

Exhibit No.:
Issues: Rate Design
Class Cost-of-Service
Witness: Michael S. Scheperle
Sponsoring Party: MO PSC Staff
Type of Exhibit: Direct Testimony
Case No.: ER-2014-0351
Date Testimony Prepared: February 11, 2015

MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

DIRECT TESTIMONY

OF

MICHAEL S. SCHEPERLE

THE EMPIRE DISTRICT ELECTRIC COMPANY

FILE NO. ER-2014-0351

Jefferson City, Missouri
February 2015

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

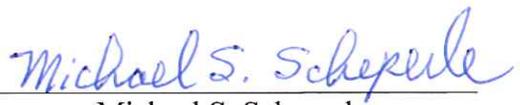
In the Matter of The Empire District)
Electric Company for Authority to File)
Tariffs Increasing Rates for Electric)
Service Provided to Customers in the)
Company's Missouri Service Area)

Case No. ER-2014-0351

AFFIDAVIT OF MICHAEL S. SCHEPERLE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

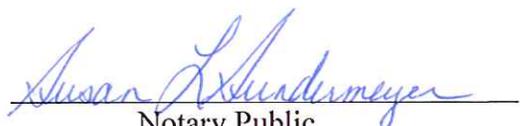
Michael S. Scheperle, of lawful age, on his oath states: that he has participated in the preparation of the following Direct Testimony in question and answer form, consisting of 10 pages of Direct Testimony to be presented in the above case, that the answers in the following Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.



Michael S. Scheperle

Subscribed and sworn to before me this 11th day of February, 2015.

SUSAN L. SUNDERMEYER Notary Public - Notary Seal State of Missouri Commissioned for Callaway County My Commission Expires: October 28, 2018 Commission Number: 14942086



Notary Public

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1 analyzing rate case activity, reviewing tariffs, and making recommendations based upon my
2 evaluations and the evaluations performed by the Economic Analysis section. My previous
3 testimony and responsibilities address topics including class cost of service, rate design, rate
4 case coordinator, telecommunication issues, complaint cases, Missouri Universal Service
5 Fund, energy efficiency/demand-side management, a Staff member of the Missouri-Deaf-
6 Relay Committee, and a member of the Commission Staff's Electric Meter Variance
7 Committee.

8 **EXECUTIVE SUMMARY**

9 Q. What are Staff's revenue requirement recommendations to the Commission for
10 The Empire District Electric Company ("Empire") in this case?

11 A. The Staff's recommended increase in revenue requirement is based upon an
12 adjusted test year for the twelve months ending April 30, 2014, as updated through
13 August 31, 2014, and including an estimate for true-up through December 31, 2014. The
14 Staff's recommended revenue requirement increase for Empire is \$3,883,448 to \$8,521,840
15 based on a return on equity ("ROE") range of 9.25% to 9.75%.

16 The Staff's revenue requirement as presented in its Accounting Schedules filed
17 January 29, 2015, includes expected changes for a true-up ending December 31, 2014, based
18 on current information. The Staff is not now adopting for the purpose of setting Empire's
19 rates the items listed and quantified in the Staff's true-up estimate. The Staff has included
20 these items as placeholders, pending the Staff's completion of its true-up audit.

21 Q. What are Staff's rate design recommendations to the Commission for Empire
22 in this case?

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1 A. Empire has twelve (12) active service classifications¹. The active service
2 classifications are (1) residential service schedule RG (“RG”), (2) commercial service
3 schedule CB (“CB”), (3) small heating service schedule SH (“SH”), (4) general power service
4 schedule GP (“GP”), (5) Special Transmission service contract: Praxair schedule SC-P (“SC-
5 P”), (6) total electric building service schedule TEB (“TEB”), (7) feed mill and grain elevator
6 service schedule PFM (“PFM”), (8) large power service schedule LP (“LP”),
7 (9) miscellaneous service schedule MS² (“MS”), (10) municipal street lighting service
8 schedule SPL³ (“SPL”), (11) private lighting service schedule PL (“PL”), and (12) special
9 lighting service schedule LS (“LS”). Staff combined the MS, SPL, PL, and the LS rate
10 classifications for purposes of its class cost-of-service (“CCOS”) study because rate schedules
11 pertain to lighting functions. As explained in its CCOS Report, Staff recommends that the
12 allocation of any rate increase for Empire that is ordered will be accomplished with a five-step
13 process:

