Exhibit No.:	
Issue:	*Rate Design*
Witness:	*Robin Kliethermes*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case Nos.:	*ER-2018-0145 and ER-2018-0146*
Date Testimony Prepared:	*August 7, 2018*

MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION

TARIFF/RATE DESIGN

REBUTTAL TESTIMONY

OF

ROBIN KLIETHERMES

KANSAS CITY POWER & LIGHT COMPANY
CASE NO. ER-2018-0145

and

KCP&L GREATER MISSOURI OPERATIONS
CASE NO. ER-2018-0146

Jefferson City, Missouri
August 2018

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Q. Please state your name and business address.

A. Robin Kliethermes, 200 Madison Street, Jefferson City, MO 65101.

Q. Are you the same Robin Kliethermes who contributed to Staff's Cost of Service Report, and Staff's Report on Class Cost of Service and Rate Design ("CCOS Report")?

A. Yes. However, there has been a modification to the Staff organizational structure and I am now employed as a member of Staff's Tariff and Rate Design Department.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to:

- respond to KCPL's and GMO's witness Marisol Miller's calculation of the Residential customer charge;
- respond to KCPL's development of the Average and Excess 4 CP allocator and MIEC witness Maurice Brubaker's reliance on the allocator;
- respond to OPC witness Geoff Marke regarding access to customer data; and
- respond to Division of Energy's (DE) witness Martin Hyman and Renew Missouri's witness Jamie Scripps regarding inclining block rate design.

RESPONSE REGARDING RESIDENTIAL CUSTOMER CHARGE

Q. Have you reviewed KCPL's and GMO's requested residential customer charges?

A. Yes. Ms. Miller is recommending that the residential customer charge for KCPL increase from $12.62 to $15.17 and the residential customer charge for GMO be increased from $10.43 to $14.50.

Q. Do you agree with Ms. Miller that KCPL's requested $15.17[1] residential customer charge and GMO's requested $14.50 residential customer charge are calculated consistent with prior Commission approved customer charges?[2]

A. No. Ms. Miller included several costs that have not previously been included in the calculation of the residential customer charge. The costs include Low-Income Weatherization, Economic Relief Pilot Program (ERPP), Pre-MEEIA DSIM costs, Electric Vehicle Charging Station costs, and what appears to be a large percentage of the return on KCPL's and GMO's billing system investment. Additionally, although Ms. Miller states in her direct testimony that an adjustment was made to remove KCPL's solar rebates from the customer charge calculation, Staff cannot confirm based on KCPL's workpapers that the adjustment was actually made.

Q. Why can't Staff confirm KCPL's solar rebate adjustment?

A. KCPL's solar rebate amortization expense has typically been booked in FERC acct. 910, and according to KCPL's CCOS workpaper FERC acct. 910 is functionalized as

[1] Although KCPL is recommending a residential customer charge of $15.17, the KCPL CCOS workpapers show a cost of $17.38.
[2] Page 22 through 23 in Ms. Miller's direct testimony filed in ER-2018-0146 and Page 22 through 23 in Ms. Miller's direct testimony filed in ER-2018-0145.

customer component.[3] The residential customer component costs are then divided by the number of customers in the class to derive a residential customer charge. There is no explicit adjustment in the workpaper that removes the cost of solar rebates from the calculation of the customer charge.

Q. Did Staff remove the costs mentioned above from the calculation of Staff's proposed residential customer charge?

A. Yes. Costs related to KCPL's solar rebates, GMO and KCPL pre-MEEIA DSIM, Low-Income Weatherization, and ERPP are costs that are typically booked to FERC accts. 910 and 908, which are technically customer service accounts; however, these costs are not necessary to connect a customer to the system, and therefore are removed from the calculation of the residential customer charge.

Staff did not include the costs for KCPL's and GMO's electric vehicle charging stations in its cost of service and, therefore, those costs are not allocated to customers.

Staff also did not include KCPL's and GMO's investment in its new billing system, known as One CIS, in its direct filed cost of service and, therefore, those costs are not allocated to customers in Staff's CCOS. Staff will address KCPL's and GMO's new billing system in true-up.

