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MISSOURI PUBLIC SERVICE COMMISSION

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2016-0023

REBUTTAL TESTIMONY

OF

MARTIN R. HYMAN

ON

BEHALF OF

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

DVISION OF ENERGY

Jefferson City, Missouri

May 2, 2016

DE Exhibit No. 2
Date 6-02-16 Reporter XF
File No. ER-2016-0023

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of The Empire)
 District Electric Company's Request) ER-2016-0023
 for Authority to Implement a General Rate)
 Rate Increase for Electric Service)

AFFIDAVIT OF MARTIN HYMAN

STATE OF MISSOURI)
) ss
 COUNTY OF COLE)

Martin R. Hyman, of lawful age, being duly sworn on his oath, deposes and states:

1. My name is Martin R. Hyman. I work in the City of Jefferson, Missouri, and I am employed by the Missouri Department of Economic Development as a Planner III, Division of Energy.
2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of the Missouri Department of Economic Development – Division of Energy.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge.

Martin R. Hyman

 Martin R. Hyman

Subscribed and sworn to before me this 2nd day of May, 2016.

Melissa Ann Adams

 Notary Public

My commission expires:

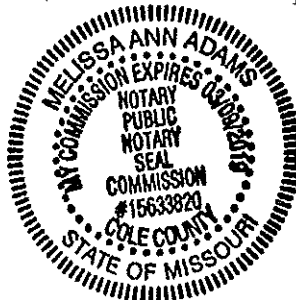
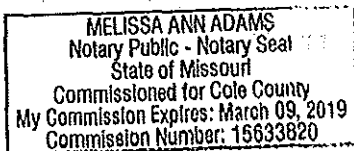


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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Martin R. Hyman. My business address is 301 West High Street, Suite 720,
4 PO Box 1766, Jefferson City, Missouri 65102.

5 **Q. By whom and in what capacity are you employed?**

6 A. I am employed by the Missouri Department of Economic Development – Division of
7 Energy (“DE”) as a Planner III.

8 **Q. Have you previously filed testimony before the Missouri Public Service Commission**
9 **(“Commission”) in this case (ER-2016-0023)?**

10 A. Yes. I submitted Direct Testimony (Rate Design) on behalf of DE regarding The Empire
11 District Electric Company’s (“Empire” or “Company”) rate design, the Company’s
12 residential declining winter block rate, and Empire’s demand-side management
13 programs.

14 **II. PURPOSE AND SUMMARY OF TESTIMONY**

15 **Q. What is the purpose of your Rebuttal Testimony in this proceeding?**

16 A. The purpose of my Rebuttal Testimony is to respond to the Commission Staff’s (“Staff”)
17 residential rate design proposal. DE opposes Staff’s residential rate design, since it would
18 raise the residential customer charge to \$15.00 – even higher than the Company’s
19 proposal. Staff’s rate design is inconsistent with the well-established rate design
20 principles of cost causation, efficiency, equity, gradualism, and avoidance of “rate
21 shock.” DE continues to recommend that the residential customer charge stay at its
22 current level, and that the Commission order Empire to include any residential rate

1 increase in the residential volumetric charges. These positions are supported by the bill
2 impact analysis presented in this testimony.

3 **III. RESPONSE TO STAFF'S RATE DESIGN PROPOSAL**

4 **Q. What principles should be considered when evaluating the Staff's residential rate
5 design proposal?**

6 A. The same rate design principles discussed in my Direct Rate Design Testimony apply to
7 the evaluation of Staff's proposal: rates should be based on cost-causative principles,¹ be
8 equitable,² send appropriate price signals,³ and be implemented in a gradual manner that
9 avoids rate shock.⁴

10 **Q. What is Staff's residential rate design proposal in its class cost-of-service and rate
11 design report ("CCOS Report")?**

12 A. Staff proposes to raise the residential customer charge by \$2.48 to \$15.00,⁵ an even
13 higher amount than that proposed by the Company (\$14.47).⁶ In fact, Staff claims that the
14 residential customer charge at the Company's actual cost of service, after adjusting class
15 revenue requirements such that all classes provide the same rate of return, would be
16 \$18.35.⁷ Neither amount follows the rate design principles mentioned above.

¹ Missouri Public Service Commission Case No. ER-2016-0023, *In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service*, Direct Testimony of Martin R. Hyman on Behalf of the Missouri Department of Economic Development – Division of Energy, April 8, 2016, pages 7-9, lines 4-15, 1-21, and 1-19.

² *Ibid*, page 14, lines 16-21.

³ *Ibid*, pages 12-13, lines 13-18 and 1-11.

