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Witness: Michael R. Schmidt
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Case No.: ER-2016-0285
Date Testimony Prepared: January 6, 2017

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	)	Case No. ER-2016-0285
A General Rate Increase for Electric Service	)	

REBUTTAL TESTIMONY

OF

MICHAEL R. SCHMIDT

ON BEHALF OF THE

UNITED STATES DEPARTMENT OF ENERGY

AND FEDERAL EXECUTIVE AGENCIES

January 6, 2017

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 MICHAEL R. SCHMIDT

STATE OF KANSAS)
) SS
COUNTY OF SHAWNEE)

Michael R. Schmidt, being first duly sworn, on his oath states:

1. My name is Michael R. Schmidt. I am an independent utility consultant and my principle place of business is 3322 SW Rolling Ct. Topeka, Kansas 66610.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of the United States Department of Energy which was prepared in written form for introduction into evidence in the above-captioned docket.

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

Michael R. Schmidt

Subscribed and sworn before me this 30 day of January, 2017.

Notary Public

My commission expires 12-26-17

KIM THOMASON
State of Kansas
My Appt. Exp. 12-26-17

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Michael R. Schmidt. My business address is 3322 SW Rolling Ct., Topeka, Kansas 66610.

Q. ARE YOU THE SAME MICHAEL SCHMIDT WHO HAS PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A. Yes. I previously filed direct testimony in this proceeding on December 12, 2016, and a corrected version on December 19, 2016 (which included my affidavit), regarding class cost of service ("CCOS") and rate design issues on behalf of the U.S. Department of Energy ("DOE") and all other Federal Executive Agencies ("FEA") served by Kansas City Power & Light Company ("KCP&L" or "Company").

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to rebut Staff's position on the use of the base-intermediate-peak ("BIP") methodology of cost allocation for production and transmission plant. Also, I will address Staff's recommended class revenue allocations.

Q. HAVE YOU REVIEWED STAFF'S RATE DESIGN AND CCOS REPORT AND THE TESTIMONY OF STAFF WITNESS NATELLE DIETRICH FILED ON DECEMBER 14, 2016 IN THIS CASE?

A. Yes, I have.

Q. HAVE YOU REVIEWED THE TESTIMONY OF MISSOURI INDUSTRIAL ENERGY CONSUMERS ("MIEC") WITNESS MR. MAURICE BRUBAKER FILED ON DECEMBER 14, 2016 IN THIS CASE?

A. Yes, I have.

Q. DO YOU AGREE THAT STAFF'S ALLOCATION METHODOLOGY IS REASONABLE FOR KCP&L?

A. No. The Commission should reject the use of the BIP methodology for the following reasons:

- The power supply planning and operation of individual power supply resources within a centrally dispatched power pool like the Southwest Power Pool Integrated Marketplace ("SPP-IM"), of which KCP&L is a member, cannot be attributed to the specific customer classes of load-serving entities ("LSEs") within that power pool—defeating the basis of Staff's proposal.

- Staff's application of the BIP methodology fails to recognize that all generation units, whether baseload, intermediate, or peaking, also serve the purpose of meeting peak demand. Regardless of load factor or customer class, all customers that use electric power during the peak period are responsible for the peak. Any of these types of customers could reduce their demand during the peak, and thus reduce the peak. The allocation methodology should reflect this proposition.

- Given that an electric utility plans and constructs generation or transmission plant and purchases power to meet peak demand, and all customers contribute to the peak, peak demand should be used to allocate demand-related (fixed) production and transmission costs.

Q. PLEASE SUMMARIZE THE CONSEQUENCES OF ADOPTING STAFF'S BIP METHODOLOGY.

A. The BIP methodology recommended by Staff has the effect of shifting costs to relatively high load factor users, generally those customers in the Large General Service ("LGS") and Large Power Service ("LPS") rate classes, resulting in an increase

in the large subsidy identified by MIEC's cost of service study and by my cost of service study.

