BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In The Matter Of A Working Case	)	
Consider Mechanisms to Encourage	)	**File No. EW-2016-0041**
Infrastructure Efficiency	)	

STAFF INVESTIGATION AND REPORT

COMES NOW the Staff of the Missouri Public Service Commission ("Staff"), by and through the undersigned counsel, files this *Staff Investigation and Report* ("Report") with the Missouri Public Service Commission ("Commission"), and respectfully states:

1. On August 26, 2015 the Commission issued its *Order Directing Staff to Investigate and Opening a Repository File* instructing Staff to investigate and create a report exploring whether existing electric utility infrastructure is detrimentally underutilized, whether that underutilization can be identified geographically and quantified, whether there are rate design mechanisms or other tariff provisions that may incentivize more efficient use of existing infrastructure to the benefit of both customers and companies, and whether there are public policy considerations the Commission should consider in weighing the value of any such mechanisms or provisions.

2. Staff's investigation consisted of a survey of regulated electric utilities, data requests, and a workshop held on November 13, 2015.

3. Staff submits the appended report for the consideration of the Commission. Staff appreciates the cooperation of the regulated electric utilities and interested stakeholders that contributed to this process to address the concerns and issues identified by the Commission.

WHEREFORE, Staff submits this report for the Commission's review and consideration.

Respectfully submitted,

/s/ William Hampton Williams II
Hampton Williams
Assistant Staff Counsel
Missouri Bar No. 65633
Attorney for the Staff of the
Missouri Public Service Commission
P. O. Box 360
Jefferson City, MO 65102
(573) 751-8517
(573) 751-9285
hampton.williams@psc.mo.gov

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been mailed, electronically mailed, sent by facsimile or hand-delivered to all counsel of record this 11th day of December, 2015.

/s/ William Hampton Williams II

MISSOURI PUBLIC SERVICE COMMISSION

STAFF'S INVESTIGATION ON

A WORKING CASE TO CONSIDER MECHANISMS TO ENCOURAGE INFRASTRUCTURE EFFICIENCY

FILE NO. EW-2016-0041

December 11, 2015

JEFFERSON CITY, MISSOURI

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Staff's Investigation into a Working Case to Consider Mechanisms to Encourage Infrastructure Efficiency

Executive Summary

On August 24, 2015, the Commission issued its *NOTICE OPENING FILE* ("*Order*"), opening File No. EW-2016-0041, captioned *In the Matter of a Working Case to Consider Mechanisms to Encourage Infrastructure Efficiency*. Staff gathered information from the electric utilities through data requests and various filings, as well as review of current and former tariffs, and the content of other dockets. Also, on November 13, 2015, parties participated in a workshop to discuss questions raised in the *Order*. Finally, utilities and other parties have provided written comment in response to issues discussed at the workshop. Staff received a tremendous amount of information regarding infrastructure efficiency and concerning different aspects of infrastructure installation and utilization. Staff would like to thank all stakeholders for their comments, presentations, and submissions.

An extension policy that holds the monthly bills of existing ratepayers harmless to increased rates resulting from the addition of a new customer is the most desirable policy from a purely cost basis. However, as with all rate design matters, other factors such as bill impacts, simplicity, rate stability, fairness among different consumers, customer understandability, meeting incremental costs, and public policy considerations should also be evaluated. Two important public policy considerations when evaluating extension policies are the ability of residential customers of all income levels to have affordable access to electrical services, and economic development considerations promoting the development of business and industry in the State of Missouri.

The commenting parties largely represent that the existing extension policies reasonably balance these interests. Staff recommends that to the extent the Commission is interested in a model extension policy that more aligns with cost-causation without restricting new growth, that consideration of a design similar to the current tariff of KCP&L Greater Missouri Operations Company (GMO) be considered in that it more fully considers the incremental costs a customer causes to a system in determining how much, if any, customer advance is required before the utility invests in additional distribution facilities. By considering these costs, a customer causing new utility investment is more likely to bear some offset to that investment than under other approaches that do not consider incremental costs.

I. Introduction

In its *Order*, the Commission directed Staff to investigate and report on its findings, in cooperation with Missouri's regulated electric utilities.[1] In Ameren Missouri's recent rate case, ER-2014-0258, the Commission issued an order soliciting input on whether rate design mechanisms should be established to promote stability or growth of customer levels in geographic locations where there is underutilization of existing infrastructure. In that case, Staff supported the formation of a collaborative process with all interested stakeholders. In opening this working docket, the Commission directed Staff to investigate:

1. Whether existing electric utility infrastructure is detrimentally underutilized,
2. Whether that underutilization can be identified geographically and quantified,
3. Whether there are rate design mechanisms or other tariff provisions that may incentivize more efficient use of existing infrastructure to the benefit of both customers and companies,
4. Whether there are public policy considerations the Commission should consider in weighing the value of any such mechanisms or provisions.

On November 13, 2015, Staff hosted a workshop on infrastructure efficiency. Various stakeholders attended, provided presentations, and participated in discussion. After the workshop, Staff requested interested stakeholders to respond by November 30, 2015, to comments made at the workshop. Specifically, participating investor owned electric utilities were asked to provide as soon as practicable, proposals for identifying underutilized infrastructure and discussion points identified by Chairman Hall regarding (1) bifurcated line extension tariffs between service provided in areas with preexisting excess capacity and areas requiring additional infrastructure development, and (2) providing incentives, without utility discretion and based on customer eligibility criteria, comparable to those in existing Urban Core Development and Economic Redevelopment Riders to new customers entering applicable designated area. Additional comments were received in response to this request.

Staff received a tremendous amount of information regarding infrastructure efficiency and concerning different aspects of infrastructure installation and utilization. Staff would like to thank all stakeholders for their comments, presentations, and submissions.

One of the monopoly aspects of the electrical industry is that utilities have an obligation to serve within certificated areas. The utility must provide service for all customers within its certificated area. This responsibility includes connecting customers to the secondary (low) voltage distribution system which typically operates at 4 – 12 kV, and providing sufficient resources to meet customers' needs through construction of new generation and/or procurement of energy, as well as construction and maintenance of substations at various voltages, the primary distribution

[1] The Order establishing this case noted that the Commission does not intend that any such mechanisms or provisions be implemented in any rate cases pending during the duration of this docket.

system, system transmission lines, and regional transmission lines.[2] Under the obligation to serve criteria, the electric utility accepts this responsibility. In Missouri, regulators operate from a position that prices should be based upon costs, thus a class cost-of-service study and the functionalization of costs is a key factor to ensure a reasonable level of equity between all classes of customers.[3] In Missouri, a standard three step ratemaking approach is applied by regulators. This consists of revenue requirement,[4] cost allocation,[5] and rate design.[6,7]

The power delivery system, which consists of the transmission and distribution cost functions, provides the means to transport electricity economically from generation plants to customers. In Missouri, distribution systems have been planned, built, and operated to meet the needs of a vertically integrated utility structure wherein the utility is responsible for all aspects of energy generation and delivery. The attributes of distribution feeders vary from one location to another location due to such factors as the mix of end use load devices, the growth rates of new customers, per capita energy usage, and the local geographical conditions. All these factors create unique and distinct characteristics throughout the distribution system. While most customers are connected to the distribution system at secondary voltage levels, some customers receive service directly at a primary distribution level. The capacities of lines and equipment must be sized to accommodate both the load and electrical losses. [8]

Customer characteristics are not static and change over time. Customers may leave the system and vacate buildings, while existing customers may increase usage (kWh) and demand (kW) significantly from the usage considered normal at the time the customer was initially connected to the system, in many cases more than 30-75 years ago. Additionally, modifications from the original use of a structure through adaptive reuse may change the usage characteristics and required secondary distribution connections significantly. Similarly, the distribution system at all levels is not static. Transformers and switches wear out. Cable deteriorates and is replaced or undergrounded. System loading is dynamic. Missouri's regulated utilities are tasked to exercise prudence in their decisions to replace, upgrade, retire, or remove distribution system equipment for use elsewhere.

Planned redundancy is important to distribution system reliability and to facilitate prompt restoration in the event of outage. One fundamental reason for having distribution

[2] These terms are generally understood within a particular utility, but are not consistently used across all utilities. Some terms may have different meanings among utilities or regions, and not all terms are used by all utilities.
[3] The major functional cost categories Staff uses in Class Cost-of-Service studies are Production, Transmission, Distribution, and Customer.
[4] Includes recovery of capital investments (depreciated); rate of return on investments; and recovery of operating costs.
[5] Includes how much revenues to collect from various customer and services.
[6] Includes how to collect revenues from various customer groups and services.
[7] See "The Basics of the U.S. Natural Gas Industry, Its Regulation and Current Affairs," Ken Costello, NRRI Training Seminar on Energy & Utility Regulatory Matters, page 41.
[8] See "Electricity Pricing, Engineering Principles and Methodologies," Lawrence J. Vogt, P.E., CRC Press, Boca Raton, Fl., 2009, pages 190 – 191.

interconnections is for emergency backup conditions. Without distribution interconnections, utilities would not have the capability to quickly stabilize problems or to address major customer outages through switching. The interconnected distribution grid is complex, and several parallel paths may exist between the secondary substation and the load, between the primary substation and the secondary substation, and from secondary substation through the transmission and subtransmission systems to various generation facilities. Redundancy in the distribution system means the duplication of certain components and the applications of more bus schemes to reduce the chances of load interruptions. Identification of underutilized infrastructure is complicated by three factors 1) the desirability of planned redundancy, 2) the changing needs of customers over places and time, and 3) the utilities' continuing obligation to prudently maintain the distribution, transmission, and generation facilities that serve Missouri's electrical customers.

Staff understands the primary concern of this docket to be the secondary voltage distribution lines, poles and conduits, secondary voltage substations, customer service drops, and associated transformers. However, the availability of capacity on the other distribution system components (primary voltage distribution system, primary voltage substations, and subtransmission lines and substations) and system transmission components are also factors in identifying the availability for local distribution system components to be loaded more heavily. For purposes of this docket, Staff will not consider the regional transmission system or the utilities' or regional generation facilities to be factors. Staff takes this opportunity to offer its analysis and investigation to date, including recommendations on how to proceed with further investigation if needed. [9]

II. Brief Description of Existing Extension Policies

Ameren Missouri's residential extension policy provides meter, service drop, transformation capacity and up to 1000 feet of additional distribution facilities, with no more than 500 feet on private property, at no cost to the customer. Residential subdivisions and individual residential customers are provided with set distances of line extensions at no charge and they either make up-front refundable or non-refundable contributions for distances in excess of those allowances. Most residential service extensions are within the set limits and are made at no cost to the customer.

Ameren Missouri extends its lines to commercial and industrial customers under the terms of its Rules and Regulations Line Extension Rules, whereby extensions with estimated total extension costs (the incremental energy cost of the new customer's usage is not considered) less than the estimated annual gross revenues including MEEIA and FAC riders to be derived from the customer are provided at no cost to the customer. For jobs with significant cost, Ameren Missouri ensures that the revenue test is enforced through a Line Extension Agreement which sets up a minimum billing amount for the first 12 months of operation after a 3-month lag.

[9] See "Electricity Pricing, Engineering Principles and Methodologies," Lawrence J. Vogt, P.E., CRC Press, Boca Raton, Fl., 2009, at page 168.

Where the customers' gross revenues exceed the monthly minimum billing amount established by the Line Extension Agreement, the customer makes no contribution toward the cost of the line extension. All contributions by customers toward the cost of their line extension are considered refundable until the end of the 12-month line extension guarantee period. The contributions under those line extension agreements reflect either: 1) the customer is required to pay the entire amount up-front and the prepaid amount applied to cover bills for the first 12 months; or 2) the customer's actual bill in any month is less than the minimum specified in the Line Extension Agreement and he/she is required to make a deficiency payment to meet the minimum amount, which is potentially refundable in future months. A few very small extensions may be handled with an upfront customer contribution of the deficiency amount at the customer's option.[10]

The Empire District Electric Company (Empire) has a residential extension policy where the utility installs up to 1,000 feet overhead (OH) extension footage, 300 feet of that which could be off of a county road at no cost. This includes service line and transformers. Excess footage is charged per cost estimate with a potential to developer/customer for refund for up to five years. Residential underground costs are underground cost minus overhead costs for the extension footage allowed at no cost, then full price following that average cost. The current average underground cost is $23 per foot.

