the time that it believes it took for the market to mature with its statement that the "third year of the Integrated Marketplace shows a mature and very competitive market."[16]

Therefore, it was imprudent for KCP&L to enter into contracts for energy that its customers did not need based on these forecasts of an unknown market. In addition, because these were PPAs designed with only an energy charge, all of the costs would flow through to the customers through the FAC. Thus, the customers were shouldered with all the risk, and the only risk to KCP&L was the risk of a prudence disallowance.

Secondly, a careful review of the actual average annual energy imbalance market prices that had been reported by the SPP in the years prior to the 2014 forecasted market prices would have shown that market prices of the known market had declined in three of the previous four years as shown in the graph below.

[15] https://www.spp.org/documents/41597/spp_mmu_state_of_the_market_report_2015.pdf, page 1.
[16] https://www.spp.org/documents/53549/spp_mmu_asom_2016.pdf, page 1.



The trend line of these points (designated as "Linear (Actual)" in the graph) indicates a general downward trend of a known market. While I would never suggest forecasting anything as complex as market prices based a trend line, the above graph does provide an important reasonableness check of the 2014 forecast. It is unrealistic given this information to expect, with any certainty, for market prices to increase by 21% in two years and then to continue to increase triple-fold over the next 18 years as provided in the 2014 forecast on which KCP&L relied.

Additionally, KCP&L should have recognized that its 2014 market forecast was inaccurate given its similarity to the drastically inaccurate 2012 market forecast on which it had previously relied. The graph below shows KCP&L's 2012 forecast, its 2014 forecast, and the annual market price for the SPP Energy Imbalance Market for the most recent four years that would have been available at the time the forecast was created.

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This graph shows that, at the time KCP&L was conducting the analysis for the Rock Creek and Osborn wind projects, the new 2014 market forecast, on which it was relying, had already proven its previous 2012 market forecast was optimistically high. However, an even more interesting fact can be found by comparing the 2012 and 2014 forecasts directly using a graph that sets the years of each forecast as year 1 through year 20[17] as shown in the graph below.

[17] For the 2012 forecast, the data shown as year 1 in the graph is the market price for 2011. For the 2014 forecast it was the market price for 2015. Year 2 shows the 2012 market price for the 2012 forecast and the 2016 market price for the 2014 forecast. And so on through year 20.

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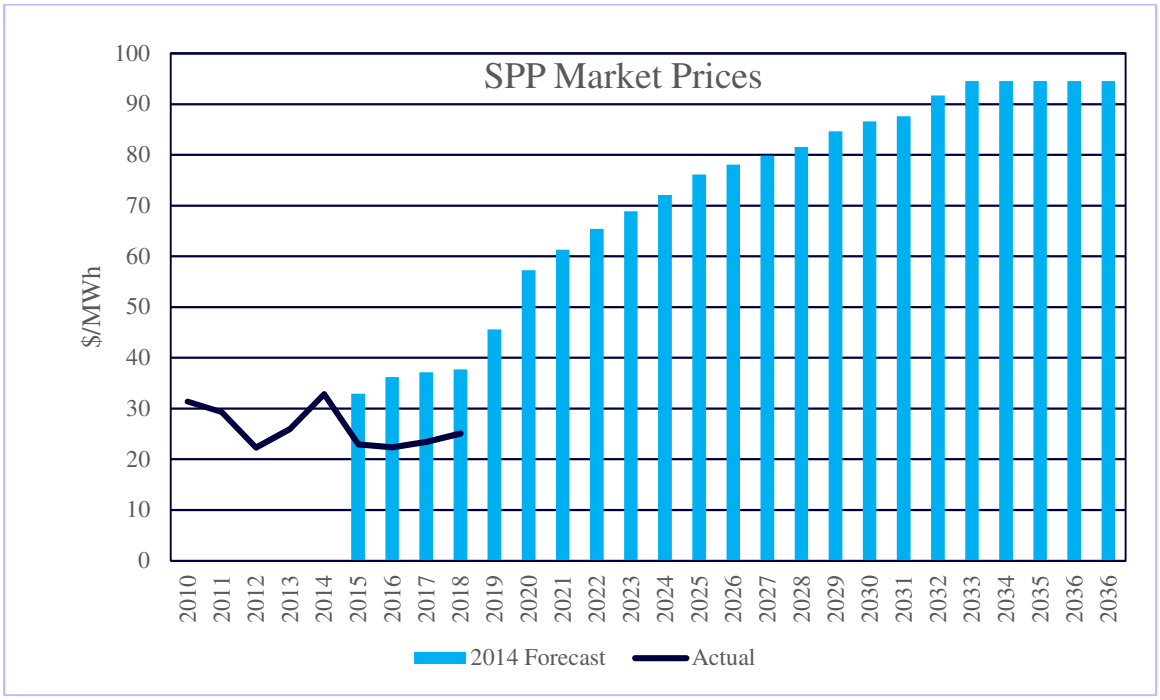
This graph shows that even though KCP&L had knowledge that the 2012 forecast was too high, KCP&L chose to use a 2014 market price forecast that was essentially the same as the 2012 forecast but with the forecasted increases just delayed by four years. In other words, despite knowing that the 2012 market price forecasts were inaccurate and outdated, KCPL nevertheless still relied upon the same trends found in the 2012 forecast.