Cost-based rates are the best way to assure efficient electricity consumption because all classes of customers pay the costs associated with serving each class. Interclass subsidies produce inefficiencies. While some level of interclass subsidy is often unavoidable, in this case, cost allocation has moved so far away from costs that fundamental economic principles are at risk.

The government supports the need for cost-based rates to send proper price signals and to ensure the efficient use of electricity. Also, in cases where rates are seriously out of line with the CCOS, as in the current proceeding, the government supports the well-accepted regulatory principle of gradualism.

Q. PLEASE SUMMARIZE THE ADVANTAGES OF USING THE 4CP ALLOCATION METHODOLOGY OVER THE BIP METHODOLOGY.

A. Since KCP&L is a summer-peaking utility, the 4CP allocation methodology recommended in my direct testimony is the logical method to use for allocating fixed demand-related production and transmission costs. Movement toward cost-based rates in this and future rate cases will help to eliminate interclass subsidies. An across-the-board increase recommended by the Company in this case to all metered classes, except for the Lighting Class,[1] does nothing to move class revenue allocations toward cost of service. If a relatively small increase or decrease is granted in this case, this presents a unique opportunity to move class revenue allocations toward cost of service without the burden of a revenue requirement increase on customers, hence avoiding rate shock.

[1] Marisol E. Miller Direct, p. 16, lines 9-11.

II. ALLOCATING DEMAND-RELATED PRODUCTION AND TRANSMISSION COSTS AND MOVEMENT TOWARD COST-BASED RATES

Q. DO YOU AGREE WITH THE STAFF POSITION THAT THE BIP ALLOCATION METHODOLOGY BE USED AS THE BASIS FOR ALLOCATING FIXED DEMAND-RELATED PRODUCTION AND TRANSMISSION COSTS TO THE VARIOUS RATE CLASSES?

A. No, I do not. The BIP methodology is outdated in that it assumes that the utility is an isolated entity that generates and delivers its own power in response to load. This was true 40 years ago when the use of BIP was introduced, but is not the case today. In today's SPP-IM, SPP member entities like KCP&L do not directly generate to load—it is the SPP system that determines, based on offered prices, which generators are chosen in the "stack" from an extensive portfolio of resources. That stack may or may not match the load characteristics of an individual utility within SPP. Thus, how any individual utility's plants run at different times of the day and during different seasons of the year actually determines the utility's cost to deliver this energy production and capacity to its customers. KCP&L's generators commit their electricity to be sold in the SPP market. As an LSE, KCP&L is a buyer and takes electricity from the SPP market without regard to its generation source. As stated by Company witness Ives: "SPP controls which generation facilities operate at any given time, not KCP&L or its individual generators."[2] Transmission, of course, is always fixed whether or not in operation and thus its costs must be recovered regardless of load.

Q. WHY IS IT THAT POWER SUPPLY PLANNING AND OPERATION OF INDIVIDUAL POWER SUPPLY RESOURCES WITHIN A CENTRALLY DISPATCHED POWER POOL, LIKE SPP, CANNOT BE ATTRIBUTED

[2] Darrin R. Ives Direct, p. 22, lines 11-12.

TO THE SPECIFIC CUSTOMER CLASSES OF LSEs LIKE KCP&L WITHIN THE POWER POOL?

A. When a utility was able to plan, build, and operate generation resources to meet its own load curve, then it was reasonable to attribute specific load characteristics to a given power plant or types of generation. However, in the absence of such centralized planning and operation, such as in the SPP, this is not the case. Prior to the advent of the SPP nodal market, utilities for the most part did build a mix of power plants for various reasons, including building more capital-intensive generation in order to minimize system fuel expense. This concept of trading off capital costs and fuel costs is referred to as "Capital Substitution." In a vertically integrated, bundled market environment, a utility planned and operated its generation resources to match its load requirements.