Empire has a subdivision extension policy where the developer/customer pays the entire cost of installing electrical facilities underground into the subdivision including transformers and services. A refund is issued for each permanent residential meter installed per lot for up to five years.

Empire has a commercial and industrial extension policy where a three-year gross revenue test is applied toward the cost estimate of the electrical extension whether overhead or underground. If the extension costs are in excess of the three-year revenue test then the customer pays the difference.

The Kansas City Power and Light Company (KCP&L) and Kansas City Power and Light Greater Missouri Operations (GMO) include specific provisions covering line extensions. KCP&L and GMO tariffs show that KCP&L/GMO provides a standard minimum extension of facilities at no cost to residential customers. For KCP&L, residential customers pay all costs beyond the standard minimum extension. For GMO, consideration of the residential customer's load requirements and estimated revenue are used in determining the cost to be paid for extensions beyond the basic extension.

KCP&L/GMO tariffs for commercial and industrial customers provide consideration of the customer's load requirements and estimated revenue in determining the cost to be paid for all non-residential customers. GMO has specific language in its Large Power tariffs allowing the repurposed use of a premise when the change provides economic benefit to the immediate area.

[10] Ameren Missouri response to Staff Data Request 0008.

For KCP&L non-residential net revenue calculations, the costs include all construction costs related to the extension (materials, labor, and incidental costs) and the revenues include a percentage of the estimated annual revenue for the proposed customer. For all GMO net revenue calculations, the cost includes all construction costs related to the extension (materials, labor, and incidental costs). The GMO construction allowance is calculated based on a five-year estimate of the margin (revenue less infrastructure support cost and incremental fuel supply costs) divided by the fixed carrying costs (cost of capital plus depreciation, taxes, and insurance).

GMO's tariff provides a more detailed examination of cost causation than other utilities' tariffs. Specifically, customers seeking service in excess of the standard minimum extension request are responsible for costs in excess of the "construction allowance." GMO's tariff provides that generally, the formula used to determine the construction allowance is the customer-provided "Estimated Margin" divided by the "Fixed Carrying Costs," with both elements based on the first five- (5-) year life of the Distribution Extension. This calculation is given by the formula

$$CA = \frac{SUM (EM1 + EM2 + EM3 + EM4 + EM5)}{SUM (FCC1 + FCC2 + FCC3 + FCC4 + FCC5)}$$

Where, CA = Construction Allowance;
EM = Estimated Margin;
FCC = Fixed Carrying Cost;

Estimated Margin: The Estimated Margin will be determined by first multiplying the effective rates for each customer class by the estimated incremental usage – and then subtracting 1) applicable margin allocation for network and infrastructure support costs; and 2) incremental power and energy supply costs.

Fixed Carrying Cost: Company's cost of capital to provide the requisite return on its investment as well as the costs for depreciation, property taxes and property insurance.

The applicable GMO tariff sheets are provided as Appendix A.

III. Whether Existing Electric Utility Infrastructure is Detrimentally Underutilized

A significant amount of new distribution system/resources are needed in a growing area while some of the existing infrastructure in a depressed area essentially may become underutilized. The cost to downsize distribution capacity is mostly prohibitive. Although a substation power transformer may be relocated because of less than anticipated load, large feeder conductors could not be economically replaced with smaller conductors/lines. Since growth will not be uniform

around a utility's service territory, one substation may realize a high rate of growth while another substation area may become stagnant or even experience a decreasing load. [11]

Ameren Missouri distribution costs are approximately 15% of the overall cost of providing service to customers. Certain areas of Ameren Missouri's system do have greater, non-committed circuit capacity than others at any given point in time. The utilization and construction of the distribution system is dynamic as expected and unexpected load changes, circuit switches, outages, etc., can cause real time changes to the capacity available on any given feeder.[12] Ameren Missouri notes that despite the technical challenges facing new load moving into older urban areas, existing line extension policies incentivize customers to interconnect with the distribution system in close proximity to existing circuits (irrespective of the capacity of those systems). In this sense, the policies promote the utilization of existing easements and facilities over the geographic expansion of the system.[13]

Ameren Missouri recognizes that there are certain areas that are more challenging to manage changes in load, including accommodating new growth. The City of St. Louis has many older neighborhoods where 4 kV line capacity is prevalent.[14]

Ameren Missouri defined two special circumstances. In Berkeley, Missouri (by Lambert Airport), Ameren Missouri (1) currently has adequate substation capacity to serve additional light industrial and commercial load locating in the "North Park" industrial park due to declining economic conditions beginning in 2008, and (2) in many areas, loss of shopping malls, strip malls and "big box" retail stores has occurred. While there are adaptive, re-use opportunities for these structures, little opportunity appears to exist to influence these demographic terms with line extension policies.[15]

For KCP&L/GMO, existing line extension tariffs and processes incorporate features that recognize, by design, the benefit of utilizing existing infrastructure. The current line extension processes require the customer to pay for all extension costs beyond a standard minimum extension and those not covered by some portion of revenues expected to be received from the extension. With this design, customers utilizing higher amounts of existing infrastructure will be charged a lower amount for their extension than customers requiring more new infrastructure.[16]

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[11] See "Electricity Pricing, Engineering Principles and Methodologies," Lawrence J. Vogt, P.E., CRC Press, Boca Raton, Fl., 2009, at page 168.
[12] Ameren Missouri *Response To Request For Party Submissions*, EFIS filing # 26, page 3 and 4.
[13] Ameren Missouri *Response To Request For Party Submissions*, EFIS filing #26, page 4 and 5.
[14] Today, most new areas are served by 12kV distribution areas.
[15] Ameren Missouri *Response To Request For Party Submissions*, EFIS #26, page 5 and 6.
[16] Response of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company to Staff Questions, EFIS filing #24, page 2.

KCP&L/GMO have provided a list of transformers/circuits in the KCP&L/GMO Missouri service area where there is at least 50% of rated capacity available under normal AND contingency scenarios.[17]

IV. Whether that Underutilization can be Identified Geographically and Quantified

When determining whether facilities are underutilized, a distinction in pricing may also be raised due to spatial variations of a utility system territory. For example, one substation located in an area where new structures are being built or where formerly unused structures are being redeveloped may experience an accelerated level of growth compared to an adjacent area that has been built out and consistently utilized. In such an example, a high growth rate around the substation may require significant distribution system upgrades to increase the capacity of substation and feeder equipment in addition to completely new facilities such as the wires, poles, and conduit that are physically run to the new structures. Meanwhile, for the substation in a built-out area, customers continue to be served by fully operational distribution system facilities from existing facilities of an earlier vintage. A study of the two areas may reveal a higher cost to serve customers located in the fast growing area since the cost of distribution equipment has consistently gone up over the years. These distinctions in cost of service may provide a rationale for pricing which is differentiated by location. These pricing distinctions could be observed in either charges for extension of service, or for a reasonably applicable portion of monthly bills. However, since all electro-mechanical equipment needs to be replaced at some point in its life cycle, the cost to serve a given area can and does vary over time, even in areas where the system is consistently utilized.[18]

V. Whether there are rate design mechanisms or other tariff provisions that may incentivize more efficient use of existing infrastructure to the benefit of both customers and companies.

Relationship of Rate Structure Components to the Cost of Infrastructure

In general, under current extension policies, the test applied by most utilities compare the cost of a customer's requested extension from the existing secondary distribution system (including engineering and other indirect labor costs that will be capitalized) to the gross revenues that customer is expected to generate over some time period.[19] To the extent the projected gross revenues (including applicable MEEIA, FAC, and RESRAM rider revenues) do not exceed the

[17] Response of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company to Staff Questions, EFIS filing #29, pages 2 - 3.
[18] See "Electricity Pricing, Engineering Principles and Methodologies," Lawrence J. Vogt, P.E., CRC Press, Boca Raton, Fl., 2009, at page 168.
[19] Exceptions to this general policy are the offer of a standard installation at no cost by some utilities to residential customers.

cost of the materials and capitalized labor to be installed, the customer will be required to provide a form of up-front payment or guarantee as described in that utility's tariff.[20]

When a utility installs plant, it books those values to the appropriate rate base accounts. When a line extension request results in the installation of new plant (including capitalized labor) that has been paid for in whole or in part by a customer, the utility maintains a "Customer Advances" account that is equal to the value of the customer contribution. This account will be an off-set to reduce rate base in future rate cases. If and when customers who have provided guarantees receive refunds, or otherwise receive refunding of customer-advanced funds, the utility will remove those values from the "Customer Advances" account.

While the impact of a single line extension would not likely be perceptible in a rate case, it is helpful to consider the costs that the addition of a customer imposes on a system. Assuming all else is equal, the addition of a customer who does not require any additional facilities will increase Generation (Production-Energy) and Customer-Related costs, and decrease the margin from off-system energy sales that is an off-set to a utility's revenue requirement. These changes in costs would be expected to relate to changes in operating expense levels, and would not be expected to result in changes to capital-related expenses such as depreciation expense or return on investment. Unless a customer is very large, it is rare that a customer would cause any other costs to increase, either through the requirement of additional investment, or the incurrence of additional expense.

If a customer requires either a line extension or the upgrade of the local secondary system, in addition to the same Generation (Production-Energy) and Customer-Related costs and decrease of off-system sales margin in the prior example, the customer would require additional Distribution investment and capital-related expenses, and additional Customer-Related investment and expenses. While the impact of a single line extension would not likely be perceptible in a rate case, for illustration a series of hypothetical examples is provided on the following page. These simplified examples assume only one class of customers, and that all costs are recovered from a flat $/kWh charge. These examples assume that the customer added causes system-average investment and expenses in Distribution and Customer-Related functional accounts, and has system-average usage characteristics.

[20] As discussed above, GMO's tariff calls for consideration of the relationship between "Estimated Margins," "Fixed Carrying Costs" where Estimated Margins are determined by first multiplying the effective rates for each customer class by the estimated incremental usage – and then subtracting 1) applicable margin allocation for network and infrastructure support costs; and 2) incremental power and energy supply costs. And Fixed Carrying Costs are determined as the Company's cost of capital to provide the requisite return on its investment as well as the costs for depreciation, property taxes and property insurance.