Q. Has the 2014 forecast been shown to be inaccurate as well?

A. Yes. The graph below shows the annual average market prices and KCP&L's 2014 expected market price forecast.



This graph shows that, with exception of the 2014 annual market price, the actual prices have been fairly stable, in stark contradiction to the forecasts on which KCP&L has chosen to rely. Moreover, the SPP day ahead and real time energy markets began in March 2014 so no analysis regarding long-term market prices forecast should consider data from 2014.

Q. Why are market prices so important in the analysis of the cost benefit of the Rock Creek and Osborn wind projects?

A. According to KCP&L, it entered into these contracts not because customers needed the energy and not because customers wanted wind energy at any cost but because KCP&L believed that the revenues these PPAs would generate from the SPP market would be greater than their cost. The higher the forecasted market prices, the more economic these contracts would have appeared to be; the lower the market prices used in the analysis, the less economic. Thus, KCP&L was essentially gambling based on its predictions regarding future market prices, yet was doing so

with no risk to its own shareholders because all the costs it might incur would flow through to the customers using the FAC. Moreover, because the actual market prices *have* been substantially lower than those on which KCP&L relied, the utility has actually incurred significant losses based on these PPA, which KCP&L's customers have had to pay through the FAC.

Q. Is this incorrect forecast impacting KCP&L?

A. KCP&L is impacted only to the extent the forecast was not accurately modeled in the last **rate case** since all of the PPA costs and revenues flow through to KCP&L's customer through its FACs. Then KCP&L would absorb five percent *of the inaccuracy of the modeling of the fuel costs in the rate case*. Because the last rate case was just completed with market prices estimated based off the past three years of market prices, most of the losses are included in the modeling of the rate case.

KCP&L Did Not Issue a Request For Proposals Prior to Entering Into These PPAs

Q. Did KCP&L issue a request for proposals prior to entering into the contracts with the Rock Creek and Osborn wind projects?

A. No. OPC data requests 8005 in case no. EO-2019-0068 and 8009 in case no. EO-2019-0067 asked for all documentation supporting KCP&L's initial decision to enter into each of the wind purchased power agreements for which costs were included in calculating the FAC actual net energy cost in the prudence time period. In response to this data request, KCP&L provided that its contracts with the Cimarron II, Spearville 3, Ensign, Waverly, and Slate Creek wind projects were all chosen from bids from KCP&L's 2010, 2012, and 2013 RFPs. Neither of KCP&L's responses to these data requests provide an RFP or spreadsheets evaluating responses to the RFP that includes the Rock Creek and Osborn wind projects.

Q. What did KCP&L provide to document its decision to enter into contracts with the Rock Creek and Osborn wind projects?

A. KCP&L provided a confidential document for each of the wind projects describing its selection process, a six page Power Point presentation created for a Board of Directors Meeting on February 10, 2015,[18] and a spreadsheet summarizing the cost benefit analysis that it conducted on these two wind projects based on its projected market revenues over a twenty year time frame.