⁴ *Ibid*, pages 16-17, lines 1-19 and 1-7.

⁵ Missouri Public Service Commission Case No. ER-2016-0023, *In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service*, Staff's Rate Design and Class Cost-of-Service Report ("Staff's CCOS Report"), April 8, 2016, page 37, lines 17-19.

⁶ Missouri Public Service Commission Case No. ER-2016-0023, *In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service*, Schedule RG, October 16, 2015, Sheet No. 1.

⁷ Staff's CCOS Report, page 38, lines 25-26.

1 **Q. How does Staff attempt to justify its high residential customer charge**
2 **recommendation?**

3 A. In part, Staff claims:

4 Staff's recommendation to limit the residential customer charge to the level of
5 \$15.00 considered fully allocated cost causation, class revenue responsibilities,
6 rate simplicity, customer rate stability, customer understandability, and public
7 policy considerations relating to energy efficiency, and company revenue
8 stability. In light of these considerations, \$15.00 is a reasonable increase from the
9 existing customer charge of \$12.52, while giving due consideration to customer
10 rate stability, customer understandability, and public policy considerations
11 relating to energy efficiency, and company revenue stability.⁸

12 **Q. Staff mentions "company revenue stability." Is the purpose of customer charges to**
13 **provide company revenue stability?**

14 A. No. Customer charges exist to recover dedicated customer-related costs, such as meters,
15 line drops, service on meters and line drops, and postage. While there is never a
16 guarantee that the Company will recover its stated revenue requirement, rates are set in
17 each case at levels which offer the Company the opportunity to earn a reasonable return.
18 The Company is afforded additional stability by having the option to apply for frequent
19 rate increases and to use a fuel adjustment clause.

⁸ *Ibid*, page 39, lines 4-10.

1 **Q. Did Staff only include dedicated customer-related costs in its class cost-of-service**
2 **(“CCOS”) study?**

3 A. No. Staff included many other items within its residential customer charge allocation
4 which are not dedicated customer-related costs. These include customer deposits,
5 uncollectible accounts, customer service and information expenses, sales expense, and
6 “other customer billing expenses.”⁹ Even if these costs are allocated to customer classes
7 based on customer counts, such an allocation does not require cost recovery through the
8 customer charge within customer classes.

9 **Q. Does Staff state what it believes to constitute customer-related costs?**

10 A. Yes. In an appendix to its CCOS Report, Staff states:

11 **Customer-related costs are the costs to connect the customer to the electrical**
12 **system and to maintain that connection.** Examples of such costs include meter
13 reading expense, billing expense, postage expense, customer accounting expense,
14 customer service expense, and certain distribution costs (plant, reserve, and
15 operating and maintenance expenses). **The customer components of the**
16 **distribution system are those costs necessary to make service available to a**
17 **customer.** (Emphases added.)¹⁰

18 Staff’s own statement in this case on customer-related costs shows that Staff over-
19 assigned costs to the customer charge. Customer deposits, uncollectible accounts,
20 customer service and information expenses, sales expense, and other customer billing

⁹ *Ibid*, pages 37-38, lines 20-25 and 1-10.

¹⁰ *Ibid*, Appendix 2, April 8, 2016, Schedules CCOS-1-6 through CCOS-1-7.

1 expenses are not dedicated to the connection (and maintenance thereof) of customers to
2 the Company's electrical system.

3 **Q. What does the National Association of Utility Commissioners' ("NARUC") cost**
4 **allocation manual state about customer-related costs?**

5 A. NARUC's cost allocation manual states:

6 Customer-related costs (Accounts 901-917) include the costs of **billing and**
7 **collection, providing service information, and advertising and promotion of**
8 **utility services.** By their nature, it is difficult to determine the "cause" of these
9 costs by any particular function of the utility's operation or by particular classes
10 of their customers. **An exception would be Account 904, Uncollectible**
11 **Accounts. Many utilities monitor the uncollectible account levels by tariff**
12 **schedule. Therefore, it may be appropriate to directly assign uncollectible**
13 **accounts expense to specific customer classes. (Emphases added.)¹¹**

14 With regard to uncollectible accounts, the manual states more specifically: "Some
15 analysts prefer to regard uncollectible accounts as a general cost of performing business
16 by the utility, **and would classify and allocate these costs based upon an overall**
17 **allocation scheme, such as class revenue responsibility.**" (Emphasis added.)¹² The
18 manual also states (regarding sales expenses):

19 These accounts include the costs of exhibitions, displays, and advertising
20 designed to promote utility service. These costs could be classified as customer-
21 related, since the goal of demonstrations and advertising is to influence

¹¹ National Association of Regulatory Utility Commissioners (1992), *Electric Utility Cost Allocation Manual*, Washington, D.C., page 102.