Existing Cost of Service and Rates	Plant Account	Depreciation Reserve	Customer Advances	Net Rate Base	Expenses	Depreciation Expense	Return on Investment	Cost of Service	kWh sales	Rate/kWh
Generation (Production-Capacity)	$ 1,500,000	$ 250,000	$ -	$ 1,250,000	$ 100,000	$ 62,500	$ 93,750	$ 256,250	5,000,000	$ 0.05125
Transmission	$ 500,000	$ 75,000	$ -	$ 425,000	$ 2,000	$ 17,000	$ 31,875	$ 50,875	5,000,000	$ 0.01018
Distribution	$ 750,000	$ 500,000	$ 100,000	$ 150,000	$ 75,000	$ 3,333	$ 11,250	$ 89,583	5,000,000	$ 0.01792
Customer-Related	$ 100,000	$ 75,000	$ -	$ 25,000	$ 25,000	$ 2,500	$ 1,875	$ 29,375	5,000,000	$ 0.00588
Generation (Production-Energy)	$ -	$ -	$ -	$ -	$ 150,000	$ -	$ -	$ 150,000	5,000,000	$ 0.03000
Offset for Off System Sales	$ -	$ -	$ -	$ -	$ (15,000)	$ -	$ -	$ (15,000)	5,000,000	$ (0.00300)
								$ 561,083		**$ 0.11222**
Adding a Customer - No Advance	Plant Account	Depreciation Reserve	Customer Advances	Net Rate Base	Expenses	Depreciation Expense	Return on Investment	Cost of Service	kWh sales	Rate/kWh
Generation (Production-Capacity)	$ 1,500,000	$ 250,000	$ -	$ 1,250,000	$ 100,000	$ 62,500	$ 93,750	$ 256,250	5,018,000	$ 0.05107
Transmission	$ 500,000	$ 75,000	$ -	$ 425,000	$ 2,000	$ 17,000	$ 31,875	$ 50,875	5,018,000	$ 0.01014
Distribution	$ 753,000	$ 500,000	$ 100,000	$ 153,000	$ 75,000	$ 3,373	$ 11,475	$ 89,848	5,018,000	$ 0.01791
Customer-Related	$ 100,400	$ 75,000	$ -	$ 25,400	$ 25,100	$ 2,540	$ 1,905	$ 29,545	5,018,000	$ 0.00589
Generation (Production-Energy)	$ -	$ -	$ -	$ -	$ 150,540	$ -	$ -	$ 150,540	5,018,000	$ 0.03000
Offset for Off System Sales	$ -	$ -	$ -	$ -	$ (14,946)	$ -	$ -	$ (14,946)	5,018,000	$ (0.00298)
								$ 562,112		**$ 0.11202**
Adding a Customer - Full Advance	Plant Account	Depreciation Reserve	Customer Advances	Net Rate Base	Expenses	Depreciation Expense	Return on Investment	Cost of Service	kWh sales	Rate/kWh
Generation (Production-Capacity)	$ 1,500,000	$ 250,000	$ -	$ 1,250,000	$ 100,000	$ 62,500	$ 93,750	$ 256,250	5,018,000	$ 0.05107
Transmission	$ 500,000	$ 75,000	$ -	$ 425,000	$ 2,000	$ 17,000	$ 31,875	$ 50,875	5,018,000	$ 0.01014
Distribution	$ 753,000	$ 500,000	$ 103,000	$ 150,000	$ 75,000	$ 3,373	$ 11,250	$ 89,623	5,018,000	$ 0.01786
Customer-Related	$ 100,400	$ 75,000	$ 400	$ 25,000	$ 25,100	$ 2,540	$ 1,875	$ 29,515	5,018,000	$ 0.00588
Generation (Production-Energy)	$ -	$ -	$ -	$ -	$ 150,540	$ -	$ -	$ 150,540	5,018,000	$ 0.03000
Offset for Off System Sales	$ -	$ -	$ -	$ -	$ (14,946)	$ -	$ -	$ (14,946)	5,018,000	$ (0.00298)
								$ 561,857		**$ 0.11197**
Adding a Customer Not Requiring Additional Facilites	Plant Account	Depreciation Reserve	Customer Advances	Net Rate Base	Expenses	Depreciation Expense	Return on Investment	Cost of Service	kWh sales	Rate/kWh
Generation (Production-Capacity)	$ 1,500,000	$ 250,000	$ -	$ 1,250,000	$ 100,000	$ 62,500	$ 93,750	$ 256,250	5,018,000	$ 0.05107
Transmission	$ 500,000	$ 75,000	$ -	$ 425,000	$ 2,000	$ 17,000	$ 31,875	$ 50,875	5,018,000	$ 0.01014
Distribution	$ 750,000	$ 500,000	$ 100,000	$ 150,000	$ 75,000	$ 3,333	$ 11,250	$ 89,583	5,018,000	$ 0.01785
Customer-Related	$ 100,000	$ 75,000	$ -	$ 25,000	$ 25,100	$ 2,500	$ 1,875	$ 29,475	5,018,000	$ 0.00587
Generation (Production-Energy)	$ -	$ -	$ -	$ -	$ 150,540	$ -	$ -	$ 150,540	5,018,000	$ 0.03000
Offset for Off System Sales	$ -	$ -	$ -	$ -	$ (14,946)	$ -	$ -	$ (14,946)	5,018,000	$ (0.00298)
								$ 561,777		**$ 0.11195**

These examples generally illustrate that,

(1) Adding a customer increases sales of kWh, and increasing sales of kWh spreads the costs that are held constant over more kWh, reducing rates per kWh.[21] Over time, this reduces the monthly bills of other customers.
(2) Adding a customer may require that there be increased utility investments. For those costs that are increased, it is necessary to evaluate the extent to which the additional sales of kWh offset the increase to required investments and associated capital-related expenses. (These investments may be offset in whole or in part through Customer Advances). Over time, to the extent the incremental revenues from the new customer exceed the incremental costs of a new customer, the addition of the customer reduces the monthly bills of other customers. To the extent the incremental revenues from the new customer are less than the incremental costs of a new customer, the addition of the customer increases the monthly bills of other customers.
(3) Adding a customer increases sales of kWh which both increases utility-level energy expenses and decreases off-system sales revenues that serve as an offset to the cost of service. (This change is passed on to other customers through the operation of the FAC with or without an intervening rate case).

In short, an extension policy that holds the monthly bills of existing ratepayers harmless to increased rates resulting from the addition of a new customer is the most desirable policy from a purely cost basis. However, as with all rate design matters, other factors such as bill impacts, simplicity, rate stability, fairness among different consumers, customer understandability, meeting incremental costs, and public policy considerations should also be evaluated. Two important public policy considerations when evaluating extension policies are the ability of residential customers of all income levels to have affordable access to electrical services, and economic development considerations promoting the development of business and industry in the State of Missouri.

Infrastructure-Related Cost of Service

Staff understands the primary concern of this docket to be the secondary voltage distribution lines, poles, and conduits, secondary voltage substations, customer service drops, and associated transformers. However, the availability of capacity on the other distribution system components (primary voltage distribution system, primary voltage substations, and subtransmission lines and substations) and system transmission components are also factors in identifying the availability for local distribution system components to be loaded more heavily without concerns for safety or degradation of service.

[21] As discussed above, this simplified example uses only a $/kWh charge. The same principles are true of demand-based, customer-based, and other applicable charges. Riders such as the FAC and MEEIA riders typically contain provisions for projected and actual sales levels, such that changes in sales levels for any reason including additional customers self-balance when the rider rates are next adjusted.

As provided in *Staff's Reconciled Final Accounting Schedules and Final Reconciled Net Base Energy Charge Calculation* filed April 30, 2015 in Docket No. ER-2014-0258, Ameren Missouri's most recently completed general rate case, the jurisdictional rate base value of Total Transmission Plant was $954,634,164.[22] The jurisdictional rate base value of Total Distribution Plant was $5,125,586,380.[23] The jurisdictional accumulated depreciation reserve for Total Transmission plant was $297,558,607.[24] The jurisdictional accumulated depreciation reserve for Total Distribution plant was $2,378,738,515.[25] The total value indicated for Customer Advances for Construction was $6,007,810.[26] The difference between the plant values net of applicable customer advances and the accumulated depreciation reserve is subject to return on investment, and return of investment (in the form of depreciation expense). The income statement detail indicates that Total Transmission Expense was $56,646,578 (operation and maintenance), [27] and Total Distribution Expense was $104,183,014 (operation and maintenance).[28] The Gross Revenue Requirement detailed in *Staff's Reconciled Final Accounting Schedules and Final Reconciled Net Base Energy Charge Calculation* filed April 30, 2015, was $121,544,750.[29] All values are based on the12 Months Ending March 31, 2014, with True-Up through December 31, 2014.

The line item values for Transmission Plant and Distribution Plant are provided below: [30]

Line Number	A Account # (Optional)	B Plant Account Description	C Total Plant	D Adjust. Number	E Adjustments	F As Adjusted Plant	G Jurisdictional Allocations	H Jurisdictional Adjustments	I MO Adjusted Jurisdictional
178		TRANSMISSION PLANT							
179	111.000	Accum. Amortization of Electric Plant - TP	$0	P-179	$0	$0	100.0000%	$0	$0
180	350.000	Land/Land Rights - TP	$53,451,822	P-180	$1,211,470	$54,663,292	100.0000%	$0	$54,663,292
181	352.000	Structures & Improvements - TP	$6,861,714	P-181	$0	$6,861,714	100.0000%	$0	$6,861,714
182	353.000	Station Equipment - TP	$282,584,140	P-182	$13,449,124	$296,033,264	100.0000%	$0	$296,033,264
183	354.000	Towers and Fixtures - TP	$91,797,468	P-183	-$384,938	$91,412,530	100.0000%	$0	$91,412,530
184	355.000	Poles and Fixtures - TP	$207,687,169	P-184	$94,869,798	$302,556,967	100.0000%	$0	$302,556,967
185	356.000	Overhead Conductors & Devices - TP	$186,662,063	P-185	$16,372,546	$203,034,609	100.0000%	$0	$203,034,609
186	359.000	Roads and Trails - TP	$71,788	P-186	$0	$71,788	100.0000%	$0	$71,788
187	359.000	Roads and Trails - SQ Curve - TP	$0	P-187	$0	$0	100.0000%	$0	$0
188		TOTAL TRANSMISSION PLANT	$829,116,164		$125,518,000	$954,634,164		$0	$954,634,164
189		DISTRIBUTION PLANT							
190	360.000	Land/Land Rights - DP	$36,101,144	P-190	$427,902	$36,529,046	100.0000%	$0	$36,529,046
191	361.000	Structures & Improvements - DP	$18,673,186	P-191	-$434,098	$18,239,088	100.0000%	$0	$18,239,088
192	362.000	Station Equipment - DP	$836,865,947	P-192	$40,091,114	$876,957,061	100.0000%	$0	$876,957,061
193	364.000	Poles, Towers, & Fixtures - DP	$967,326,128	P-193	$25,252,035	$992,578,163	100.0000%	$0	$992,578,163
194	365.000	Overhead Conductors & Devices - DP	$1,108,210,398	P-194	$30,096,581	$1,138,306,979	100.0000%	$0	$1,138,306,979
195	366.000	Underground Conduit - DP	$332,083,123	P-195	$37,140,518	$369,223,641	100.0000%	$0	$369,223,641
196	367.000	Underground Conductors & Devices - DP	$651,948,124	P-196	$26,929,811	$678,877,935	100.0000%	$0	$678,877,935
197	368.000	Line Transformers - DP	$444,262,679	P-197	$7,320,731	$451,583,410	100.0000%	$0	$451,583,410
198	369.100	Services - Overhead - DP	$179,541,797	P-198	$2,770,636	$182,312,433	100.0000%	$0	$182,312,433
199	369.200	Services - Underground - DP	$151,578,663	P-199	$3,436,074	$155,014,737	100.0000%	$0	$155,014,737
200	370.000	Meters - DP	$103,142,454	P-200	-$946,880	$102,195,574	100.0000%	$0	$102,195,574
201	371.000	Meter Installations - DP	$164,613	P-201	$0	$164,613	100.0000%	$0	$164,613
202	373.000	Street Lighting and Signal Systems - DP	$118,604,867	P-202	$4,998,833	$123,603,700	100.0000%	$0	$123,603,700
203		TOTAL DISTRIBUTION PLANT	$4,948,503,123		$177,083,257	$5,125,586,380		$0	$5,125,586,380

[22] Accounting Schedule 03, line 188, page 4.
[23] Accounting Schedule 03, line 203, page 5.
[24] Accounting Schedule 06, line 188, page 4.
[25] Accounting Schedule 06, line 203, page 4.
[26] Accounting Schedule 02, line 21, page 1.
[27] Accounting Schedule 09, line 102, page 3.
[28] Accounting Schedule 09, line 127, page 4.
[29] Accounting Schedule 01, line 13, page 1.
[30] Accounting Schedule 03, lines 178 – 203, pages 4-5.