- 14 1. Based on CCOS results, Staff recommends to increase/decrease the current base retail
15 revenue on a revenue-neutral basis to various classes of customers. Specifically, Staff
16 recommends the RG class receive a positive 0.75% adjustment; and the TEB, GP, and
17 LP classes of customers receive a negative adjustment of approximately 0.85%.
- 18 2. Staff directly assigns to applicable customer classes the portion of the revenue
19 increase/decrease that is attributable to energy efficiency (“EE”) programs from Pre-
20 MEEIA (“Missouri Energy Efficiency Investment Act”) program costs.⁴
- 21 3. Staff determined the amount of revenue increase awarded to Empire not associated
22 with the EE revenue from Pre-MEEIA revenue requirement assigned in Step 2, by
23 subtracting the total amount in Step 2 from the total increase awarded to Empire. Staff
24 recommends allocating this amount to various customer classes as an equal percent of
25
26

¹ Empire has Special Transmission Service Schedule ST (“ST”) but no customers are currently served from this service classification.

² Schedule is available to electric service to signal systems or similar unmetered service and to temporary seasonal use.

³ Includes LED street lighting pilot.

⁴ The Pre-MEEIA program costs consist of the program costs for increases/decreases in the revenue requirement associated with the amortization of Pre-MEEIA program costs.

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1 current base revenues after making the adjustment in Step1. Based on CCOS results,
2 Staff recommends that the PFM and combined lighting classes receive no retail
3 increase as existing revenues received from these classes are providing more revenue
4 to Empire than Empire's cost to serve.
5

6 4. Staff recommends that each rate component of each class be increased across-the-
7 board for each class on an equal percentage after consideration of steps 1 through 3
8 above. Included in this recommendation, Staff recommends that, based on CCOS
9 results and policy considerations, the residential and all other customer charges be
10 increased by the average increase for each applicable class.
11

12 5. Adopt Rider Fuel and Purchased Power Adjustment Clause ("FAC") tariff sheets
13 consistent with Staff CCOS Report.
14

15 **PURPOSE OF DIRECT TESTIMONY**

16 Q. What is the purpose of your direct testimony?

17 A. The purpose of this testimony is to sponsor the Staff's recommendation in its
18 Rate Design and Class Cost-of-Service Report ("CCOS Report") that is being filed
19 concurrently with this direct testimony. The "report" approach to the case filing minimizes
20 the number of Staff witnesses required to file direct testimony and provides a clearer
21 presentation of the overall revenue requirement and rate design. I also provide in this direct
22 testimony an overview of Staff's recommendations detailed in its CCOS Report.

23 Q. What does the CCOS Report entail?

24 A. The CCOS Report presents Staff's updated CCOS study for Empire and
25 provides methods to collect a Commission-ordered increase in Empire's overall revenue
26 requirement. Staff relied on the CCOS study results presented in the CCOS Report as the
27 basis for Staff's rate design recommendations. The CCOS report presents Staff's rate design
28 recommendation that there should be overall company revenue neutral shifts in class revenue
29 responsibility to move certain classes closer to the cost of serving that class. The CCOS study
30 is based on Staff's allocation methods, Staff's accounting data, and Staff's revenue

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1 requirement recommendation at the midpoint rate of return. Staff's revenue requirement
2 recommendation is found in Staff's Accounting Schedules filed on January 29, 2015. Several
3 members of the Commission Staff had specific assignments relating to different components
4 of the CCOS Report, and are individually responsible for those calculations. In this direct
5 testimony, I provide an overview of the work performed in this case by members of the Utility
6 Operations Department, Regulatory Review Division. Also, the CCOS Report recommends
7 changes to the Rider FAC tariff sheets.

8 Q. Is this the entire filing being made by Staff for this case?

9 A. No. Staff's Cost of Service Revenue Requirement was filed on
10 January 29, 2015.

11 Q. What relationship, if any, is there between the Staff's Revenue Requirement
12 Cost of Service ("COS") Report filed January 29, 2015, and the Staff's CCOS Report?