Q. What did KCP&L provide to document its decisions to enter into contracts with the other wind projects?

A. KCP&L included reports on the RFPs issued, bids received, spreadsheets detailing the evaluation of the bids received, and reports on the selection of each wind project. The wind selection reports for the other projects all include descriptions of the RFP process, the number and types of bids received and the selection criteria that led them to enter into each of these contracts.

Q. Did KCP&L do the same due diligence for the Rock Creek and Osborn wind projects as it has for its other wind project contracts?

A. Based on the information it provided to OPC, it did not. The only analysis conducted to justify entering into contracts with the Rock Creek and Osborn wind projects was a cost benefit analysis in which KCP&L used the 2014 market prices discussed above to project the revenue streams it would receive from these wind projects. There was no comparison to other wind projects. A quick comparison of the site selection reports provided for Rock Creek and Osborn[19] wind projects, attached as Schedules LMM-R-13 and LMM-R-14 with the site selection report for KCP&L's Waverly wind project, attached as Schedule LMM-R-16 shows the lower

[18] Attached as Schedule LMM-R-15.

[19] The Osborn and Waverly Site Selection Reports provided to OPC is marked Confidential yet certain pages within the report are marked "HC." OPC requested an explanation from KCP&L, and KCP&L informed OPC to disregard the HC marking and that the report is considered "Confidential."

level of diligence conducted by KCP&L for the Rock Creek and Osborn wind projects.

Q. Why isn't an analysis showing that these contracts would likely have a positive cost benefit impact enough to justify entering into these contract?

A. The most obvious answer is that it was very likely that there were numerous other potential wind projects that could have provided wind energy at a lower price. In response to its 2013 RFP KCP&L received 30 proposals for PPAs from 16 different developers.[20] Of those 30 proposals, 23 were priced lower than the Rock Creek and Osborn wind projects. KCP&L should have expected similar responses in 2014 and issued an RFP accordingly, but for unexplained reasons, KCP&L chose the Rock Creek and Osborn projects without an RFP and without determining whether these two projects were the best least cost alternatives.

Q. KCP&L witness Crawford discusses the impact of Rock Creek and Osborn wind projects being in Missouri. Were any of the proposals in the 2013 RFP in Missouri?

A. Yes. **

**[21] The report on the Waverly wind project selection process as provided by KCP&L in response to data request 8005 in EO-2019-0068 is attached as Schedule LMM-R-15.

[20] Schedule LMM-R-16, KCP&L response to EO-2019-0068 data request 8009, *Wind Resource Selection Process for Waverly Wind Farm,* page 4.
[21] *Id.,* page 10.

Contract Prices for Wind PPAs Were Declining

Q. Would you provide a summary of the contract prices for all of KCP&L's wind project PPAs?

A. The table below gives the name of the wind project, the date the contract was signed and the $/MWh price of each contract.

	Date Contract Signed	**		
Cimmarron II	03/28/11			
Spearville 3	11/03/11			
Ensign	11/03/11			
Waverly	11/18/13			
Slate Creek	06/11/14			
Gray County	12/18/14			(a)
Rock Creek	04/07/15			
Osborn	05/22/15			
Pratt	10/12/17		**	

(a) Escalates at 1.8% a year

This information is shown graphically below.