¹² *Ibid*, page 103.

1 customers. **Allocation of these costs, however, should be based upon some**
2 **general allocation scheme, not numbers of customers.** Although these costs are
3 incurred to influence the usage decisions of customers, **they cannot properly be**
4 **said to vary with the number of customers.** These costs should be either
5 directly assigned to each customer class when data are available, or allocated
6 based upon the overall revenue responsibility of each class. (Emphases added.)¹³

7 Staff's inclusion of customer deposits, uncollectible accounts, sales expense, and other
8 customer billing expenses in the residential customer charge does not strictly follow
9 NARUC's cost allocation methodology. While Staff's allocation of customer service and
10 information expenses may have some basis in NARUC's cost allocation methodology, I
11 provide examples later in this testimony of where such a methodology may not make
12 sense for such expenses.

13 **Q. Does Dr. James C. Bonbright's *Principles of Public Utility Rates* also address**
14 **customer-related costs?**

15 **A.** Yes. Dr. Bonbright explains that customer costs are:

16 ... those operating and capital costs found to vary with the number of customers
17 regardless or almost regardless of ... consumption. Included as a minimum are
18 those costs of metering and billing along with whatever other expenses the
19 company must incur in taking on another customer.¹⁴

¹³ *Ibid*, pages 103-104.

¹⁴ Bonbright, James C. (1961), *Principles of Public Utility Rates*, 1st ed., Public Utility Reports, page 347.

1 **Q. Is the primary driver of the Company's rate increase request a dedicated customer-**
2 **related cost?**

3 A. No. The main driver behind this rate case filing is the conversion of the Riverton 12
4 electric generating unit to a combined cycle plant;¹⁵ the conversion best relates to costs
5 allocated on energy- and demand-related factors, with appropriate recovery occurring
6 through volumetric rates. It is not consistent with cost allocation principles to recommend
7 a customer charge increase when the main rate case driver is not a customer-related cost.

8 **Q. Why are customer deposits not "dedicated customer-related costs?"**

9 A. The amount incurred (or credited) for customer deposits does not vary directly with the
10 number of customers, nor do such deposits relate to the incremental cost to serve an
11 additional customer. Some customers may pay a deposit, and some may not; some
12 customers may receive their deposit back, while others may not. The retention or return
13 of customer deposits is related, in part, to the creditworthiness of customers, which
14 would, in turn, vary with factors such as customer use – much like uncollectible accounts.

15 **Q. Why are uncollectible accounts not "dedicated customer-related costs?"**

16 A. Uncollectible accounts do not vary directly with the number of customers; some
17 customers cause uncollectible accounts expense, while others do not. It is not cost
18 causative to assume that each customer is equally responsible for a portion of the
19 Company's uncollectible accounts, particularly when such accounts are based not just on
20 customer charges, but energy charges.

¹⁵ Missouri Public Service Commission Case No. ER-2016-0023, *In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service*, Direct Testimony of W. Scott Keith on Behalf of The Empire District Electric Company, October 16, 2015, page 4, lines 7-8.

1 **Q. Is Staff's proposal in this case regarding uncollectible accounts and residential**
2 **customer charges consistent with its proposals and positions in recent cases?**

3 A. No. In Empire's previous rate case, Staff recommended only a \$0.27 increase to Empire's
4 customer charge,¹⁶ even though Staff's fully-allocated customer charge calculation of
5 \$18.50¹⁷ included the same types of costs as in this case.¹⁸ Ultimately, Staff agreed to a
6 Revised Stipulation and Agreement which provided for no increase.¹⁹ In Union Electric
7 Company d/b/a Ameren Missouri's ("Ameren Missouri") 2012 rate case (ER-2012-
8 0166), Staff witness Mr. Michael S. Scheperle acknowledged that uncollectible accounts
9 reflect more energy-related than customer-related costs:

10 **Q. ... Now, when you calculated the costs that should be included for a**
11 **customer charge, did you include uncollectible amounts?**

12 A. Yes, I did.

13 **Q. For an average residential customer, is the customer charge component or**
14 **the energy charge component larger on an average bill?**

15 A. The energy charge would be larger.

16 **Q. Okay. Is that generally true for all classes?**

17 A. Yes.

¹⁶ Missouri Public Service Commission Case No. ER-2014-0351, *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*, Missouri Public Service Commission Staff's Rate Design and Class Cost-of-Service Report ("Staff's 2014 Case CCOS Report"), February 11, 2015, Page 41, lines 15-17.

¹⁷ *Ibid*, page 42, lines 24-25.