13 A. In its COS Report, Staff filed its accounting information, which included
14 Staff's estimate of Empire's revenue requirement through the true-up cut-off date of
15 December 31, 2014. These estimates will be replaced with actual amounts following the true-
16 up as authorized by the Commission. For its direct filing, the Staff has determined Empire's
17 revenue requirement with the end of the test year established for this case, April 30, 2014, and
18 estimated amounts through the true-up cut-off date, December 31, 2014. The matching
19 principle is designed to keep revenues, expenses and rate base in a proper relationship for a
20 set period of time. Employing a test period helps implement the matching principle by
21 providing the Commission a common basis for considering utility revenues and expenses over
22 an annual period, so that rates going forward will maintain the same balanced relationship.
23 Consistent with that COS Report, this CCOS Report reflects the Staff's revenue requirement

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1 recommendation of \$6,193,690 (mid-point) based on Staff's estimate through the true-up cut-
2 off date.

3 **STAFF RATE DESIGN AND CCOS REPORT**

4 Q. How is the Staff's CCOS Report organized?

5 A. The Report is organized by topic as follows:

6 I. Executive Summary

7 II. Class Cost-of-Service and Rate Design Overview

8 III. Class Cost-of-Service Study

9 IV. Rate Design

10 V. Fuel and Purchased Power Adjustment Clause Tariff Sheet
11 Recommendations

12 VI. Residential Customer Charge

13 VII. Non-residential Customer Charges

14 VIII. Miscellaneous Tariff Revisions

15 Q. Please identify the Staff expert responsible for addressing each area in the
16 CCOS Report?

17 A. The Staff expert for each listed issue is as follows:

18 <u>Issue</u>	<u>Staff Expert</u>
19 Executive Summary	Michael Scheperle
20 Class Cost of Service Overview	Robin Kliethermes
21 Class Cost of Service	Robin Kliethermes, Sarah Kliethermes
22 Rate Design	Bradley Fortson
23 Fuel and Purchased Power Clause	David Roos
24 Residential Customer Charge	Robin Kliethermes

1 Non-residential Customer Charges Michael Scheperle

2 Miscellaneous Tariff Revisions Sarah Kliethermes

3 **CLASS COST OF SERVICE STUDY**

4 Q. How did Staff reach its CCOS recommendations to the Commission?

5 A. Staff's Accounting Schedules filed with Staff's COS Report show that an
6 increase in Empire's revenue requirement in the range of \$3,883,448 to \$8,521,840 is
7 warranted. The COS Report shows that the mid-point of Staff's calculated return on equity
8 range is \$6,193,690, an overall increase of 1.39%.

9 Staff used Empire's rate schedules for the customer classes in its CCOS study.
10 However, Staff combined the MS, SPL, PL, and the LS rate classifications for purposes of its
11 CCOS study because these rate classifications pertain to street and outdoor lighting functions.
12 This consolidation resulted in Staff's nine customer classes. The nine customer classes are (1)
13 RG, (2) CB, (3) SH, (4) GP, (5) SC-P, (6) TEB, (7) PFM, (8) LP, and (9) lighting service.
14 For each of these nine customer classes, Staff determined Empire's investment to serve the
15 customers in that customer class and Empire's ongoing expenses to serve the customers in
16 that customer class.

17 Q. What are Staff's CCOS study results?

18 A. Staff's CCOS study indicates that the following revenue adjustments would
19 need to occur to exactly align each class's revenues with its cost of service: RG, +10.37%;
20 CB, -1.91%; SH, -0.02%; GP, -7.24%; SC-P, +3.62%; TEB, -4.54%; PFM, -37.50%; LP, -
21 8.84%; and Lighting -18.43%.

22 Q. What do the signs on the above percentages indicate?

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1 A. If the study shows that a negative percentage shift should occur for a class, it
2 indicates that the class is collecting revenue in excess of the cost to serve the class and its
3 rates should be reduced. If the study shows that a positive percentage shift should occur, it
4 indicates that the class is not generating enough revenue to cover its costs and its rates should
5 be increased.

6 Q. Is Staff recommending that each class have its revenue responsibility shifted to
7 exactly equal its cost of service?

8 A. No. Because of the relative rate impacts, the Staff is not recommending a
9 movement all the way to each class' cost of service. Because a CCOS study is not precise, it
10 should be used only as a guide for designing rates. In addition, bill impacts, rate riders, and
11 economic development need to be considered. While reducing over-collection from customer
12 classes with negative revenue shift percentages (revenues greater than cost to serve) for
13 Empire customer classes all the way to zero is appealing, the bill impact on the customer
14 classes with positive revenue shift percentages must be considered. Staff's recommendations
15 for shifts in the class-revenue requirements are based on its CCOS study results, Staff's
16 review of Empire's revenue-neutral adjustments in previous general rate increases, and Staff's
17 judgment regarding the impact of revenue shifts for all classes.