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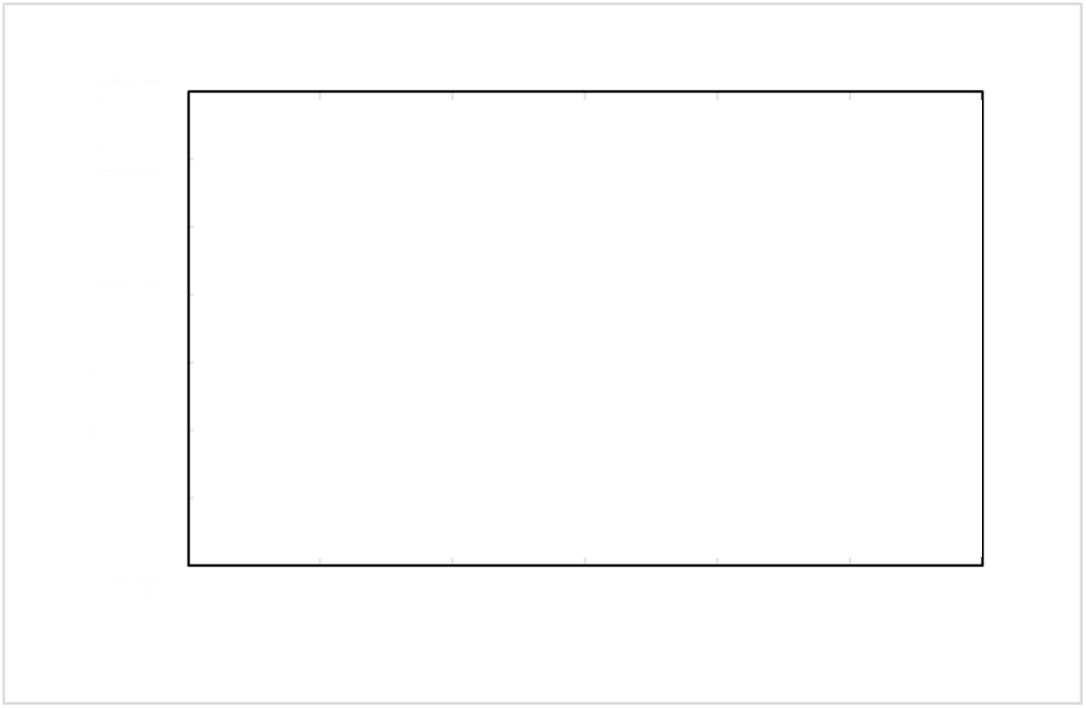

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What this table and this graph shows is that, other than Rock Creek and Osborn PPAs, the $/MWh prices in the contracts were steadily and predictably falling.[22] Since KCP&L entered into its first wind PPA, wind technology costs have declined and the federal wind production tax credits have resulted in a boom in wind project investors. This graph also shows how the prices paid for the Rock Creek and Osborn wind projects are drastically out of line with the other prices paid before and after KCP&L signed the contracts for wind energy from the Rock Creek and Osborn wind projects.

[22] The R^2 of the line shown in the graph is 0.95. R^2 is a measure of how well the variable, in this case $/MWh, can be predicted using the explanatory variable, in this case time. An R^2 of 1.0 means a perfect fit.

Q. Can you estimate what prices KCP&L should have paid given the trend line in the graph above?

A. Yes. Given the dates the contracts were signed and estimates from the trend line shown above, a more realistic price for energy for the Rock Creek energy would have been $20.07/MWh instead of ** **. A more realistic price for the energy from the Osborn wind projects would have been $19.78/MWh instead of ** **.

Q. If the wind contracts had been entered into at these prices would the revenues have covered the costs during the prudence period?

A. The revenues for some of the months of the prudence period would have been greater than the costs. However, over the entire prudence period, the margin would have still been negative. The tables below gives the loss margins, after the jurisdictional allocation, for KCPL and GMO at the signed price and the negative margins at the trend line price.

Lost Margins

	Osborn			Rock Creek		
	Actual	Trend	Difference	Actual	Trend	Difference
KCPL	5,661,851	1,154,509	4,507,342	4,321,639	1,172,217	3,149,422
GMO	6,437,824	2,348,255	5,089,569	4,721,396	1,576,573	3,144,823
Total			9,596,911			6,294,245

Q. What does this show?

A. This shows that, had KCP&L entered into the contracts at a price more consistent with the trend of PPA prices that were contracted prior to entering these contracts and with the contract it entered into after the contract, the KCPL customers would have paid $7.7 million less and GMO customers would have paid $8.3 million less through the FAC for the wind energy from these contracts.

Rebuttal to KCP&L witness Burton L. Crawford

Q. KCP&L witness Crawford mentioned several factors for KCP&L entering into the Osborn and Rock Creek wind projects in his testimony. Would you please respond to each of these factors?

A. Yes. The first was that these were Missouri-based wind projects.[23] As described above, KCP&L had the opportunity to enter into contracts with other Missouri based wind projects at a lower price as a result of its 2013 RFP. This is not a reason to find the prices paid for these PPAs prudent.