¹⁸ *Ibid*, pages 41-42, lines 18-21 and 1-21.

¹⁹ Missouri Public Service Commission Case No. ER-2014-0351, *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*, Revised Stipulation and Agreement and List of Issues, April 8, 2015, pages 1 and 5.

1 **Q. So when customers default on their bills, the uncollectible amount is more**
2 **energy related than customer related, is it not?**

3 A. The amount that would be written off, yes, it would be.²⁰

4 Mr. Scheperle's testimony then would be equally true in this case – uncollectible
5 accounts for Empire, just like uncollectible accounts for Ameren Missouri, will mostly
6 depend on the amount of energy used by customers for which costs cannot be recovered
7 by the utility. Not every customer fails to pay for the energy which they use; the only real
8 metric of such non-payment would be the actual amount of energy use by customers, not
9 total customer counts. Staff acknowledged this back in 2012.

10 **Q. You noted Staff's recommended residential customer charge increase in the last**
11 **Empire rate case (ER-2014-0351). Was Staff's recommendation based on a fully**
12 **cost-causative allocation to the residential class?**

13 A. No. In fact, Staff's CCOS study and calculations resulted in an estimated residential
14 customer charge of \$18.50²¹ (compared to \$18.35 in the present case); however, Staff
15 only recommended its far lower residential customer charge increase based on the same
16 criteria cited above:

17 ...weighing the factors of rate simplicity, stability, customer understandability,
18 and public policy consideration relating to energy efficiency, Staff recommends
19 limiting the residential customer charge to the level of the average residential
20 class increase.²²

²⁰ Missouri Public Service Commission Case No. ER-2012-0166, *In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase Its Annual Revenues for Electric Service*, Transcript of Proceedings v. 30, October 11, 2012, page 2149, lines 6-21.

²¹ Staff's 2014 Case CCOS Report, page 42, lines 24-25.

²² *Ibid*, pages 42-43, lines 25-26 and 1-2.

1 Despite this decision in the past case, Staff claims the same criteria in the current case
2 justify a far higher increase (\$2.48 versus \$0.27) – even though Staff’s estimated
3 residential customer charge at full allocation in the present case is lower by \$0.15.

4 **Q. Why are all customer service and information expenses not “dedicated customer-**
5 **related costs?”**

6 A. Many customer service and information expenses do not vary based on the incremental
7 cost to serve an additional customer. Not all customers call “customer service,” and not
8 all customers who call stay on the phone for the same amount of time or have questions
9 about the same topics. The Federal Energy Regulatory Commission’s Uniform System of
10 Accounts (“FERC USOA”) definition for account 908 (“customer assistance expenses”)
11 includes, “... the cost of labor, materials used and expenses incurred in providing
12 instructions or assistance to customers, **the object of which is to encourage safe,**
13 **efficient and economical use of the utility's service**” (emphasis added);²³ not all
14 customers call about these topics. There may, however, be some customer information
15 expenses which are incremental to the cost to serve an additional customer, such as
16 postage on flyers; the FERC USOA definition for account 909 (“informational and
17 instructional advertising expenses”) includes the cost of, “Postage on direct mailings to
18 customers exclusive of postage related to billings.”²⁴ However, such exceptions do not
19 justify including all customer service and information expenses in the customer charge;

²³ Federal Energy Regulatory Commission, “Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act” (“FERC USOA”), 18 CFR 101, http://www.ecfr.gov/cgi-bin/text-idx?e_c=ecfr&SID=054f2bfd518f9926aac4b73489f11c67&rgn=div5&view=text&node=18:1.0.1.3.34&idno=18.

²⁴ *Ibid.*

1 FERC USOA account 909 also includes the cost of, “Preparing informational window
2 and other displays,”²⁵ which are not directly related to the number of customers.

3 **Q. Why is sales expense not a “dedicated customer-related cost?”**

4 A. FERC USOA account 912 (“demonstrating and selling expenses”) is described as
5 including, “...the cost of labor, materials used and expenses incurred in promotional,
6 demonstrating, and selling activities, except by merchandising, **the object of which is to**
7 **promote or retain the use of utility services by present and prospective customers”**
8 (emphasis added).²⁶ Similar to the other types of costs discussed above, sales expense is
9 not related to the incremental cost to serve an additional customer. For example, the cost
10 for the utility to appear at a home show does not increase or decrease if the utility gains
11 or loses a customer.