18 Q. What is Staff's rationale for the revenue-neutral shifts it recommends?

19 A. Staff believes that CCOS studies should serve as a guide to setting revenue
20 requirements and thus are not precise. Staff's CCOS study revealed that, on a revenue-neutral
21 basis, Empire's current RG class rate(s) do not cover Empire's cost to serve that class and
22 should receive a positive revenue-neutral adjustment. Two of the customer classes (PFM and
23 combined lighting) are more than 18% above Empire's cost (investment and expenses) to

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1 serve them and should receive no increase in this case. Empire’s CB, SH, and SC-P classes
2 are close to Empire’s cost to serve and no revenue-neutral adjustment is recommended. Staff
3 recommends a negative revenue-neutral adjustment for the TEB, GP, and LP classes to bring
4 these classes closer to their cost to serve by Empire.

5 Q. How did Staff conduct its CCOS study?

6 A. The CCOS Report outlines how Staff performed its CCOS study. The cost-of-
7 service procedure involves three steps of Functionalization; Classification; and Allocation: (1)
8 Functionalization – this procedure identifies the different functional “levels” of the system;
9 (2) Classification – this procedure determines for each functional type, the primary cause or
10 causes of that cost being incurred, and segregates these cost of service components into a
11 customer, demand or energy component; and (3) Allocation – this procedure allocates the
12 class proportional responsibilities for each type of cost and spreads the cost among the various
13 classes. The cost of service procedures of Functionalization, Classification, and Allocation
14 are more fully explained in Schedule CCOS-1 to Staffs CCOS Report.

15 In its CCOS study, Staff used the detailed Base, Intermediate and Peaking (“BIP”)
16 method for allocating production investment and costs to the customer classes. These costs
17 include operating and maintenance expenses for labor and materials, fuel, fuel handling, and
18 interchange power costs, and also capacity costs based on each class’s energy and demand
19 requirements. Staff used the twelve coincident peak method (“12 CP”) to allocate
20 transmission investment and costs to the customer classes. Staff used a combination of non-
21 coincident peak demands (“NCP”), individual customer maximum demands, and company
22 specific studies to allocate distribution investment and costs to customer classes. Customer
23 costs are allocated to customer classes based on the number of customers, company studies,

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1 and other internal allocators. Staff's CCOS study summary attached to its CCOS Report is
2 based on the revenue requirement associated with the mid-point of Staff's return on equity
3 ("ROE") recommendation for Empire's jurisdictional retail operations of \$6,193,690, and an
4 overall increase of 1.39%.

5 Q. Does this conclude your direct testimony?

6 A. Yes, it does.

Michael S. Scheperle

**Testimony/Reports Filed Before
The Missouri Public Service Commission:**

CASE NOS:

TO-98-329, *In the Matter of an Investigation into Various Issues Related to the Missouri Universal Service Fund*

TT-2000-527/513, *Application of Allegiance Telecom of Missouri , Inc. ... for an Order Requiring Southwestern Bell Telephone Company to File a Collocation Tariff; Joint Petition of Birch Telecom of Missouri, Inc. for a Generic Proceeding to Establish a Southwestern Bell Telephone Company Collocation Tariff before the Missouri Public Service Commission*

TT-2001-139, *In the Matter of Mark Twain Rural Telephone Company's Proposed Tariff to Introduce its Wireless Termination Service*

TT-2001-298, *In the Matter of Southwestern Bell Telephone Company's Proposed Tariff PSC Mo. No. 42 Local Access Service Tariff, Regarding Physical and Virtual Collocation*

TT-2001-440, *In the Matter of the determination of Prices, Terms, and Conditions of Line-Splitting and Line-Sharing*

TO-2001-455, *In the Matter of the Application of AT&T Communications of the Southwest, Inc., TCG St. Louis, Inc., and TCG Kansas City, Inc., for Compulsory Arbitration of Unresolved Issues with Southwestern Bell Telephone Company Pursuant to Section 252(b) of the Telecommunications Act of 1996*

TC-2002-57, *In the Matter Of Northeast Missouri Rural Telephone Company's And Modern Telecommunications Company's Complaint Against Southwestern Bell Telephone Company Regarding Uncompensated Traffic Delivered by Southwestern Bell Telephone Company To Northeast Missouri Rural Telephone And Modern Telecommunications Company.*