In Staff's Class Cost of Service and Rate Design Report, filed December 19, 2014, in Docket No. ER-2014-0258, Staff found that based on the Staff's direct-filed gross revenue requirement, Ameren Missouri's cost of service was comprised of the following costs by function:[31]

Functionalized Costs			
Production Capacity-Related	$	774,860,684	24%
Production Energy-Related	$	1,066,745,319	34%
Production O&M	$	431,667,345	14%
Transmission	$	154,762,142	5%
Distribution	$	552,660,768	17%
Customer	$	136,140,601	4%
Pre-MEEIA Energy Efficiency	$	16,526,671	1%
Renewable Energy Standard	$	32,379,336	1%
Total	$	3,165,742,865	100%

As provided in *Staff's Report and Order Based Accounting Schedules* filed September 3, 2015, in Docket No. ER-2014-0370, KCP&L's most recently completed general rate case, the jurisdictional rate base value of Total Transmission Plant was $242,627,767.[32] The jurisdictional rate base value of Total Distribution Plant was $1,182,678,404.[33] The jurisdictional accumulated depreciation reserve for Total Transmission plant was $184,243,476, [34] with Depreciation Expense of $5,030,551.[35] The jurisdictional accumulated depreciation reserve for Total Distribution plant was $711,261,586,[36] with Depreciation Expense of $31,113,243.[37] The total value indicated for Customer Advances for Construction was $1,667,781.[38] The difference between the plant values net of applicable customer advances and the accumulated depreciation reserve is subject to return on investment, and return of investment (in the form of depreciation expense). The income statement detail indicates that Total Transmission Expense was $43,126,221 (operation and maintenance),[39] and Total Distribution Expense was $28,816,658 (operation and maintenance).[40] The Gross Revenue Requirement detailed in *Staff's Reconciled Final Accounting Schedules and Final Reconciled Net Base Energy Charge Calculation* filed September 3, 2015, was $89,671,644.[41] All values are based on the12 Months Ending March 31, 2014, updated through December 31, 2014, with True-Up through May 31, 2015.

[31] Class Cost of Service and Rate Design Report, Table 3, page 12.
[32] Accounting Schedule 03, line 249, page 6.
[33] Accounting Schedule 03, line 268, page 7.
[34] Accounting Schedule 06, line 249, page 6.
[35] Accounting Schedule 05, line 249, page 7.
[36] Accounting Schedule 06, line 268, page 7.
[37] Accounting Schedule 05, line 268, page 7.
[38] Accounting Schedule 02, line 36, page 1.
[39] Accounting Schedule 09, line 137, page 4.
[40] Accounting Schedule 09, line 162, page 5.
[41] Accounting Schedule 01, line 13, page 1.

The line item values for Transmission Plant and Distribution Plant are provided below: [42]

Line Number	A Account # (Optional)	B Plant Account Description	C Total Plant	D Adjust. Number	E Adjustments	F As Adjusted Plant	G Jurisdictional Allocations	H Jurisdictional Adjustments	I MO Adjusted Jurisdictional
228		TRANSMISSION PLANT							
229	350.000	Land-Transmission Plant	$1,584,661	P-229	$0	$1,584,661	53.1700%	$0	$842,564
230	350.010	Land Rights-Transmission Plant	$24,976,271	P-230	$0	$24,976,271	53.1700%	$0	$13,279,883
231	350.020	Land Rights-Transmission Plant-Wolf Creek	$355	P-231	$0	$355	53.1700%	$0	$189
232	352.000	Structures & Improvements-Transmission Plant	$5,696,526	P-232	$0	$5,696,526	53.1700%	$0	$3,028,843
233	352.010	Structures & Improvements-Transmission Plant-Wolf Creek	$250,476	P-233	$0	$250,476	53.1700%	$0	$133,178
234	352.020	Structures & Improvements-WlfCrk-MO Gr Up	$15,694	P-234	$0	$15,694	100.0000%	$0	$15,694
235	353.000	Station Equipment -Transmission Plant	$159,940,307	P-235	$0	$159,940,307	53.1700%	$0	$85,040,261
236	353.010	Station Equip-Wolf Creek-Transmission Plant	$11,988,635	P-236	$0	$11,988,635	53.1700%	$0	$6,374,357
237	353.020	Stat Equip-WlfCrk Mo Gr Up	$532,475	P-237	$0	$532,475	100.0000%	$0	$532,475
238	353.030	Station Equip-Communications	$8,044,770	P-238	$0	$8,044,770	53.1700%	$0	$4,277,404
239	354.000	Towers and Fixtures-Transmission Plant	$4,287,911	P-239	$0	$4,287,911	53.1700%	$0	$2,279,882
240	355.000	Poles and Fixtures-Transmission Plant	$124,613,380	P-240	$0	$124,613,380	53.1700%	$0	$66,256,934
241	355.010	Poles & Fixtures-Wolf Creek	$58,255	P-241	$0	$58,255	53.1700%	$0	$30,974
242	355.020	Poles & Fixtures-WlfCrk Mo Gr Up	$3,506	P-242	$0	$3,506	100.0000%	$0	$3,506
243	356.000	Overhead Conductors & Devices-Transmission Plant	$107,032,251	P-243	$0	$107,032,251	53.1700%	$0	$56,909,048
244	356.010	Ovrhd Cond & Dev-Wolf Creek	$39,418	P-244	$0	$39,418	53.1700%	$0	$20,959
245	356.020	Ovrhd Cond-Dev-Wlf Crk-Mo Gr Up	$2,552	P-245	$0	$2,552	100.0000%	$0	$2,552
246	357.000	Underground Conduit	$3,648,880	P-246	$0	$3,648,880	53.1700%	$0	$1,940,109
247	358.000	Underground Conductorts & Devices	$3,120,096	P-247	$0	$3,120,096	53.1700%	$0	$1,658,955
248		Transmission-Salvage & Removal: Retirements not classified	$0	P-248	$0	$0	53.1700%	$0	$0
249		TOTAL TRANSMISSION PLANT	$455,836,419		$0	$455,836,419		$0	$242,627,767
250		DISTRIBUTION PLANT							
251	360.000	Land-Distrubution Plant	$9,297,117	P-251	$0	$9,297,117	50.5496%	$0	$4,699,655
252	360.010	Land Rights-Distribution Plant	$16,589,694	P-252	$0	$16,589,694	58.3311%	$0	$9,676,951
253	361.000	Structures & Improvements - Distribution Plant	$12,613,830	P-253	$0	$12,613,830	49.3758%	$0	$6,228,179
254	362.000	Station Equipment-Distribution Plant	$209,930,329	P-254	$0	$209,930,329	59.8102%	$0	$125,559,750
255	362.030	Station Equip-Communications	$4,111,289	P-255	$0	$4,111,289	54.9206%	$0	$2,257,945
256	363.000	Energy Storage Equipment	$2,502,752	P-256	$0	$2,502,752	100.0000%	$0	$2,502,752
257	364.000	Poles, Towers, & Fixtures-Distribution Plant	$327,889,820	P-257	$0	$327,889,820	56.0101%	$0	$183,651,416
258	365.000	Overhead Conductors & Devices-Distribution Plant	$239,198,228	P-258	$0	$239,198,228	55.3505%	$0	$132,397,415
259	366.000	Underground Conduit-Distribution Plant	$268,934,627	P-259	$0	$268,934,627	57.8273%	$0	$155,517,634
260	367.000	Underground Conductors & Devices-Distribution Plant	$476,617,034	P-260	$0	$476,617,034	52.5725%	$0	$250,569,490
261	368.000	Line Transformers-Distribution Plant	$282,628,865	P-261	$0	$282,628,865	57.3757%	$0	$162,160,290
262	369.000	Services-Distribution Plant	$127,350,415	P-262	$0	$127,350,415	51.3673%	$0	$65,416,470
263	370.000	Meters-Distribution Plant	$81,641,109	P-263	-$32,831,251	$48,809,858	57.1104%	$0	$27,875,505
264	370.002	AMI Meters Electric	$54,109,357	P-264	$0	$54,109,357	53.9610%	$0	$29,197,950
265	371.000	Cust Prem Install	$16,629,232	P-265	$0	$16,629,232	82.4248%	-$732,559	$12,974,052
266	373.000	Street Lighting and Signal Systems-Distribution Plant	$34,854,716	P-266	$0	$34,854,716	34.4084%	$0	$11,992,950
267		Distribution-Salvage and Removal: Retirements not classified	$0	P-267	$0	$0	55.7963%	$0	$0
268		TOTAL DISTRIBUTION PLANT	$2,164,898,414		-$32,831,251	$2,132,067,163		-$732,559	$1,182,678,404

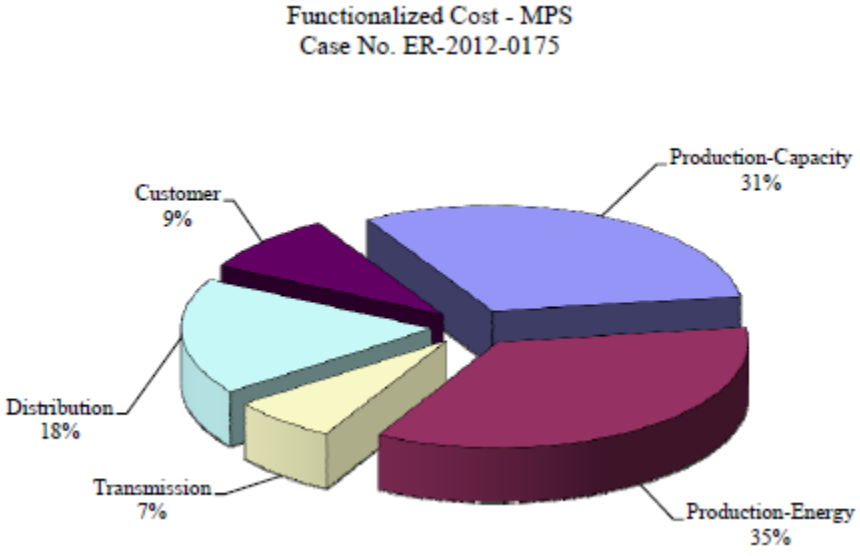
In Staff's Class Cost of Service and Rate Design Report, filed April 16, 2015, in Docket No. ER-2014-0370, Staff found that based on the Staff's direct-filed gross revenue requirement, KCP&L's cost of service was comprised of the following costs by function and class:[43]

[42] Accounting Schedule 03, lines 228 - 268, pages 6-7.
[43] Class Cost of Service and Rate Design Report, Tables 4 and 5, pages 13 - 14.