The second factor he listed was the Missouri RES. This is a reason that KCP&L uses when it believes it is supportive to whatever filing it is making but in truth, KCP&L had already procured more than enough wind resources it needs to meet the Missouri RES before it entered into these PPAs. In fact, KCP&L did not even list these projects as meeting its RES requirements in its 2019 RES Compliance Reports or Plans. This is not a reason for the Commission to find the prices paid for these PPAs prudent.

Next Mr. Crawford mentions economic benefits to Missouri.[24] These benefits are not exclusive to these projects at this cost. In other words, these same benefits would be achieved for any wind project in Missouri regardless of the cost of the energy from the PPA. Moreover, even if this were a proper consideration for incurring additional fuel costs, the economic benefits gained by the Missouri project were offset by KCP&L's residential and business customers being forced to pay higher *uneconomic* PPA costs, possibly resulting in net harm to Missouri as a whole. This is not a reason for the Commission to find the prices paid for these PPAs prudent.

[23] Page 3, lines 4-5.
[24] Page 5, lines 6 – 16.

Mr. Crawford mentions the pending elimination of the federal production tax credit ("PTC").[25] However, according to the Rock Creek and Osborn contracts provided by KCP&L,[26] the wind project owners (not KCP&L) receive the PTC generated by the wind projects. In fact, the existence of the PTCs actually makes these wind contracts more expensive for the customers because these contracts are "take-or-pay" contracts. In other words, if KCP&L does not take the wind energy at whatever the price SPP is offering, KCP&L pays the owner of the wind farm for that energy plus any PTC the owner did not receive. In addition, the possible loss of the available PTCs was an issue being faced by all wind farms, including those that previous RFPs had shown to be a cheaper option than Rock Creek and Osborn. Therefore, the pending elimination of the PTCs is not a reason for the Commission to find the prices paid for these PPAs prudent.

Mr. Crawford then brings up the proposed Clean Power Plan.[27] Even though these regulations are different now than what was envisioned in 2014, the impact and possibility of such regulations should be considered in determining resources. However, proposed regulations are not on their own a reason for the Commission to find the prices paid for these PPAs prudent. Moreover, given that KCP&L provided no RFP for the Rock Creek and Osborne Wind farm contracts, it is impossible to prove that the prices in these two contracts represented the lowest cost of meeting whatever requirements might have been put in place under the proposed Clean Power Plan or other legislation.

Next Mr. Crawford brings up KCP&L's projection of lower NPVRR over the next 20 years.[28] This projection was based on modelling an energy purchase that was not needed but would be entered into on the speculation that market prices

[25] Page 3, line 21 through page 4, line 2.
[26] Case no. EO-2019-0068, data request 8000.
[27] Page 4, lines 5 – 15.
[28] Page 4, line 18 through page 5, line 4.

in a market that had not even started yet would make enough revenues in the future to cover its costs. However, as previously discussed, KCP&L's market forecasts were highly inaccurate because they were based on newly developing markets and repeatedly predicted outcomes that were later proven wrong by actual data just as the previous forecast had. In fact, the only scenario KCP&L modeled that remotely resembles what is actually occurring in the present energy market is the one model that showed an increase to KCP&L's NPVRR, which just further shows why this is not a reason for the Commission to find the prices paid for these PPAs prudent.

Finally, Mr. Crawford points to the connection of the transmission for these projects to a transmission line partially owned by KCP&L's parent company, Evergy, as a factor for entering these contracts.[29] This is basically an attempt to justify KCP&L's decision because it permitted the utility to engage in an affiliate transaction, which is clearly not a reason for the Commission to find the prices paid for these PPAs prudent.

Q. Would you summarize OPC's recommendations regarding the Rock Creek and Osborn PPAs?

A. With respect to the Rock Creek and Osborn PPAs, OPC recommends the Commission:

1) Find KCP&L imprudent for entering into PPAs with Osborn Wind Energy, LLC, and Rock Creek Wind Project, LLC;
2) Order an adjustment to the FAC charges for the losses KCPL and GMO customers paid in the prudence period; and
3) Order KCP&L to calculate and apply the interest at its short-term borrowing rate to these amounts.

[29] Page 5, lines 18 – 22.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.