12 **Q. What are “other customer billing expenses,” and why should they not all be**
13 **allocated to the customer charge?**

14 A. Based on Staff’s workpapers, this term seems to relate to Staff’s allocation of FERC
15 USOA accounts 901 (“customer accounts supervision”), 903 (“customer records and
16 collection”), and 905 (“miscellaneous customer accounts expense”).²⁷ To the extent such
17 accounts include expenses related to the provision of service to an incremental customer,
18 the specific expenses could be allocated to customer charges; however, expenses related
19 to energy consumption, such as customer-service related activities, should not be
20 included in customer charges. For example, FERC USOA account 903 can include labor-
21 related expenses pertaining to, “Receiving, recording, and handling of inquiries,

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ Staff’s CCOS Report, workpapers of Robin Kliethermes, “2007_EMSElectricCCOS_2151208_cc,” April 12, 2016, “IncomeStatement” tab.

1 complaints, and requests for investigations from customers, including preparation of
2 necessary orders, but excluding the cost of carrying out such orders, which is chargeable
3 to the account appropriate for the work called for by such orders.”²⁸ These types of
4 expenses would not be incremental to the cost to serve each additional customer, since
5 not all customers make the types of inquiries specified in FERC’s description.
6 Consequently, such costs – which are not dedicated customer-related costs – should be
7 removed from Staff’s residential customer charge allocation.

8 **Q. How should customer deposits, uncollectible accounts, customer service and**
9 **information expenses, sales expense, and other customer billing expenses be**
10 **allocated?**

11 A. Since none of these expenses are exclusively dedicated customer-related costs, they
12 should generally be allocated through volumetric (energy) charges. Those accounts with
13 some dedicated customer-related costs included could be allocated proportionally based
14 on how much of these costs are either consumption-related or dedicated customer-related
15 expenses.

16 **Q. What is the total of these potentially incorrectly allocated costs in Staff’s CCOS?**

17 A. These totals, as listed by account type, are reproduced below in Table 1 from Staff’s
18 CCOS workpapers.

²⁸ FERC USOA.

1 **Table 1. Amount of expenses misallocated by Staff to residential customer charges.²⁹**

Expense Type	Residential Allocation	Percent of Total Residential Customer Charge Allocation
Customer Deposits	-\$250,597	-0.90%
Uncollectible Accounts	\$2,059,457	7.42%
Customer Services & Information Sales	\$1,293,941	4.66%
Other Customer Billing	\$450,546	1.62%
	\$7,578,123	27.31%
<i>Subtotal</i>	\$11,131,470	40.12%
<i>Total Customer Cost Allocation</i>	\$27,743,629	--

2 As noted above, there might be some types of expenses within these broad categories that
3 could be considered dedicated, customer-related costs. However, based on this table, as
4 much as 40.12 percent of the costs allocated by Staff to the residential customer charge
5 were inappropriately assigned.

6 **Q. Do you agree with Staff that its proposal promotes rate stability – i.e., that it
7 provides a gradual shift which avoids rate shock?**

8 A. No – in fact, raising the customer charge for Empire’s customers by 19.81 percent would
9 only exacerbate the residential customer charge’s already high level compared to other
10 Missouri investor-owned utilities. There is nothing gradual about being required to pay
11 an extra 19.81 percent through the customer charge per month.

12 **Q. Do you also disagree with Staff’s claim that the customer charge increase considers
13 public policy regarding energy efficiency?**

14 A. Yes. A revenue-neutral increase to the customer charge – which a customer cannot avoid
15 paying – shifts revenue recovery away from energy charges. Energy charges provide
16 customers with a price signal that naturally encourages efficiency and conservation; if a

²⁹ Staff’s CCOS Report, workpapers of Robin Kliethermes, “2007_EMSElectricCCOS_2151208_cc,” April 12, 2016, “CCOS Summary” tab, lines 51-52, 55, 57-59, and 61, column E.

1 customer uses less energy, then that customer's overall cost of energy is lower. Under
2 Staff's proposal, this price signal would be dampened, and customers would receive a
3 smaller relative return on engaging in energy efficient practices.

4 **Q. Would the outcome of this shift also be inequitable?**

5 A. Yes. Shifting revenue recovery towards customer charges penalizes low use, low-income
6 customers by forcing them to pay a certain additional amount per month, regardless of
7 actual use, if they want to maintain utility service. All customers, including lower use
8 customers, should be rewarded for being efficient by receiving relatively lower bills; this
9 is particularly important in the case of low-income customers, who are addressed in more
10 detail in the Rebuttal Testimony of DE witness Ms. Sharlet E. Kroll.

11 **Q. Does a lower customer charge promote accessibility?**

12 A. Yes. A lower customer charge promotes accessibility by allowing low-income, low-use
13 customers to more easily remain on the utility's system, since more emphasis is placed on
14 energy charges that may be avoided through reduced usage. This maintenance of
15 customer connections also benefits the utility by increasing the number of kilowatt-hours
16 ("kWh") over which costs are recovered, which in turn benefits all ratepayers by reducing
17 the rates the utility must charge.