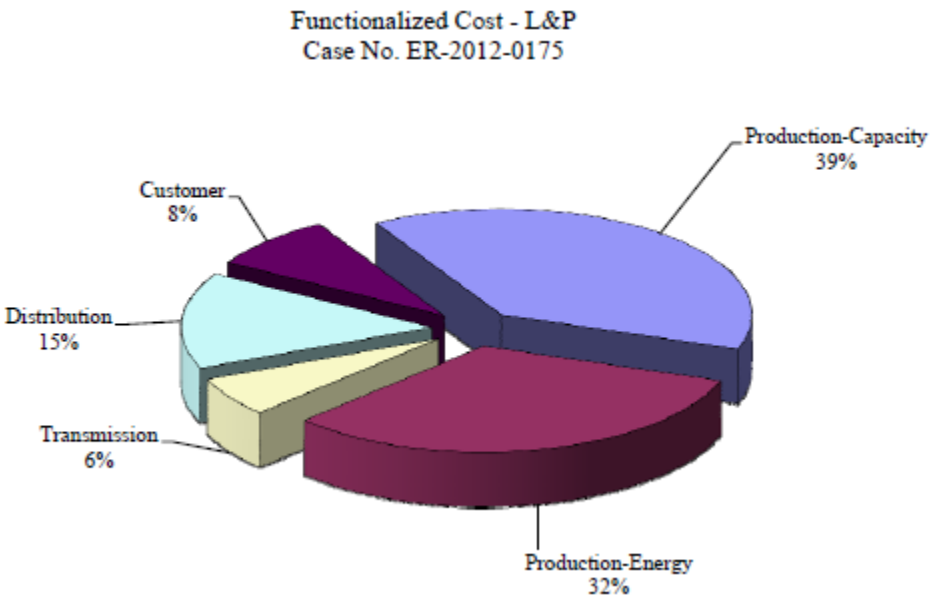
Functionalized Costs by Class (Dollars)				
	Residential	General Service Group	LPS	Lighting
Production Capacity	$83,235,507	$103,497,356	$48,681,674	$1,188,029
Production Energy	$75,592,524	$113,526,580	$58,337,132	$2,906,120
Production O&M	$49,684,134	$74,195,603	$35,653,031	$2,645,615
Transmission	$23,194,597	$26,427,255	$11,180,151	$347,514
Distribution	$66,425,670	$57,758,088	$15,408,914	$1,248,480
Customer & Uncollectables	$35,043,973	$4,410,195	$8,414	$401,660
Lighting	$0	$0	$0	$2,809,918

Functionalized Costs by Class (Percent)				
	Residential	General Service Group	LPS	Lighting
Production Capacity	25%	27%	29%	10%
Production Energy	23%	30%	34%	25%
Production O&M	15%	20%	21%	23%
Transmission	7%	7%	7%	3%
Distribution	20%	15%	9%	11%
Customer & Uncollectables	11%	1%	0%	3%
Lighting	0%	0%	0%	24%

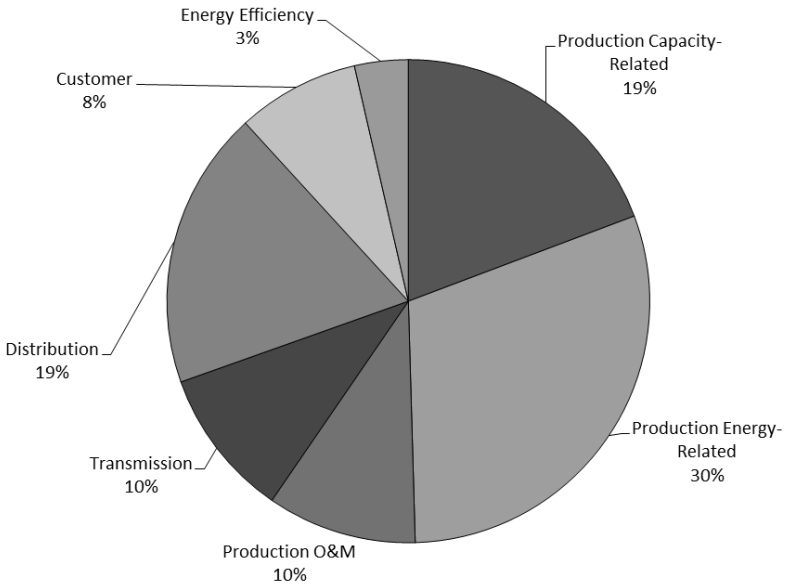
Staff did not file detailed compliance accounting schedules in Docket No. ER-2012-0175, which was KCP&L-GMO's most recent general rate request case. In Staff's Class Cost of Service and Rate Design Report, filed August 21, 2012, in that docket, Staff found that based on the Staff's direct-filed gross revenue requirement, KCP&L-GMO's cost of service was comprised of the following costs by rate district and by function:[44]



[44] Class Cost of Service and Rate Design Report, Charts 1 and 2, page 10.



Because Empire's revenue requirement in its last general electric rate request, Docket No. ER-2015-0351 was resolved by Stipulation and Agreement, Staff did not prepare and file accounting schedules in accordance with the Report and Order. In Staff's Class Cost of Service and Rate Design Report, filed February 11, 2015, in that docket, Staff found that based on the Staff's direct-filed gross revenue requirement, Empire's cost of service was comprised of the following costs by function:[45]



[45] Class Cost of Service and Rate Design Report, page 13.

Rate Design of Extension Policies

Extension policies provide a basis for allocating and/or assigning the Company's total jurisdictional cost of providing electric service to the various customer classes in a manner which bests reflects cost causation. The extension revenue process should be just and reasonable as a business practice, economically feasible and compensatory and reasonably calculated to benefit both the utility and its customers.

Ameren Missouri provides meter, service drop, transformation capacity and up to 1000 feet of additional distribution facilities, with no more than 500 feet on private property, at no cost to residential customers.

Ameren Missouri extends its electric lines to Commercial and Industrial customers under the terms of its Rules and Regulations Line Extension Rules, whereby Extensions with estimated total costs less than the estimated annual revenue to be derived from the customer are provided at no cost to the customer. For jobs (extensions) with a significant cost, Ameren Missouri ensures that the revenue test is enforced through a Line Extension Agreement which sets up a minimum billing amount for the first twelve (12) months of operation (after a month lag). Where the customer's revenue exceeds the monthly minimum billing amount established by the Line Extension Agreement, the customer makes no contribution toward the cost of the line extension.

Ameren Missouri's new business expenditures are detailed below:

- 2007 $45,076,528
- 2008 $37,740,090
- 2009 $24,007,981
- 2010 $17,933,810
- 2011 $19,133,526
- 2012 $21,190,939
- 2013 $20,747,023
- 2014 $16,300,283
- 2015 $27,311,360

KCP&L's tariffed single family residential basic extension provides that KCP&L will make free extensions of its distribution lines as and when necessary to serve any and all prospective customers applying for electric service, located within one-quarter (1/4) mile of existing distribution lines in its certificated area. Extensions may involve application of the one-quarter (1/4) mile provision to a customer's property line, onto a customer's property, or a combination providing extension to the customer's property line and onto a customer's property. The Company will build the first one-eight (1/8) mile and the last one-eighth (1/8) mile of single-phase line per residential customer under its established rates and minimum charges. In the event the line extension exceeds one-quarter (1/4) mile per residential customer, there shall be a

monthly Customer Charge or an increase in the existing monthly Customer Charge. The amount of the Customer Charge or increase to an existing monthly Customer Charge may be paid in equal installments over sixty consecutive bills.

GMO's tariffed single family residential standard minimum extension provides for the first 100 feet of primary or secondary overhead conductor, one 35' wood utility pole with guy and anchor, a 10-kva transformer including applicable mounting and protection hardware, and the first 100 feet of overhead service conductor and 200-amp meter.

KCP&L and GMO's spending on new construction and its billing of Customer advances since 2009 are provided on the following page.

Spending and CIACs for New Business Jobs for Data Requests 0029-0052

			2009				2010				2011				2012			
Jurisdiction	Funding Project	Type	# Jobs	$ Spending	# CIACs	$ CIAC	# Jobs	$ Spending	# CIACs	$ CIAC	# Jobs	$ Spending	# CIACs	$ CIAC	# Jobs	$ Spending	# CIACs	$ CIAC
KCPL	ME01	Residential	164	1,273,988	34	-35,595	128	755,143	5	-16,388	117	783,406	9	-80,426	140	802,181	2	-5,534
	ME02	C/I	363	4,096,160	125	-1,875,136	295	3,035,926	104	-717,626	265	3,863,664	109	-1,828,522	304	3,547,910	116	-2,192,872
	ME03	Subdivision	24	345,481	0	0	19	489,864	1	-140	16	391,868	2	-7,364	19	366,071	1	-18,800
Subtotal			551	5,715,629	159	-1,910,731	442	4,280,933	110	-734,154	398	5,038,938	120	-1,916,312	463	4,716,162	119	-2,217,206
MPS	VME0001	Residential	336	1,895,544	38	-168,723	176	921,484	26	-115,201	178	748,454	33	-145,392	198	888,640	31	-117,321
	VME0002	C/I	426	3,255,642	72	-658,322	287	3,332,855	65	-656,734	274	3,206,639	76	-1,060,423	293	2,475,931	64	-537,109
	VME0003	Subdivision	14	302,426	1	-320	17	256,527	1	-668	20	826,347	4	-67,640	25	703,189	3	25,570
Subtotal			776	5,453,612	111	-827,365	480	4,510,866	92	-772,603	472	4,781,440	113	-1,273,455	516	4,067,760	98	-628,860
SJLP	WME0001	Residential	210	766,241	12	-83,790	187	636,505	16	-47,915	218	811,794	19	-69,630	158	716,064	16	-37,244
	WME0001	C/I	149	1,433,581	5	-35,314	92	944,808	5	-44,891	79	528,728	8	-53,379	98	1,206,771	10	-95,307
	WME0001	Subdivision	3	2,589	0	0	2	48,345	1	-2,520	4	62,492	3	-9,289	2	40,275	0	0
Subtotal			362	2,202,411	17	-119,104	281	1,629,658	22	-95,326	301	1,403,014	30	-132,298	258	1,963,110	26	-132,551
Grand Total			1,689	13,371,652	287	-2,857,200	1,203	10,421,457	224	-1,602,083	1,171	11,223,392	263	-3,322,065	1,237	10,747,032	243	-2,978,617

			2013				2014				Oct 2015 YTD				Grand Total			
Jurisdiction	Funding Project	Type	# Jobs	$ Spending	# CIACs	$ CIAC	# Jobs	$ Spending	# CIACs	$ CIAC	# Jobs	$ Spending	# CIACs	$ CIAC	# Jobs	$ Spending	# CIACs	$ CIAC
KCPL	ME01	Residential	101	489,977	3	-11,089	133	727,837	11	-76,618	140	577,494	7	-9,594	923	5,410,026	71	-235,244
	ME02	C/I	338	2,593,366	106	-626,812	307	2,938,276	82	-583,507	302	3,634,399	68	-566,295	2,174	23,709,701	710	-8,390,770
	ME03	Subdivision	26	551,110	1	-2,439	31	368,085	2	-8,024	34	702,728	2	-1,447	169	3,215,207	9	-38,214
Subtotal			465	3,634,453	110	-640,340	471	4,034,198	95	-668,149	476	4,914,621	77	-577,336	3,266	32,334,934	790	-8,664,228
MPS	VME0001	Residential	178	560,748	30	-129,544	195	1,161,127	45	-215,326	178	1,257,891	28	-111,534	1,439	7,433,888	231	-1,003,041
	VME0002	C/I	278	2,206,125	53	-1,103,533	269	2,701,455	81	-661,399	235	2,495,606	33	-471,935	2,062	19,674,253	444	-5,149,455
	VME0003	Subdivision	37	269,178	2	-26,820	43	941,431	8	-113,169	44	851,734	10	-45,348	200	4,150,832	29	-228,395
Subtotal			493	3,036,051	85	-1,259,897	507	4,804,013	134	-989,894	457	4,605,231	71	-628,817	3,701	31,258,973	704	-6,380,891
SJLP	WME0001	Residential	121	477,563	9	-23,362	106	418,919	16	-41,026	68	247,726	8	-19,245	1,068	4,074,812	96	-322,212
	WME0001	C/I	63	608,765	8	-70,430	60	454,793	8	-81,919	61	729,043	15	-109,679	602	5,906,489	59	-490,919
	WME0001	Subdivision	0	0	0	0	1	4,981	0	0	0	0	0	0	12	158,682	4	-11,809
Subtotal			184	1,086,328	17	-93,792	167	878,693	24	-122,945	129	976,769	23	-128,924	1,682	10,139,983	159	-824,940
Grand Total			1,142	7,756,832	212	-1,994,029	1,145	9,716,904	253	-1,780,988	1,062	10,496,621	171	-1,335,077	8,649	73,733,890	1,653	-15,870,059

Empire has a residential extension policy where the utility installs up to 1,000 feet overhead (OH) extension footage, 300 feet of that which could be off of a county road at no cost. This includes service line and transformers. Excess footage is charged per cost estimate with a potential to developer/customer for refund for up to five years. Residential underground costs are underground cost minus overhead costs for the extension footage allowed at no cost, then full price following that average cost. The average underground cost is $23 per foot.

Empire has a subdivision extension policy where the developer/customer pays the entire cost of installing electrical facilities underground into the subdivision including transformers and services. A refund is issued for each permanent residential meter installed per lot for up to five years.