Q. If Staff had included the costs of KCPL's and GMO's electric vehicle charging stations in its direct filed cost of service would Staff have allocated the costs in the same manner as KCPL and GMO?

[3] KCPL and GMO functionalize all costs into three components: energy, demand and customer.

A. No. KCPL and GMO have requested a specific Clean Charge Network tariff to recover the costs of KCPL's and GMO's electric vehicle charging stations. Given the tariff, KCPL and GMO should have allocated the costs of the stations to the tariff and not have allocated the cost to the other rates classes and especially not to the customer charge component.

Q. Since KCPL and GMO have requested a Clean Charge Network tariff to specifically recover the costs of the electric vehicle charging stations, is KCPL's and GMO's proposal double recovery?

A. Yes. Under KCPL's and GMO's proposal they would technically recover the costs of the electric vehicle charging stations from the customer charges for each rate class and also from the revenues recovered under the Clean Charge Network tariff.

Q. If Staff had included the costs of KCPL's and GMO's One CIS billing system in its direct filed cost of service would Staff have allocated the costs in the same manner as KCPL and GMO?

A. No. Based on KCPL's CCOS workpapers it appears that the One CIS software investment was booked to FERC acct. 303, which is an intangible plant account, and a large portion of the investment is functionalized to the customer component so that the return on the investment is included in the calculation of the customer charge.

Staff typically does not functionalize specific intangible plant accounts to a specific function; instead, the total intangible plant investment is allocated to functions based on that function's percent of investment in Production, Transmission, and Distribution plant. Under Staff's current allocation method a portion of the return on the One CIS investment

would be included in the calculation of the customer charge, but not to the same level included in KCPL's calculation.

Additionally, based on KCPL's and GMO's CCOS workpapers, it appears that 100% of the investment in the billing system was allocated to KCPL, while none of the investment was allocated to GMO. This causes KCPL's residential customer charge to be greatly overestimated.

Q. If KCPL's and GMO's residential customer calculation would be adjusted for the misallocated costs discussed above, would the residential customer charge be more consistent with Staff's recommendation?

A. Yes. If KCPL and GMO made the adjustments to the calculation of the residential customer charge that I address above, it would reduce both KCPL's and GMO's calculated residential customer charge.

Q. What is Staff's residential customer charge calculation recommendation?

A. Staff recommends increasing the residential customer charge for KCPL from $12.62 to $12.82, and increasing the residential customer charge for GMO from $10.43 to $12.38.

RESPONSE REGARDING KCPL'S AND MIEC'S A&E 4CP

Q. Have you reviewed KCPL's calculation of its Average & Excess ("A&E") 4 CP allocator used to allocate Production Plant?

A. Yes.

Q. What concerns do you have regarding KCPL's calculation of the A&E 4 CP allocator?

A. Based on KCPL's workpaper, it appears that KCPL attempted to develop sub-class coincident peaks. For example, the Large General Service class (LGS) has a primary voltage sub-class and a secondary voltage sub-class. The result of KCPL's attempt is that the class coincident peaks (CP) that are ultimately used in KCPL's A&E 4 CP allocator are not consistent with the actual load research CPs. The table below provides the load research CPs and the differences between the load research CPs and the CPs that were ultimately used in KCPL's production allocator.

Load Research CP	January	February	March	April	May	June	July	August	September	October	November	December
LGS	356,542	325,238	333,817	319,469	348,800	354,730	358,054	390,584	416,021	345,874	268,927	347,124
LP	213,597	226,724	218,380	221,985	240,862	266,150	267,420	277,300	266,251	261,117	218,973	223,424
MGS	211,283	185,605	185,900	202,587	207,676	243,318	230,883	242,571	247,495	221,249	147,031	211,494
SGS	77,049	60,584	64,450	66,457	70,097	76,317	89,074	90,335	90,636	78,114	51,288	80,276
Residential	464,970	365,458	349,886	244,591	479,515	620,626	761,009	754,769	574,119	400,190	339,609	483,515
Differences												
LGS	2,826	(23,506)	30,877	(1,039)	11,502	9,138	12,946	19,687	8,586	10,947	(27,903)	(4,662)
LP	(9,016)	(27,512)	3,290	(12,259)	(14,666)	(13,307)	(15,255)	(3,274)	(10,456)	(5,817)	(15,640)	(14,170)
MGS	(13,132)	(42,306)	(491)	(12,448)	(13,107)	(14,367)	(22,425)	(6,944)	(16,550)	(7,782)	(22,567)	(16,228)
SGS	(1,697)	(10,073)	1,416	(8,521)	(9,051)	(12,125)	(3,343)	1,578	(2,240)	(5,393)	(11,020)	131
Residential	(60,485)	(119,658)	(23,762)	(33,204)	(50,864)	(58,772)	(3,734)	(50,383)	(50,717)	(78,898)	(110,737)	(48,227)