18 **Q. Please summarize Staff's residential rate design proposal.**

19 A. Staff's residential rate design proposal is summarized in Tables 2a through 2c below.

1 **Table 2a. Current residential rates for Empire customers.³⁰ Volumetric charges are per**
2 **kWh.**

Charge Type	Winter	Summer
Customer Charge	\$12.52	
Volumetric Charge (Block 1)	\$0.12254	\$0.12254
Volumetric Charge (Block 2)	\$0.09961	\$0.12254

3 **Table 2b. Staff's proposed residential rates.³¹ Volumetric charges are per kWh.**

Charge Type	Winter	Summer
Customer Charge	\$15.00	
Volumetric Charge (Block 1)	\$0.12885	\$0.12885
Volumetric Charge (Block 2)	\$0.10474	\$0.12885

4 **Table 2c. Staff's proposed change in residential rates.**

Charge Type	Winter	Summer
Customer Charge	19.81%	
Volumetric Charge (Block 1)	5.15%	5.15%
Volumetric Charge (Block 2)	5.15%	5.15%

5 The energy charges were provided by Staff for illustrative purposes only; however, I have
6 used them in my bill impact analysis below.

7 **Q. Earlier you mentioned Staff's recommendation in the last Empire rate case (ER-**
8 **2014-0351). Was the residential customer charge increased in that case?**

9 **A.** No. The Commission agreed with the terms of the Revised Stipulation and Agreement
10 and did not increase the residential customer charge;³² the Commission did so in

³⁰ Missouri Public Service Commission Tariff No. YE-2016-0008, The Empire District Electric Company, Schedule RG, July 26, 2015, Sec. 1, Sheet No. 1.

³¹ Staff's CCOS Report, workpapers of Sarah L. Kliethermes, "Empire Rate Design 3a," April 12, 2016, "Tied Elements" tab.

³² Missouri Public Service Commission Case No. ER-2014-0351, *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*, Report and Order, June 24, 2015, page 20, footnote 51.

1 recognition of the need to maintain the price signal received through volumetric rates
2 (i.e., efficiency):

3 Shifting customer costs from variable volumetric rates—that a customer can
4 reduce through energy efficiency—to fixed customer charge will reduce incentive
5 efforts to conserve energy. While Staff’s CCOS study supports an increase to
6 residential and all other customer charges by the average increase for each
7 applicable class, the Signatories agreed in the Revised Agreement to not increase
8 the residential customer charge. (Citations omitted.)³³

9 Elsewhere in the Commission’s Order, the Commission discussed residential rate
10 treatment with mentions of rate shock³⁴ and gradualism.³⁵ DE’s recommendation to
11 maintain the current customer charge in this case is consistent with such considerations.
12 The Commission should maintain the current residential customer charge in this case,
13 consistent with its Order in Empire’s last rate case.

14 **Q. In light of these considerations, does DE support Staff’s residential rate design
15 proposal?**

16 **A.** No. Notwithstanding Staff’s claim to the contrary, Staff’s proposal is not consistent with
17 numerous rate design principles. The proposal does not lead to equitable, efficient, or
18 gradual outcomes, and it is not consistent with principles of cost causation. Consequently,
19 DE recommends the Commission reject Staff’s customer charge proposal and only
20 allocate any increase to residential rates to the residential energy charges in this case.

³³ *Ibid*, page 16.

³⁴ *Ibid*, page 20.

³⁵ *Ibid*, page 18.

1 **IV. BILL IMPACT ANALYSIS**

2 **Q. What is the purpose of a bill impact analysis?**

3 A. The purpose of a bill impact analysis is to determine the changes to customer bills as the
4 result of changes in rates. While such an analysis is often based on the “average”
5 customer’s use, it should also take into account customers who use more or less amounts
6 of a given commodity to determine equity and efficiency impacts.

7 **Q. What is the basis of your analysis?**

8 A. My analysis is based on the usage figures derived from the Company’s highly
9 confidential, non-weather-normalized data provided in response to DE Data Request No.
10 407, as shown in the bill frequency analysis in my Direct Rate Design Testimony and
11 Table 3 below.³⁶ Additionally, I used the Company’s current and Staff’s proposed
12 residential rates.

³⁶ Hyman Direct, pages 18-19, lines 1-16 and 1-3 and pages 20-21, lines 15-21 and 1. Additional data regarding the distribution of usage amounts are available in Hyman Direct, page 19, line 1.