Empire has a commercial and industrial extension policy where a three-year gross revenue test is applied toward the cost estimate of the electrical extension whether overhead or underground. If the extension costs are in excess of the three-year revenue test then the customer pays the difference. Empire's spending on new construction and its billing of Customer advances since 2008 are provided on the following page.

DR REQUEST SUMMARY 2008-2009

DR 17	
# RES NO COST	528
DIRECT $	$ 1,026,518.70
INDIRECT $	$ 404,275.30

DR 18	
# SDV NO COST	0
DIRECT $	$ -
INDIRECT $	$ -

DR 19	
# COM NO COST	388
DIRECT $	$ 3,131,849.85
INDIRECT $	$ 1,342,470.15

DR 20	
# RES NON REFUNDABLE	11
DIRECT $	$ 47,367.30
INDIRECT $	$ 19,886.70

DR 21	
# SDV NON REFUNDABLE	0
DIRECT $	$ -
INDIRECT $	$ -

DR 22	
# COM NON REFUNDABLE	53
DIRECT $	$ 489,926.95
INDIRECT $	$ 201,431.05

DR 23	
# RES REFUNDABLE NOT REFUNDED	31
NOT REFUNDED	$ 297,154.54

DR 24	
# SDV REFUNDABLE NOT REFUNDED	12
NOT REFUNDED	$ 530,214.91

DR 25	
# COM REFUNDABLE NOT REFUNDED	25
NOT REFUNDED	$ 159,458.00

DR 26	
# RES REFUNDABLE	32
DIRECT $	$ 79,830.83
INDIRECT $	$ 145,528.40

DR 27	
# SDV REFUNDABLE	18
DIRECT $	$ 445,361.40
INDIRECT $	$ 212,061.06

DR 28	
# COM REFUNDABLE	27
DIRECT $	$ 138,087.48
INDIRECT $	$ 98,243.39

DR REQUEST SUMMARY 2010-2015

DR 17	
# RES NO COST	1386
DIRECT $	$ 3,069,249.30
INDIRECT $	$ 1,618,962.45

DR 18	
# SDV NO COST	0
DIRECT $	$ -
INDIRECT $	$ -

DR 19	
# COM NO COST	873
DIRECT $	$ 6,405,148.39
INDIRECT $	$ 2,395,240.90

DR 20	
# RES NON REFUNDABLE	59
DIRECT $	$ 313,606.23
INDIRECT $	$ 122,190.35

DR 21	
# SDV NON REFUNDABLE	0
DIRECT $	$ -
INDIRECT $	$ -

DR 22	
# COM NON REFUNDABLE	196
DIRECT $	$ 1,935,751.37
INDIRECT $	$ 691,604.82

DR 23	
# RES REFUNDEABLE NOT REFUNDED	86
NOT REFUNDED	$ 554,656.92

DR 24	
# SDV REFUNDABLE NOT REFUNDED	35
NOT REFUNDED	$ 1,481,257.34

DR 25	
# COM REFUNDABLE NOT REFUNDED	28
NOT REFUNDED	$ 348,849.96

DR 26	
# RES REFUNDABLE	89
DIRECT $	$ 515,128.64
INDIRECT $	$ 316,786.91

DR 27	
# SDV REFUNDABLE	38
DIRECT $	$ 1,072,286.26
INDIRECT $	$ 408,145.40

DR 28	
# COM REFUNDABLE	27
DIRECT $	$ 290,189.42
INDIRECT $	$ 148,601.64

VI. Whether there are public policy considerations the Commission should consider in weighing the value of any such mechanisms or provisions.

The electric tariff has the objective of satisfying the interests of three principal stakeholder groups: customers, the utility, and jurisdictional regulators. Historically, customers have been served exclusively (franchise area) by a local utility which typically operates in a specified area. In Missouri, no other utilities have been allowed to compete for customers within these restricted service territories. The utility has an obligation to serve. The MoPSC is charged with the responsibility to balance the interests of both the customers and the utility. Under the obligation to serve criteria, the utility accepts the risk of serving customers by balancing the upfront costs that may be required and the total cost to serve the customer. To meet these challenges, utilities have developed strategies, including flexible pricing methods, to support their existing customers and to attract new customers. Many utilities have established formal economic development programs along with local officials to promote growth and create jobs. The MoPSC, to ensure that any pricing approach that meets the needs of a single customer or restricted customer segment would not create a condition of undue discrimination between customers.[46]

Currently in Missouri, there are no class distinctions for urban/rural rates. Extension policies by electric utilities cover some rate variation due to additional length of extension. In the 1970s, there were urban/rural rate distinctions for residential, residential uncontrolled water heating and space heating rates, apartment buildings and churches and schools. The urban/rural distinctions were eliminated in the 1980s.

Missouri utilities have established formal economic development programs in concert with local officials to promote local advantages. The regulatory bodies have to ensure that each such program(s) meet the needs of a single customer and would not create a condition of undue discrimination between customers. Customers should benefit from the special rate schedule or contracts through long-term lower costs.

Economic Development Public Policy Considerations:

Economic Development Riders ("EDR") promote retention of existing and/or new commercial and industrial customers. These riders, if designed correctly, are good for everyone. After a rate case sets rates on existing revenues, any additional revenue helps other customers so long as all variable costs are recovered and any additional costs are recovered. Customers still pay their fair share of riders/trackers, unless statute/rule allow opt-out or policy decision. EDR/promotion discounts result in shareholders funding such discounts until a future rate case. Any discount from a utility standard rate or from application of its existing terms and conditions for eligible

[46] See "Electricity Pricing, Engineering Principles and Methodologies," Lawrence J. Vogt, P.E., CRC Press, Boca Raton, Fl., 2009, at page 7.

customers under economic development tariffs will first be borne by shareholders until such time as the next electric rate case when such discounts may be reflected in the proposed revenue requirement and in the proposed rates for customers. This provides an incentive that will guide the utility to be prudent with the offering of any such discount and shall not be excessive or unduly discriminatory. The utility receives an amount above its short-run marginal costs on sales of electricity to new or expanding customers. Customers make large investments and are expected to continue to provide benefits to the system beyond the discount period. The communities see benefits by retaining or increasing jobs and tax base.

Staff promotes/supports economic development as it relates to utility infrastructure to the extent that a utility receives an amount above its marginal costs on sales of electricity to new or expanding customers, providing a contribution to cover fixed costs. A customer making an investment or relocating its operations is expected to provide system benefits and profits well beyond the life of any temporary incentive or promotion rate program. In 1991, Ameren Missouri had an economic development tariff called Economic Development Rider ("EDR") that provided rate benefits to customers over a five-year period. This EDR Rider expired in March 2006.

Currently, each of the integrated electric utilities in the state has an economic development rider program/programs. Each utility's economic development programs are listed below:

- Ameren Missouri has two active programs. The first program is an Economic Development and Retention Rider ("Rider EDRR"). The second program is an Economic Re-Development Rider ("Rider ERR").
- Kansas City Power & Light Company has three active programs with one of the programs frozen. The first program is titled an Economic Development Rider ("Schedule EDR Frozen"), the second program is titled an Economic Development Rider ("Schedule EDR"), and the third program is titled an Urban Core Development Rider ("Schedule UCD").
- KCP&L Greater Missouri Operations Company has two active programs with one of the programs frozen. The first program is titled an Economic Development Rider Electric Frozen and the second program is titled an Economic Development Rider Electric.
- The Empire District Electric Company ("Empire") has one program titled Economic Development Rider Schedule EDR.

Ameren Missouri

Currently, Ameren Missouri has two economic development riders (EDRR and ERR). The Applicability section of the EDRR outlines that "The Company, at its sole discretion, shall determine whether an applicant or customer meets the requirements of this Rider and the acceptability of the information provided"[47]. Furthermore, the tariff sheet outlines that "As a

[47] Union Electric Company, MO. P.S.C. Schedule NO. 6, Sheet No. 86

condition for service under this Rider, customer must furnish to Company such documentation as deemed necessary by Company to verify customer's intent to select a viable electric supply option outside of Company's service area, including an affidavit stating customer's intent."

The Availability section of the ERR outlines that service is "Available, only at Company's option, to customers locating to previously vacant sites within the City of St. Louis and applying for electric service otherwise qualified for service under the Company's Service Classification 3(M) Large General Service rate, 4(M) Small Primary Service Rate, or 11(M) Large Primary Service Rate."[48]

Ameren Missouri's Rider EDR outlined certain criteria as defined below:

- Rider EDR provided for a 15% discount served under Ameren Missouri's service classification 3(M) Large General Service rate, 4(M) Small Primary Service rate, and 11(M) Large Primary Service rate.
- Rider was only available to customers in conjunctions with local, regional or state governmental activities where incentives had been offered.
- Limited to commercial and industrial facilities not involved in selling or providing goods and services.
- Customer needed at least 200 kW of billing demand.
- Customer needed to maintain a 55% or higher load factor.

In July 2006, Ameren Missouri proposed two new tariffs relating to economic development. The two new tariffs outlined an Economic Development and Retention Rider ("EDRR") and an Economic Redevelopment Rider ("ERR"). The EDRR offered a discounted rate to new or expanding industrial customers who can show they have an option to move out of Ameren Missouri's service territory to an area with lower rates. The ERR tariff provisions encouraged redevelopment in defined areas within the City of St. Louis. Rider ERR's purpose is to encourage redevelopment in defined areas inside the City of St. Louis. The ERR targets areas that have lost industries but already contain extensive but underutilized electric infrastructure and is capable of serving additional load. The Commission approved the EDRR and ERR tariff provisions in Case No. ER-2007-0002 effective June 1, 2007. The EDRR and ERR tariff provisions are outlined in Ameren Missouri's electric service tariff Sheet Nos. 86 through 87.5.

Ameren Missouri's EDRR outlines certain criteria as defined below:

- Qualifications for load factor (55% or higher), demand (500 kW minimum size load) and industrial use.
- Requires incentives from local, regional, or state government to qualify.

[48] Union Electric Company, MO. P.S.C. Schedule NO. 6, Sheet No. 87

- Revenues under discount must be "greater than the applicable incremental cost to provide electric service, as determined by the Company ensuring a positive contribution to fixed costs."
- Discount shall not be greater than 15% from applicable Large General Service 3(M), Small Primary Service 4(M), or Large Primary Service 11(M) rate classification. Rate classification Large Transmission Service 12(M) is not eligible.
- Term of discount must be 5 or fewer years.
- If customer fails to fulfill entire term of contract, all prior discounts must be repaid.

Since inception of Ameren Missouri's EDRR effective June 1, 2007, only one customer has signed up for the EDRR Rider. Ameren Missouri filed the signed contract on September 16, 2014 in EFIS as a non-case related submission. It is noteworthy that the customer has not elected to start receiving its contractual EDRR discount according to data request response.

Ameren Missouri's ERR outlines certain criteria as defined below:

- Must be used in conjunction with Tax Increment Financing ("TIF"), Enterprise Zone, Brownfield Tax Credits, etc.
- Rider ERR's are limited to those areas where sufficient distribution capacity exists without the need for significant additional investment from Ameren Missouri.
- Defined maps of areas eligible in St. Louis are part of tariff.
- Limited to loads that Ameren Missouri considers to "utilize existing infrastructure in a manner which is beneficial to the local electric delivery system."
- Discount on facilities relocation fees.
- Additional discounts very similar in all respects to EDRR Rider.

Since inception of Ameren Missouri's ERR effective June 1, 2007, no customer has participated in the ERR Rider.