Q. Is the difference between the load research CPs and the CPs that KCPL uses in the calculation of the A&E 4CP allocator due to voltage losses?

A. Some of the difference could be attributed to voltage losses, however, when the residential load research CPs are only adjusted for losses the below differences still exist between the loss adjusted load research CPs and the monthly CPs per class used by KCPL in the development of the A&E 4 CP allocator.

	January	February	March	April	May	June	July	August	September	October	November	December
Residential	(37,601)	(29,554)	(28,295)	(19,780)	(38,777)	(50,189)	(61,541)	(61,037)	(46,428)	(32,363)	(27,463)	(39,101)

Q. What is the importance of the CPs in the A&E production allocator?

A. The average and excess allocator is a two part allocator weighted by system load factor, where one part is average demand and one part is excess demand. KCPL and GMO used four coincident peaks to allocate the excess demand portion to each class. The system load factor KCPL used is 55.64%, so the excess demand portion or the coincident peak portion represents 44.36%. Therefore, 44.36% of KCPL's A&E allocator is based on class coincident peaks that are adjusted for an unknown reason which causes costs to shift between classes.

Q. Do other parties rely on KCPL's and GMO's A&E 4CP allocator?

A. Yes. MIEC's witness Mr. Brubaker also relied on KCPL's and GMO's study and stated that the study was reasonable.

Q. In past KCPL or GMO rate cases has Mr. Brubaker used an A&E 4CP allocator before?

A. Not that I am aware of. Typically, Mr. Brubaker either recommends a coincident peak allocator or the A&E method using a class' non-coincident peaks (NCP).

In ER-2016-0285, page 19, lines 17 through 24 of Mr. Brubaker's direct testimony states:

> Either a coincident peak study, using the demands during the summer (peak) months, or a version of an A&E cost of service study that uses class non-coincident peak loads occurring during the summer, would be most appropriate to reflect these characteristics. The results should be similar as long as only summer period peak loads are used. I recommend the A&E method. It considers the maximum class demands during the critical time periods, and is less susceptible to variations in the absolute hour in which peaks occur – producing a somewhat more stable result over time.

In ER-2014-0370, page 19, lines 17 through 24 of Mr. Brubaker's direct testimony states:

> Either a coincident peak study, using the demands during the summer (peak) months, or a version of an A&E cost of service study that uses

> class non-coincident peak loads occurring during the summer, would be most appropriate to reflect these characteristics. The results should be similar as long as only summer period peak loads are used. I will make my recommendations based on the A&E method. It considers the maximum class demands during the critical time periods, and is less susceptible to variations in the absolute hour in which peaks occur – producing a somewhat more stable result over time.

Q. Did Mr. Brubaker provide any additional explanation for using class CPs instead of NCPs with the A&E method?

A. No. Page 19, lines 17 through 21 of Mr. Brubaker's direct testimony in ER-2018-0145[4] states:

> Either a coincident peak study, using the demands during the summer (peak) months, or a version of an A&E cost of service study that uses class demands occurring during the summer, would be most appropriate to reflect these characteristics. The results should be similar as long as only summer period peak loads are used. I recommend the A&E method.

He further provides that given KCPL's load characteristics he finds KCPL's study to be reasonable.[5]

Q. Have KCPL's load characteristics changed since Case Nos. ER-2016-0285 and ER-2014-0370?

A. No. KCPL is still predominately summer peaking.

Q. If Mr. Brubaker would have used a production allocator similar to what he recommended in Case Nos. ER-2016-0285 or ER-2014-0370, what would be the allocations?