The transition to a nodal market changed the manner by which generation planning and operation occurs. In the nodal market, the SPP establishes the amount of generation capacity that is required to meet estimates of peak demands. It is up to individual LSEs to determine what type of plant they are willing to build based upon their individual estimates of load levels including reserves, hours of use, estimated future fuel costs, environmental factors, water availability, capital costs, construction cost estimates, and other such information. KCP&L does not serve its load by only matching its own resources to that load; it also buys and sells power based on the ever-changing cost of that power in the SPP-IM. In other words, generation is utilized based upon power supply prices, not individual utility system load. Thus, an electric utility buying and selling power in the SPP-IM, such as KCP&L, no longer plans and builds its own power plants to match a particular segment of its own load duration curve. The cost to KCP&L of meeting its own power supply requirements through generation and

transmission plant construction by the Company was decoupled with the operation of the SPP nodal market. This separation of identifying demand capacity needs, and selection of the type of generation plant to build, renders obsolete the production allocation methodologies such as the BIP methodology which matches loads and plant types.

Q. ARE THERE OTHER REASONS WHY THE BIP METHODOLOGY IS NOT REASONABLE?

A. In general, economic efficiency is improved when prices properly reflect costs. In competitive markets, the rivalry between different suppliers forces prices down to incremental costs. Prices based on incremental costs send proper signals to all market participants. A supplying company receives signals as to what resources should be acquired, and customers receive signals encouraging consumption patterns that coordinate with the supply situation.

Ultimately, whether any individual class of customers is overpaying or underpaying depends on the cost allocation model that is used. The BIP methodology shifts costs to the higher load factor customers. This occurs because the BIP methodology partially uses energy consumption as an allocator during the base, intermediate, and peak periods. I do not support the use of energy consumption, which is variable in nature, to allocate fixed costs. Fixed costs do not vary with consumption and must be paid by customers regardless of usage. How those costs are allocated should be linked to peak demands that the capacity was built to serve.

Plant is built to serve the peak load of a utility. Production and transmission capacity is built (or acquired) to meet system peak demands—not average demands. The system peak demand drives the need for production and transmission capacity, and customer contributions to the system peak should be the principal component of factors

used to allocate fixed production and transmission costs. If production and transmission plant costs are allocated on the basis of average energy use, then low load factor, peak-use customers receive the benefits of cheaper baseload (and intermediate) energy without paying a fair share of the capital costs for these plants.

Those customers who consume energy during the peak are responsible for the expansion of generation and transmission plant and therefore should be responsible for the fixed costs associated with the plant operating during the peak period. The best way of assuring that those customers who consume energy during the peak pay for the required capacity in operation during the peak is to use an allocation methodology that is directly proportional to peak demand. Since plant is built based on peak demand, allocating costs based on peak demand most logically comports with the basis upon which plant is built.

It is critical to note that all production and transmission plant costs are allocated during the peak period, not just the peaking plant (e.g., combustion turbine). Therefore, an allocation based on 4CP picks up the cost of all of the production and transmission plant.

All customers who are consuming power during the peak period are responsible for the system's peak. The high load factor customer, the medium load factor customer, and the customer that uses energy only during the peak period are all responsible for the cost of fixed production plant to meet that peak. Any one of these types of customers could reduce their demand during the peak and thus reduce the system peak. Since KCP&L is a summer-peaking utility, the 4CP methodology is the logical method to use to allocate demand-related production and transmission costs.

Q. PLEASE EXPLAIN HOW THE OPERATION OF KCP&L'S GENERATING UNITS DURING THE TEST YEAR IS UNLIKELY TO

REFLECT THE COMPANY'S LOAD CHARACTERISTICS AND THE GENERATION UNITS OPERATING WITHIN THE SPP SYSTEM OVER TIME, AND FURTHER EXPLAIN HOW THAT AFFECTS THE UNDERLYING BASIS OF THE BIP ALLOCATION METHODOLOGY.