1 **Table 3. Empire residential customer usage amounts used in bill impact analysis (kWh).³⁷**

Billing Month	Average Use	50% Less Use	100% More Use
May-14	858.0	429.0	1,715.9
Jun-14	1,042.7	521.4	2,085.4
Jul-14	1,189.5	594.7	2,378.9
Aug-14	1,275.0	637.5	2,550.0
Sep-14	1,087.1	543.5	2,174.2
Oct-14	724.6	362.3	1,449.1
Nov-14	1,054.0	527.0	2,108.1
Dec-14	1,334.5	667.3	2,669.0
Jan-15	1,571.9	786.0	3,143.8
Feb-15	1,447.8	723.9	2,895.6
Mar-15	1,229.1	614.6	2,458.3
Apr-15	767.6	383.8	1,535.3
May-15	713.3	356.6	1,426.6
Jun-15	913.1	456.5	1,826.2

2 **Q. How did you conduct your analysis?**

3 A. I conducted my analysis in the same manner as the bill impact analysis in my Direct Rate
4 Design Testimony,³⁸ except I used Staff's proposed rates instead of the Company's
5 proposed rates.

6 **Q. What were your results?**

7 A. My results are shown below in Tables 4a through 4c, as well as Figure 1.

³⁷ *Ibid*, page 21, line 1.

³⁸ *Ibid*, pages 20-21, lines 15-21 and 1-3.

1 **Table 4a. Empire residential bill impacts under current rates.**

Billing Month	Average Use	50% Less Use	100% More Use
May-14	\$111.74	\$65.09	\$197.20
Jun-14	\$140.29	\$76.41	\$268.07
Jul-14	\$158.28	\$85.40	\$304.04
Aug-14	\$168.76	\$90.64	\$325.00
Sep-14	\$145.73	\$79.13	\$278.94
Oct-14	\$98.45	\$56.91	\$170.62
Nov-14	\$131.27	\$77.10	\$236.26
Dec-14	\$159.21	\$92.74	\$292.14
Jan-15	\$182.86	\$104.57	\$339.43
Feb-15	\$170.49	\$98.39	\$314.71
Mar-15	\$148.71	\$87.49	\$271.15
Apr-15	\$102.74	\$59.55	\$179.21
May-15	\$97.33	\$56.22	\$168.38
Jun-15	\$124.41	\$68.46	\$236.30

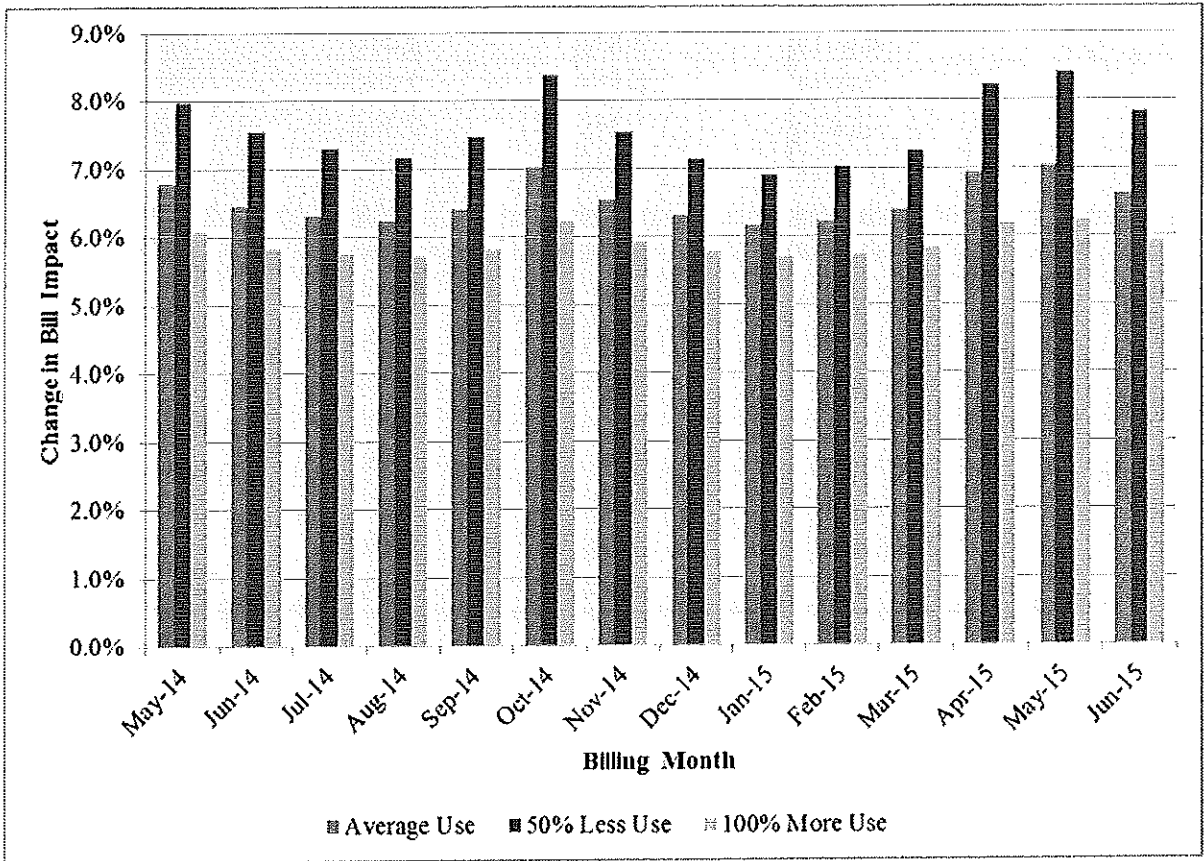
2 **Table 4b. Empire residential bill impacts under the Staff's proposed rates.**