TC-2002-190, *In the Matter Of Mid-Missouri Telephone Company vs. Southwestern Bell Telephone Company*

TC-2002-1077, *BPS Telephone Company, et al., vs. Voicestream Wireless Corporation, Western Wireless Corp., and Southwestern Bell Telephone Company*

TO-2005-0144, *In the Matter of a Request for the Modification of the Kansas City Metropolitan Calling Area Plan to Make the Greenwood Exchange Part of the Mandatory MCA Tier 2*

TO-2006-0360, *In the Matter of the Application of NuVox Communications of Missouri, Inc. for an Investigation into the Wire Centers that AT&T Missouri Asserts are Non-Impaired Under the TRRO*

IO-2007-0439, *In the Matter of Spectra Communications Group, LLC d/b/a CenturyTel's Request for Competitive Classification Pursuant to section 392.245.5 RSMo*

IO-2007-0440, *In the Matter of CenturyTel of Missouri, LLC's Request for Competitive Classification Pursuant to Section 392.245.5 RSMo*

TO-2009-0042, *In the Matter of the Review of the Deaf Relay Service and Equipment Distribution Fund Surcharge*

ER-2009-0090, *In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service*

ER-2009-0089, *In the Matter of the Application of Kansas City Power and Light Company for Approval to Make Certain Changes in its Charges for Electric Service To Continue the Implementation of Its Regulatory Plan*

ER-2010-0036, *In the Matter of Union Electric Company, d/b/a AmerenUE's Tariffs to Increase its Annual Revenues for Electric Service*

ER-2010-0130, *In the Matter of The Empire District Electric Company of Joplin, Missouri for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Missouri Service Area of the Company*

ER-2010-0355, *In the Matter of the Application of Kansas City Power & Light Company for Approval to Make Certain Changes in its Charges for Electric service to Continue the Implementation of Its Regulatory Plan*

ER-2010-0356, *In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service*

ER-2011-0028, *In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Increase Its Annual Revenues for Electric Service*

ER-2011-0004, *In the Matter of The Empire District Electric Company of Joplin, Missouri for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Missouri Service Area of the Company*

EC-2011-0383, *Briarcliff Development Company, a Missouri Corporation, Complainant, v. Kansas City Power and Light Company, Respondent*

EO-2012-0141, *In the Matter of the Application of The Cathedral Square Corporation, a Missouri Non-Profit Corporation, for a Variance from Kansas City Power & Light Company's General Rules and Regulations Requiring Individual Metering*

EO-2012-0009, *In the Matter of KCP&L Greater Missouri Operations Company's Application for Approval of Demand-Side Programs and for Authority to Establish a Demand-side Programs Investment Mechanism*

EO-2012-0142, *In the Matter of Union Electric Company d/b/a Ameren Missouri's Filing to Implement Regulatory changes in Furtherance of Energy Efficiency as Allowed by MEEIA*

ER-2012-0166, *In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Increase Its Annual Revenues for Electric Service*

ER-2012-0174, *In the Matter of Kansas City Power & Light Company's Request for Authority to Implement A General Rate Increase for Electric Service*

ER-2012-0175, *In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service*

ER-2012-0345, *In the Matter of The Empire District Electric Company of Joplin, Missouri Tariffs Increasing Rates for Electric Service Provided to Customers in the Missouri Service Area of the Company*

HT-2013-0456, *In the matter of KCP&L Greater Missouri Operations Company for Authority to File Tariffs Changing the Steam QCA for Service Provided to Customers in its Service Territory*

EO-2014-0075, *Ameren Missouri's Request for Waivers for its Missouri Energy Efficiency Investment Act Programs*

HR-2014-0066, *In the Matter of Veolia Energy Kansas City, Inc. for Authority to File Tariffs to Increase Rates*

EC-2014-0224, *Noranda Aluminum, Inc., et al, Complainants, v. Union Electric Company, d/b/a Ameren Missouri, Respondent*

HT-2014-0286, *In the Matter of KCP&L Greater Missouri Operations Company to File Tariffs Changing the Steam QCA for Service Provided to Customers in its Service Territory*

ER-2015-0132, *In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri's Energy Efficiency Investment Charge Rider*

ER-2015-0141, *In the Matter of Kansas City Power & Light Company's First Demand Side Investment Mechanism Rider Rate Adjustment and True-Up Required by 4 CSR 240-3.163(8)*