A. The table below provides a comparison of two allocators using just class summer coincident peaks (4CP and 2CP), three A&E method allocators using different levels of class NCPs, and KCPL's A&E 4CP.

[4] This testimony is also found in ER-2018-0146 at page 19, lines 18-22.
[5] Page 19, line 23 of Mr. Brubaker's direct testimony.

		Small General	Medium General	Large General	Large Power	
	Residential	Service	Service	Service	Service	Lighting
A&E 4 CP	**42.2855%**	**5.2713%**	**14.8815%**	**21.1294%**	**15.8682%**	**0.5642%**
2CP	44.4333%	5.1279%	14.2316%	20.2653%	15.9418%	0.0000%
4CP	41.9604%	5.2922%	14.9578%	21.4469%	16.3427%	0.0000%
A&E 4 Summer NCP	41.5339%	5.2903%	14.6090%	21.2404%	16.1504%	1.1759%
A&E 2 Summer NCP	42.5883%	5.1855%	14.3941%	20.4819%	16.2027%	1.1475%
A&E 3 Summer NCP	41.8009%	5.1991%	14.5722%	21.1016%	16.1580%	1.1682%

Q. Did Staff use KCPL's class coincident peaks in its study?

A. No. Staff develops its own weather normalized class coincident peaks from KCPL's load research data. Staff also updated the test year through October 2017. Therefore, Staff's study uses July, August, September, and October 2017 whereas KCPL uses July, August, September, and October 2016.

Q. Were there other components to the A&E method that changed due to Staff's calculated coincident peaks and updated time period?

A. Yes. Staff calculated a system load factor of approximately 51.7% as compared to KCPL's system load factor of 55.36%. This difference places less of an emphasis on average demand and places more emphasis on excess demand.

Q. Using the allocation methods provided in the table above, what would the allocations be using Staff's coincident and non-coincident class peak data?

A. The table below provides the allocations using Staff's coincident and non-coincident class load data.

	Residential	Small General Service	Medium General Service	Large General Service	Large Power Service	Lighting
A&E 4 CP	**40.9107%**	**5.6807%**	**15.1582%**	**22.2124%**	**15.5247%**	**0.5132%**
2CP	42.2815%	5.6367%	14.7090%	22.0993%	15.2724%	0.0011%
4CP	40.4980%	5.6847%	15.2243%	22.5143%	16.0776%	0.0012%
A&E 4 Summer NCP	41.1515%	5.5822%	14.8807%	22.0074%	15.2875%	1.0906%
A&E 2 Summer NCP	41.9649%	5.5994%	14.7551%	21.5929%	15.0631%	1.0246%
A&E 3 Summer NCP	41.5846%	5.6040%	14.7474%	21.8214%	15.1870%	1.0556%

Q. Did Staff use updated coincident peak and non-coincident peak data for GMO?

A. As discussed in more detail by Staff witness Seoung Joun Won, Staff has concerns with GMO's load research data due to the consolidation of GMO's rate districts in Case No. ER-2016-0156. Even though Staff did calculate coincident and non-coincident peaks for GMO, Staff is concerned that the data is not reliable because the load research data was not yet available for the new consolidated classes.

Q. Does Staff recommend using any of the production cost allocations provided above?

A. No. As discussed in more detail by Staff witness Sarah L.K. Lange, Staff recommends using the Detailed BIP allocator.

ACCESS TO INDIVIDUAL CUSTOMER DATA

Q. Dr. Marke, in his direct testimony, proposes certain preliminary privacy standards and safeguards for KCPL and GMO ratepayers related to customer data and advanced metering infrastructure. Does Dr. Marke's recommendation regarding third party access to individual customer data also impact Staff's ability to calculate its weather normalization adjustments, coincident peaks and non-coincident peaks?

A. Yes. As Dr. Marke's testimony is currently written, it implies that Staff would only be able to receive aggregated customer data. In addition to using individual customer data to calculate its weather normalization adjustment, Staff also uses individual customer data to review rate design and study customer impacts.