Kansas City Power and Light Company and KCP&L Greater Missouri Operations

The Applicability sections of Kansas City Power & Light Company Schedule EDR Frozen and the Schedule EDR outlines that "All requests for service under this Rider will be considered by the Company. Sufficiently detailed information shall be provided, by the customer, to enable the Company to determine whether a facility is qualified for the Rider."[49] Schedule UCD outlines that "The Company will review and must approve, on an individual project basis, the development plans of the construction, rehabilitation, or expansion of Customer's facilities to determine the qualification of Customer's projects under the provisions of this Rider."[50]

[49] Kansas City Power & Light Company, P.S.C. MO. No. 7, Sheet Nos. 32A and 32F
[50] Kansas City Power & Light Company, P.S.C. MO. No. 7, Sheet No. 41A

In July 1996, Kansas City Power & Light Company ("KCP&L") implemented an experimental Urban Core Development Rider ("UCD"). The purpose of the UCD Rider is to encourage industrial and commercial businesses to develop within that portion of the Company's service territory which is bounded by the Missouri River on the North, interstate 435 of the south and east, and State Line Road on the west. This area is known as the "Urban Core Development Area". In November 1998, KCP&L removed the experimental status of the Rider making UCD a permanent and continual Rider. The facilities must have at least 30% of their capacity available in order for proposed projects to be considered for this Rider. KCP&L will review and must approve, on an individual project basis, the development plans of the construction, rehabilitation, or expansion of customer facilities to determine the qualification of customer's projects. Service under this Rider shall be evidenced by a contract, with annual peak demand and load factor being 240 kW and 50%, respectively.

The Applicability Sections of both of GMO's economic development programs outlines that "Sufficiently detailed information shall be provided by the Customer to enable the Company to determine whether a facility is qualified for the Rider. Service under this Rider shall be evidenced by a contract between the Customer and the Company, a copy of which shall be submitted to the Commission Staff and Office of Public Counsel."[51]

Empire District Electric Company

The Applicability section of Empire's economic development program outlines that "All requests for service under this rider will be considered by the Company. Sufficient detailed information shall be provided, by the Customer, to enable the Company to determine whether a facility is qualified for the Rider."[52]

VII. Summary of Stakeholder Comments

Ameren Missouri supports and opposes certain aspects discussed through the workshop. Specifically:

1. Ameren Missouri supports the efficient use of all energy infrastructure used to provide service to customers with a policy objective to utilize utility infrastructure in a more cost-effective manner. Ameren Missouri is in favor of exploring new ideas and strategies pertaining to the replacement of aging infrastructure. [53]
2. Ameren Missouri does not recommend the specific straw-man proposal identified by Chairman Hall at the workshop. [54]

[51] KCP&L Greater Missouri Operations Company, P.S.C. MO. No. 1, Sheet Nos. 120 and 123.2
[52] The Empire District Electric Company, P.S.C. Mo. No. 5, Sheet No. 22
[53] Ameren Missouri *Response To Request For Party Submissions*, EFIS # 26, pages 1 and 2.
[54] Ameren Missouri *Response To Request For Party Submissions*, EFIS # 26, pages 1 and 2.

3. Ameren Missouri believes that there may be merit in exploring targeted reforms such as waivers of line extensions policies (or relaxation) as a tool to incentivize load growth and system utilization in areas where such use may not otherwise occur.[55]
4. Ameren Missouri believes that there may be merit in further study of reforms to economic development riders to incorporate line extension policies, as well as modifications to line extension policies in areas where cooperatives compete for customers.[56]
5. Ameren Missouri believes that the concept of underutilized infrastructure may play a role in the Company's efforts to assist communities in siting new development but should not be used in a manner that inhibits growth in areas with constrained capacity to serve customers. [57]
6. Ameren Missouri notes that in areas served by the 4kV system (which are found in the older urban areas in St. Louis), where distribution circuit upgrades are somewhat more expensive to accommodate development, are also areas where growth should be encouraged for policy reasons, both public utility related and in general.[58]
7. Ameren Missouri does not believe it is advisable to alter extension policies based on differences in geographic zones determined by distribution capacity.[59]
8. Ameren Missouri suggests that relevant to the maximization and efficient use of infrastructure, is the potential benefits of greater use of electric vehicles, which are generally charged overnight.[60]

KCP&L/GMO believe that the current line extension tariffs and associated processes are appropriate and do not need to be changed at this time.[61] KCP&L/GMO believe the provisions included in the EDR and UCD tariffs, directly incent customer choice concerning infrastructure and leaves the line processes true to their intended purposes.[62]

The Missouri Industrial Energy Consumers (MIEC) supports the concept of lowering electric rates by better utilizing utility infrastructure in locations with surplus infrastructure capacity. MIEC notes, however, that "the devil is in the details."[63] MIEC further noted that "the tariffs must be modified in a way to better attract the type of customers needed in areas where infrastructure is underused but, at the same time, still benefit ratepayers." [64]

[55] Ameren Missouri *Response To Request For Party Submissions*, EFIS # 26, pages 1 and 2.
[56] Ameren Missouri *Response To Request For Party Submissions*, EFIS # 26, pages 1 and 2.
[57] Ameren Missouri *Response To Staff's Request For Party Submissions*, EFIS # 30, pages 1 and 2.
[58] Ameren Missouri *Response To Staff's Request For Party Submissions*, EFIS # 30, pages 1 and 2.
[59] Ameren Missouri *Response To Staff's Request For Party Submissions*, EFIS # 30, page 4.
[60] Ameren Missouri *Response To Staff's Request For Party Submissions*, EFIS # 30, page 5.
[61] *Response of KCP&L and GMO To Staff Questions*, EFIS #24, page 2.
[62] *Response of KCP&L and GMO to Staff Questions*, EFIS #24, page 3.
[63] *MIEC Comments*, EFIS #25, page 1.
[64] *MIEC Comments*, EFIS #25, page 2.

The Missouri Division of Energy (DE) does not oppose the consideration of a special tariff regarding bifurcating line extension tariffs between service provided in areas with preexisting excess capacity and areas requiring additional infrastructure development. However, DE believes that the criteria that define (1) areas with preexisting excess capacity, and (2) areas requiring additional infrastructure development must be researched and established by the Commission. [65]

DE is generally supportive of expanding utility incentives to commercial and industrial customers to locate or expand their electric service in Missouri. However, the Commission should be mindful of each utility's unique service territory characteristics when aligning financial incentives with economic development opportunities and infrastructure utilization and the incentive's impact on a utility's other customers. [66]

VIII. Conclusion and Recommendation

An extension policy that holds the monthly bills of existing ratepayers harmless to increased rates resulting from the addition of a new customer is the most desirable policy from a purely cost basis. However, as with all rate design matters, other factors such as bill impacts, simplicity, rate stability, fairness among different consumers, customer understandability, meeting incremental costs, and public policy considerations should also be evaluated. Two important public policy considerations when evaluating extension policies are the ability of residential customers of all income levels to have affordable access to electrical services, and economic development considerations promoting the development of business and industry in the State of Missouri.

The commenting parties largely represent that the existing extension policies reasonably balance these interests. Staff recommends that to the extent the Commission is interested in a model extension policy that more aligns with cost-causation without restricting new growth, that consideration of a design similar to GMO's tariff be considered in that it more fully considers the incremental costs a customer causes to a system in determining how much, if any, customer advance is required. By considering these costs, a customer causing new utility investment is more likely to bear some offset to that investment than under other approaches that do not consider incremental costs.[67]

[65] *Missouri Division of Energy's Response to Request for Party Submissions*, EFIS #27, page 1.
[66] *Missouri Division of Energy's Response to Request for Party Submissions*, EFIS #27, page 2.
[67] GMO's tariff calls for consideration of the relationship between "Estimated Margins," "Fixed Carrying Costs" where Estimated Margins are determined by first multiplying the effective rates for each customer class by the estimated incremental usage – and then subtracting 1) applicable margin allocation for network and infrastructure support costs; and 2) incremental power and energy supply costs. Fixed Carrying Costs are determined as the Company's cost of capital to provide the requisite return on its investment as well as the costs for depreciation, property taxes and property insurance.

7. EXTENSION OF ELECTRIC FACILITIES

7.01 Purpose

The purpose of this policy is to set forth the service connection and distribution system extension requirements when one (1) or more applicants request overhead or underground electric service at premises not connected to Company's distribution system or request an alteration in service to premises already connected where such change necessitates additional investment.

7.02 Definition of Terms

A. Applicant: The developer, builder, or other person, partnership, association, firm, private or public corporation, trust, estate, political subdivision, governmental agency or other legal entity recognized by law applying for the construction of an electric Distribution Extension, Extension Upgrade, or Relocation.

B. Basic Extension Request: A request by Applicant for a Distribution Extension for which Company specified facilities are provided free of charge to the Applicant.

C. Construction Allowance: The cost of that portion of the Distribution Extension which is for economically justifiable and necessary construction and which is made by Company. The formula used to determine the appropriate Construction Allowance will be based on Company's feasibility model. Generally, the formula used by the feasibility model is the Estimated Margin divided by the Fixed Carrying Cost percentage as measured over the first five (5) year life of the Distribution Extension.

$$CA = \frac{SUM\ (EM1 + EM2 + EM3 + EM4 + EM5)}{SUM\ (FCC1 + FCC2 + FCC3 + FCC4 + FCC5)}$$

Where, CA = Construction Allowance;
EM = Estimated Margin;
FCC = Fixed Carrying Cost;

7.02 Definition of Terms (Continued)

D. Construction Charges: That portion of the Distribution Extension's construction costs for which the Applicant is responsible. The Electric Extension Standards and the provisions in this extension policy specify which segments of service shall be furnished by Applicant and which segments are provided by Company at cost to Applicant. These charges may consist of the following components:

(1) Nonrefundable charges represent the portion of Construction Charges which are not supported by the expected revenue stream or for non-standard costs associated with the Distribution Extension and will not be reimbursable to Applicant. (Exception: Non-standard costs for Excess Facilities may be recovered on a surcharge basis as mutually agreed to by Applicant and Company and specified in the Facilities Extension Agreement.)

(2) Refundable charges represent the portion of Construction Charges that may be reimbursed to the Applicant during the Open Extension Period, dependent upon the Applicant's requisite performance as outlined in the Facilities Extension Agreement.

E. Distribution Extension: Distribution facilities including primary and secondary distribution lines, transformers, service laterals and all appurtenant facilities and meter installation facilities installed by Company.

F. Electric Extension Standards: Company's Electric Extension Standards handbook, available upon request to any Applicant, defines Company's uniform standards and requirements for installation, wiring and system design.

G. Estimated Construction Costs: The Estimated Construction Costs shall be the necessary cost of the Distribution Extension and shall include the cost of all materials, labor, rights-of-way, trench and backfill, together with all incidental underground and overhead expenses connected therewith. Where special items, not incorporated in the Electric Extension Standards, are required to meet construction conditions, the cost thereof shall also be included as a non-standard cost.

H. Estimated Margin: The Estimated Margin will be determined by first multiplying the effective rates for each customer class by the estimated incremental usage – and then subtracting 1) applicable margin allocation for network and infrastructure support costs; and 2) incremental power and energy supply costs.

I. Extension Completion Date: The date on which the construction of a Distribution Extension, Extension Upgrade or Relocation is completed as shown by Company records.

RULES AND REGULATIONS
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7.02 Definition of Terms (Continued)

J. Extension Upgrade: The increase in capacity of existing electric distribution facilities necessitated by Applicant's estimated electric requirements and for which Company determines that such facilities can be reasonably installed.

K. Facilities Extension Agreement: Written agreement between Applicant and Company setting out the contractual provisions of Construction Allowance, Construction Charges, payment arrangements, the Open Extension Period, etc. in accordance with this extension policy.

L. Fixed Carrying Cost: Company's cost of capital to provide the requisite return on its investment as well as the costs for depreciation, property taxes and property insurance.

M. Indeterminate Service: Service that is of an indefinite or indeterminate nature where the amount and permanency of service cannot be reasonably assured in order to predict the revenue stream from Applicant. For purposes of uniform application, "Indeterminate Service" may include such service as may be required for the speculative development of property, mobile buildings, mines, quarries, oil or gas wells, sand pits and other ventures that may reasonably be deemed to be speculative in nature.