Billing Month	Average Use	50% Less Use	100% More Use
May-14	\$119.33	\$70.27	\$209.19
Jun-14	\$149.35	\$82.18	\$283.71
Jul-14	\$168.26	\$91.63	\$321.53
Aug-14	\$179.29	\$97.14	\$343.57
Sep-14	\$155.07	\$85.04	\$295.14
Oct-14	\$105.36	\$61.68	\$181.25
Nov-14	\$139.87	\$82.91	\$250.27
Dec-14	\$169.24	\$99.35	\$309.02
Jan-15	\$194.11	\$111.79	\$358.75
Feb-15	\$181.11	\$105.29	\$332.75
Mar-15	\$158.21	\$93.84	\$286.94
Apr-15	\$109.87	\$64.46	\$190.27
May-15	\$104.17	\$60.95	\$178.88
Jun-15	\$132.65	\$73.83	\$250.30

1 **Table 4c. Change in residential bill impacts between Company's current and Staff's**
 2 **proposed rates.**

Billing Month	Average Use	50% Less Use	100% More Use
May-14	6.8%	8.0%	6.1%
Jun-14	6.5%	7.6%	5.8%
Jul-14	6.3%	7.3%	5.8%
Aug-14	6.2%	7.2%	5.7%
Sep-14	6.4%	7.5%	5.8%
Oct-14	7.0%	8.4%	6.2%
Nov-14	6.5%	7.5%	5.9%
Dec-14	6.3%	7.1%	5.8%
Jan-15	6.2%	6.9%	5.7%
Feb-15	6.2%	7.0%	5.7%
Mar-15	6.4%	7.2%	5.8%
Apr-15	6.9%	8.2%	6.2%
May-15	7.0%	8.4%	6.2%
Jun-15	6.6%	7.8%	5.9%

1 **Figure 1. Empire residential bill impact changes between Company's current and Staff's**
 2 **proposed rates.**



3 **Q. What do you observe from these results?**

4 A. Staff's proposal would result in a smaller overall increase in residential customer bills
 5 than the Company's proposal.³⁹ This is true for all three levels of usage analyzed and for
 6 all billing months analyzed. However, like the Company's proposal,⁴⁰ Staff's proposal
 7 would increase bills for lower use customers by a higher percentage compared to higher
 8 use and average use customers, and would also increase average use customers' bills by a
 9 higher percentage than the increase experienced by higher use customers.

³⁹ *Ibid*, page 23, lines 1-2.

⁴⁰ *Ibid*, page 24, lines 1-5.

1 **Q. Does your bill impact analysis support your previous conclusions regarding the**
2 **Staff's residential rate design proposal?**

3 A. Yes. Staff's proposal, as demonstrated in Table 4c and Figure 1, results in smaller
4 percentage bill impacts for higher use residential customers. This leads to a diminishment
5 of the price signal, creating incentives which do not encourage efficient use.

6 **V. CONCLUSIONS**

7 **Q. Please summarize your conclusions and the positions of DE.**

8 A. DE is opposed to Staff's rate design recommendation, which would shift much of the
9 revenue recovery responsibility for the residential class towards the customer charge.
10 Staff's proposal, which does not follow commonly accepted rate design principles,
11 should be rejected, with any increases to residential rates in this case allocated to the
12 residential energy charges. The bill impact analysis presented in this testimony supports
13 DE's conclusions and positions.

14 **Q. Does this conclude your Rebuttal Testimony in this case?**

15 A. Yes.