Q. Without access to individual customer data, would any of Staff's recommendations change?

A. Yes.[6] For instance, Staff's recommendation[7] for 100% sampled customers for purposes of weather normalization and development of coincident peaks and non-coincident peaks is contingent upon Staff still being able to receive individual customer data.

RESPONSE TO INCLINING BLOCK RATES

Q. Have you reviewed the inclining block rate design proposals in this case?

A. Yes. Division of Energy's witness Martin Hyman recommends movement towards flatter block rates in the winter and an inclining block rate in the summer, however, Mr. Hyman does not provide specific recommendations for the proportions of rate blocks he would propose. In addition, Renew Missouri's witness Jamie Scripps recommends movement towards inclining block rates; however, Ms. Scripps also does not provide a more specific recommendation of the relative values intended under her rate design recommendation.[8]

Q. Does Staff have concerns with the specific designs possible under inclining block rates?

A. Yes.

[6] It is possible that Dr. Marke's recommendation would preclude Staff access of even the current load research customer sampled data.
[7] Page 5 of Dr. Won's Cost of Service rebuttal testimony.
[8] Staff recognizes that calculating final rate values requires full class billing determinants and certainty as to the values of customer charges.

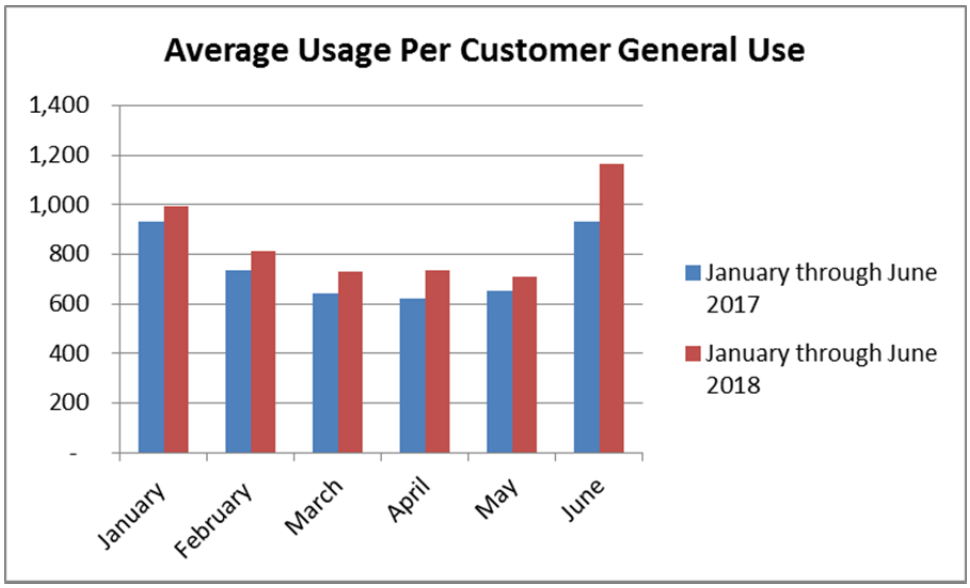
Q. What are Staff's concerns regarding the specific design of inclining block rates?

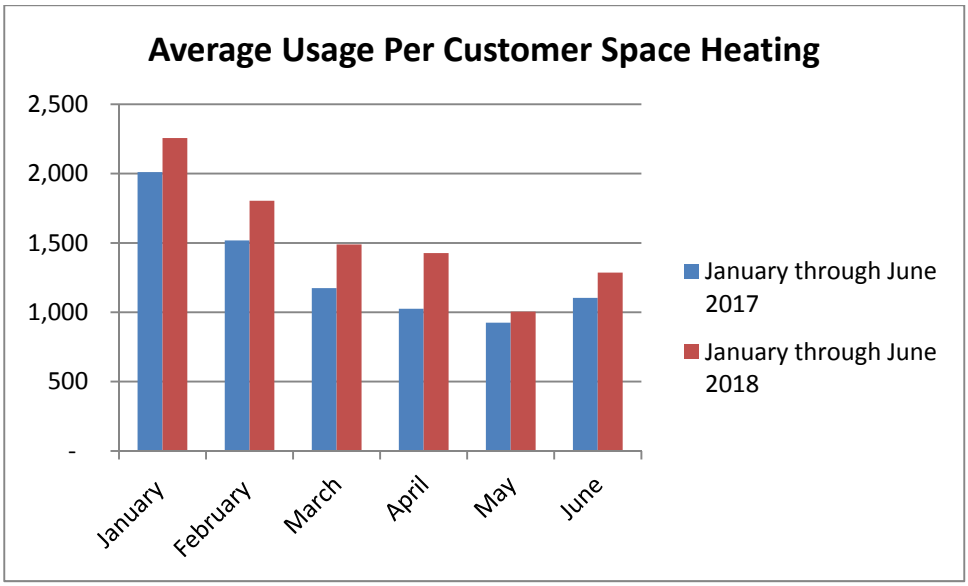
A. Staff cautions that an inclining block rate with a steep incline in summer or winter may have unexpected negative impacts on either customers or the utility due to an abnormal weather event. In the event of an abnormally warm summer or cold winter, customers may be faced with an unexpectedly high bill or be faced with the decision to adjust the thermostat to an unsafe level.