N. Open Extension Period: The period of time, five (5) years, during which Company shall calculate and pay refunds of Construction Charges according to the provisions of this extension policy. The five (5) year period begins on the Extension Completion Date.

O. Permanent Service: Overhead or underground electric line extensions for primary or secondary service where the use of service is to be permanent and where a continuous return to Company of sufficient revenue to support the necessary investment is reasonably assured.

P. Temporary Service: Any service that is of a known temporary nature, excluding service for construction power, and shall not be continued for a period longer than twelve (12) months.

RULES AND REGULATIONS
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7.03 General Provisions

A. Company at its sole discretion, after consideration of Applicant's electric requirements, will designate the class of service requested as Permanent, Indeterminate or Temporary in accordance with the definitions set forth herein.

B. The determination of facility type and routing will be made by Company to be consistent with the characteristics of an Applicant's requirements and for the territory in which service is to be rendered and the nature of Company's existing facilities in the area.

C. The facilities provided will be constructed to conform to the Electric Extension Standards. Except as otherwise provided (Section 7.09 Excess Facilities), the type of construction required to serve the Applicant appropriately will be determined by Company.

D. Facilities Extension Agreements will be based upon Company's Estimated Construction Cost for providing the facilities necessary to supply the service requested by Applicant. Company shall exercise due diligence with respect to providing the estimate of total costs to the customer. If it is necessary or desirable to use private, public and/or government rights-of-way to furnish service, Applicant may, at Company's discretion, be required to pay the cost of providing such rights-of-way. All Distribution Extensions, with the exception of service conduits, provided wholly, or in part, at the expense of an Applicant shall become the property of Company once approved and accepted by Company.

E. Company shall construct, own, operate and maintain new overhead and/or underground feeder lines, service lines and related distribution system facilities only on or along public streets, roads and highways which Company has the legal right to occupy, and on or along private property across which right-of-ways and easements satisfactory to Company have been received.

F. Rights-of-way and easements which are satisfactory to Company including those as may be required for street lighting, must be furnished by the Applicant in reasonable time to meet construction and service requirements and before Company shall be required to commence its installation; such rights-of-way and easements must be cleared of trees, tree stumps, and other obstructions, and graded to within six (6) inches of final grade by Applicant at no charge to Company. Such clearance and grading must be maintained by the Applicant during construction by Company. If the grade is changed subsequent to construction of the distribution system in such a way as to require relocation of any of the electric facilities, the estimated cost of such relocation shall be paid by the Applicant or its successors as a non-refundable Construction Charge

7.03 General Provisions (Continued)

G. An additional Construction Charge shall be paid by the applicant to Company for any ditching required to be performed by Company due to soil conditions including, but not limited to, the presence of rock or other environmental issues which prevent the use of normal trenching and backfilling practices used in trenchable soil. The charge under this provision shall be the estimated trenching and backfilling costs to be incurred by Company including conduit or padding for feeder lines, if required, less the estimated cost of normal trenching and backfilling. Applicant may be required to perform said ditching.

7.04 Permanent Service

A. Each application to Company for electric service of a permanent nature to premises requiring extension of Company's existing distribution facilities will be evaluated by Company in order that Company may determine the amount of investment (Construction Allowance) warranted by Company in making such extension. In the absence of special financing arrangements between the Applicant and Company, the Construction Charges as specified in the Facilities Extension Agreement shall be paid by the Applicant to Company before Company's construction commences.

B. The Construction Charges may be refundable in part, or in their entirety, to the original Applicant during the Open Extension Period. The Facilities Extension Agreement, to be executed by Applicant and Company, shall outline the applicable refund mechanism as related to the performance required by Applicant. In no event shall refunds aggregate an amount greater than the Construction Charges. Refundable Construction Charges shall not accrue interest. No interest in any potential refunds may be assigned. Applicant shall be responsible for notifying Company within six (6) months time of qualifying permanent loads connected to Company's system. On a periodic basis, Company shall make the applicable refund(s) as specified in the Facilities Extension Agreement. No refunds will be made for performance after the Open Extension Period.

C. Company will evaluate the feasibility of growth for an existing area when determining the amount of Construction Charges. Where sufficient growth is anticipated, the extension maybe made without an additional charge or at a reduced rate.

7.05 Indeterminate Service

A. For all types of electric service of an indeterminate character, Applicant shall be required to pay to Company in advance of Company's construction all of the Estimated Construction Costs as Construction Charges as outlined in the Facilities Extension Agreement.

B. The Construction Charges will be considered non-refundable unless, at the sole discretion of Company and upon written request of the Applicant, the Applicant is reclassified to Permanent Service during the Open Extension Period. In that event, the refund procedure applicable to Permanent Service Applicants will apply.

C. Where the length or cost of an extension is so great and the anticipated revenue to be derived is so limited as to make it doubtful whether the necessary operating costs on the investment would be recovered an additional charge to Applicant may be required. The additional charge will cover the cost of insurance, cost of removal, license and fees, taxes, operation and maintenance and appropriate allocable administrative and general expenses of such facilities.

7.06 Temporary Service

For electric service of a temporary nature, Applicant shall be required to pay to Company as non-refundable Construction Charges as outlined in the Facilities Extension Agreement an amount equal to the estimated net cost of installing, owning and removing the Distribution Extension including non-salvageable materials. Applicant shall pay Company before Company's construction commences. This classification does not include temporary meter sets furnished to service an Applicant's construction requirements. Such temporary service is normally a 10 Amp self-contained meter set. The charge for these sets is shown in Section 12 of these Rules.

7.07 Extension Upgrade

Where an electric distribution Extension Upgrade is required to serve a non-residential customer's load requirements, the Facilities Extension Agreement between Company and Applicant shall apply the Estimated Construction Costs, Construction Allowance, and Construction Charges provisions contained in this extension policy to the Extension Upgrade.

7.08 Relocation or Conversion Request

An Applicant desiring to have Company's existing overhead facilities installed underground or to have existing overhead or underground facilities relocated may request Company to make such changes. If Company determines that such conversion or relocation can reasonably be made, Company will make such conversion or relocation on the following basis: The cost of removing and relocating such facilities, the related net cost of non-salvageable materials and the cost of any new facilities to be installed shall be paid by the Applicant as non-refundable Construction Charges as outlined in the Facilities Extension Agreement.

7.09 Excess Facilities Request

In those instances where Company chooses to provide facilities at Applicant's request in variance with the Electric Extension Standards, Applicant shall be required to pay Company for the cost of such facilities, and to pay Company a Nonrefundable Construction Charge or a surcharge as outlined in the Facilities Extension Agreement. The charge is designed to recover the cost of insurance, replacement (or cost of removal); license and fees, taxes, operation and maintenance and appropriate allocable administrative and general expenses associated with such distribution facilities.

7.10 Applicability Limitation

The applicability of this extension policy is limited by the following conditions:

A. Facilities Extension Agreement Not Timely Executed: Company's Estimated Construction Costs and Construction Charges requirements as calculated for each extension may become void, at Company's discretion, after 120 days from the time a proposed Facilities Extension Agreement is provided by Company to Applicant. If a Facilities Extension Agreement is not fully executed before that time, it may become necessary for new estimates to be made incorporating the then current construction costs and the terms and conditions of Company's extension policy as on file and in effect with the Commission at that time.

B. Accurate Estimates Doubtful -- True-Up For Actual Costs: The Estimated Construction Costs will typically be the amount used in calculating the Construction Allowance and Construction Charges. In situations where the accuracy of the estimate is known to be highly uncertain, a true up to reflect actual costs at the Extension Completion date will be made. The intention to adjust the Estimated Construction Costs to reflect actual costs shall be specified and agreed to by both Applicant and Company in the Facilities Extension Agreement.

7.11 Summary Of Policy Administration

A. Company has segmented Applicants into the following general categories for administration of this Extension Policy and also requires Applicants to provide the specified facilities as referenced in the Electric Extension Standards:

B. Residential Single Family

(1) Free of Charge - Basic Extension Request: All Applicants, classified as Permanent Service, will receive the following installed basic facilities free of charge:

(a) First 100 feet of primary or secondary overhead conductor;
(b) One (1) thirty-five (35) foot wood utility pole with guy and anchor;
(c) 10-kva transformer including applicable mounting and protection hardware;
(d) First 100 feet of overhead service conductor and 200-amp meter.

(2) Excess Charge - Non Basic Extension Request: Applicants requiring a Distribution Extension in excess of the basic installed facilities which are provided free of charge may incur a non-refundable construction charge as described below:

(a) Individual Projects: Projects defined as including at least one (1) and no more than four (4) residential dwelling(s). The applicable Construction Allowance will be subtracted from the Estimated Construction Costs for the Applicant's project in order to determine the Nonrefundable Construction Charge to be paid by Applicant to Company**.** The cost of the distribution extension on public right-of-way will be included in the Estimated Construction Costs.

(b) Subdivision Projects: Projects defined as including five (5) or more residential dwellings. The Nonrefundable Construction Charge is calculated based on a per lot basis and is determined by subtracting the applicable standard Construction Allowance from the standard Estimated Construction Costs. Additional Nonrefundable Construction Charges will be calculated for excess service lengths and excess extension lengths on an average per foot basis, with the per foot charge shown in Section 12 of these Rules. Applicant will also be responsible for all Estimated Construction Costs related to the cost of connecting the subdivision project to Company's existing and adequate distribution facilities when the length is greater than 100 feet. Applicant will pay these costs to Company as a Nonrefundable Construction Charge.

(c) Construction Allowance is set equal to the cost of facilities provided free of charge plus standard adders, determined from the feasibility model, based on the electric end-use and project type committed to by Applicant.

7.11 Summary Of Policy Administration (Continued)

C. Residential Multi-Family or Residential Mobile Home Trailer Parks

All applicants, classified as permanent service, will have a Construction Allowance calculated per the feasibility model (Section 7.02 C. Construction Allowance) for the customized project. The Construction Allowance is subtracted from the Estimated Construction Cost for the Applicant's project in order to determine the Nonrefundable Construction Charge to be paid by Applicant. Applicant will also be responsible for all Estimated Construction Charges related to the cost of connecting to Company's existing and adequate distribution facilities when the length is greater than 100 feet. Applicant will pay these costs to Company as a Nonrefundable Construction Charge.

D. Commercial or Industrial

All applicants, classified as permanent service, will have a Construction Allowance calculated per the feasibility model (Section 7.02 C. Construction Allowance) for the customized project. The Construction Allowance is subtracted from the Estimated Construction Cost for the Applicant's project in order to determine the Nonrefundable Construction Charge to be paid by Applicant. The cost of the Distribution Extension on public right-of-way is generally included in the Estimated Construction Cost except where the Applicant requires an extension other than a standard overhead extension. Where underground service on public right-of-way is required and agreed to by Company, the Applicant will be required to pay for the required facilities as either a Nonrefundable Construction Charge or as a surcharge on its monthly bill, at Company's discretion.

7.12 Aquila Networks – L&P Phase-in Period Through 10/22/04

A. Through October 22, 2004, customers in the Aquila Networks – L&P service territory may, at their choice, follow the line extension policy listed in Aquila Networks – L&P's rules and regulations that were in effect on April 1, 2004. On and after October 23, 2004, any request for service will comply with the current rules and regulations for Aquila Networks, as they may change from time to time.

B. The line extension policy for Aquila Networks – L&P on April 1, 2004 includes the following sheets from PSC Mo. No. 6, Rules and Regulations:

(1) 5th Revised Sheet 39, Effective January 5, 1995
(2) 2nd Revised Sheet 39.1, Effective January 5, 1995
(3) 2nd Revised Sheet 39.2, Effective January 5, 1995
(4) 4th Revised Sheet 39.3, Effective October 31, 1999
(5) 8th Revised Sheet 40, Effective January 5, 1995
(6) 2nd Revised Sheet 41, Effective January 5, 1995