A. Like virtually all electric utility systems, KCP&L's load curve constantly changes. The load curve faced by the SPP as a whole is also constantly changing. This constant change is the result of changing influences such as customer growth, building construction, appliance saturation and efficiency, conservation and demand-side management efforts, weather, and so forth. However, the mix of generation plants that serve a bundled utility load is unchanged once placed into service, until the next unit is added. Because older plants tend to be less efficient than newer generation plants, the use of a given generation unit may change over time. A plant previously used as a base load resource may, over time, be used as an intermediate generation unit. Or, over time, an intermediate generator may be relegated to the role of a peaking unit as more efficient units replace it in the utility's economic dispatch sequence. The BIP methodology inherently and erroneously assumes that the test year use of each utility-owned generator reflects the manner in which the plant will be used prospectively. In addition, KCP&L's own plants may not be operating in response to changes in load on its own system, but in response to loads in other SPP member utilities.

Q. PLEASE REFER TO THE STAFF REPORT AT PAGES 2-3 WHERE STAFF LISTS ITS CLASS REVENUE ALLOCATION RECOMMENDATIONS IN THIS CASE. DO YOU HAVE ANY COMMENTS ON STAFF'S RECOMMENDATIONS?

A. I do. Staff recommends that the LPS class' revenue responsibility be increased relative to other rate classes. Increasing rates to the LPS class, as Staff suggests, would be a

move in the wrong direction. That result is out of line with the results of CCOS studies prepared by MIEC and by me. My CCOS study, which allocates demand-related production costs using the 4CP methodology, indicates that rates for the LPS class should be increased by substantially less than the system average percentage rate increase.

Q. ON THE BASIS OF YOUR REVIEW OF STAFF'S CCOS REPORT AND MIEC'S CCOS STUDY, DID YOU CHANGE ANY CONCLUSION OR RECOMMENDATION PRESENTED IN YOUR DIRECT TESTIMONY?

A. No. I recommend that the Commission reject Staff's BIP methodology for allocating fixed production and transmission costs to the rate classes. Instead, KCP&L should be required to use the 4CP allocation methodology as I originally recommended. If a relatively small revenue requirement increase or decrease is granted in this case, this presents a unique opportunity to move class revenue allocations toward cost of service with limited impact on customer bills.

Rebuttal Table 1 shows my resulting recovery reallocation recommendation if no increase is granted by the Commission in this proceeding. Rebuttal Table 1 was computed by applying the cost-based revenue allocations presented in Table 1 of my direct testimony utilizing the 4CP cost allocation methodology, with the gradualism recommendation that no rate class receive a rate increase less than 3 percent above the system average percentage increase.[3]

[3] Michael R. Schmidt Direct, pp. 11-13.

Rebuttal Table 1

Cost-Based and Capped Revenue Spreads
No Revenue Requirement Increase

		Cost-Based Revenue Spread			Capped Revenue Spread		
	Present Revenues	Proposed Revenues	Increase		Proposed Revenues	Increase[(1)]	
Rate Class	($000s)	($000s)	($000s)	(%)	($000s)	($000s)	(%)
Residential	315,079	368,168	53,089	16.8	324,531	9,452	3.0
Small GS	55,206	50,511	(4,695)	(8.5)	54,248	(958)	(1.7)
Medium GS	121,627	113,853	(7,774)	(6.4)	119,637	(1,990)	(1.6)
Large GS	188,280	163,235	(25,044)	(13.3)	184,593	(3,687)	(2.0)
Large PS	145,879	134,712	(11,166)	(7.7)	143,406	(2,472)	(1.7)
Lighting	10,507	6,098	(4,409)	(42.0)	10,161	(346)	(3.3)
Total	836,577	836,577	0	0.0	836,577	0	0.0

(1) The capped revenue spread reflects maximum class percentage changes above the system average percentage change limited to: (1) one-third (33 percent) more than that percentage change, or (2) three percent above that percentage change. A floor of double those percentages was applied to the initial revenue allocation only.

Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.