For example, as provided in the table below, the weather in January of 2018 was colder than the weather in January of 2017, and the weather in June of 2018 was warmer than the weather in June of 2017.

	HDD		CDD	
	2017	**2018**	**2017**	**2018**
January	1,014	1,134	0	0
February	599	916	0	0
March	531	664	5	0
April	265	540	25.5	10
May	111	-	73.5	259
June	2	-	291	385

Given the difference in weather, the graphs below show the average usage per customer from January 2017 through June 2017 and from January 2018 through June 2018 for residential general use customers and residential space heating customers.





Q. If a customer installed energy efficient measures, such as a more efficient air conditioner, wouldn't this help decrease the customer's bill?

A. All else being equal, installing a more energy efficient air conditioner would reduce the customer's overall usage in the month the air conditioner is used. However, that

customer's overall usage even with an energy efficient air conditioner will more than likely be over 600 kWh given a weather event or an extended period of time that it is abnormally warm in a billing cycle. In 2015,[9] over 140,000 of KCPL's approximately 190,000 residential general use customers had usage over 600 kWh in the warmest billing months of July and August.

Q. Are you familiar with Ms. Scripps' rate design proposal that combines inclining blocks and Time of Use?

A. Yes.

Q. To Staff's knowledge, is the data available that would be necessary to develop rates for the residential class that would bill, for example, inclining rates for cumulative on-peak usage, and declining rates for cumulative off-peak usage?

A. No, not at this time. Staff and the Companies have normalized calculations of (1) aggregate residential usage occurring in each hour, which can be used to develop reasonable billing determinants for "on peak" and "off peak" usage; and (2) usage billed in each existing rate block by billing month. However, Staff does not possess and is not aware that the Companies can currently provide information necessary to relate how much aggregate usage occurs in each rate block during each time interval. This information would be necessary to develop a rate design that might charge, for example, $0.12/kWh for the first 300 kWh on peak, $0.015/kWh for the next 300 kWh on peak, and $0.20 for all additional kWh on peak.

Q. Could such information be developed for use in a future rate case?

[9] In response to Staff Data Request No. 0101, kWh blocking reports are not available for KCPL and GMO in this case.

A. It is my understanding that application of Staff's direct-proposed rate design, in conjunction with a recording of the cumulative-frequency distribution for each month for each time period, would provide the data necessary to develop such a rate design going forward. If this is a design the Commission is interested in considering in future cases, Staff recommends the Commission order KCPL and GMO to retain the information necessary to develop the determinants associated with such a design.[10]

Q. Does this conclude your rebuttal testimony?

A. Yes.

[10] For example, if there is interest in designing an inclining block rate for usage occurring during a shorter peak period- for example 2:00 pm to 5:00 pm during summer months – the utilities would likely need to specifically gather that data prior to a rate case implementing that design.

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-2018-0145
		and
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-2018-0146

AFFIDAVIT OF ROBIN KLIETHERMES

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW ROBIN KLIETHERMES and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Rebuttal Testimony* and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Robin Kliethermes

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 6th day of August, 2018.

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: June 28, 2019
Commission Number: 15207377

Notary Public