

**SECOND PRUDENCE REVIEW FOR CYCLE 2 OF COSTS
RELATED TO THE DEMAND-SIDE PROGRAMS
INVESTMENT MECHANISM
FOR THE ELECTRIC OPERATIONS
OF
UNION ELECTRIC COMPANY, d/b/a AMEREN MISSOURI**

November 1, 2017 through February 28, 2019

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

FILE NO. EO-2019-0376

*Jefferson City, Missouri
October 30, 2019*

**** Denotes Confidential Information ****

TABLE OF CONTENTS OF STAFF REPORT

**SECOND PRUDENCE REVIEW FOR CYCLE 2 OF COSTS
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I.	EXECUTIVE SUMMARY	1
II.	INTRODUCTION	3
A.	Prudence Standard	3
B.	Staff Review and Reconciliation of FERC Accounts	4
III.	ENERGY EFFICIENCY INVESTMENT RATE (EEIR) DETERMINATION.....	5
A.	Overview of Program Costs.....	5
B.	Travel, Conferences, and Meetings	12
C.	Membership and Trade Dues	14
D.	Contract Labor	16
E.	Other Expenses	17
F.	Implementation Contractors.....	18
G.	Billed Program Costs	19
H.	Throughput Disincentive Costs Billed and Actual	21
IV.	GROSS ANNUAL ENERGY AND DEMAND SAVINGS (kWh and kW)	22
V.	INTEREST	25
VI.	EARNINGS OPPORTUNITY (EO).....	26
VII.	EVALUATION MEASUREMENT AND VERIFICATION (EM&V).....	27

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I. EXECUTIVE SUMMARY

On December 22, 2014, Union Electric Company, d/b/a Ameren Missouri (“Ameren Missouri” or “Company”) filed, in Case No. EO-2015-0055, its application under the Missouri Energy Efficiency Investment Act¹ (“MEEIA”) and the Missouri Public Service Commission’s (“Commission”) MEEIA rules² for approval of its *2016 – 2018 Energy Efficiency Plan* (“Cycle 2”). On February 5, 2016, Ameren Missouri, the Commission’s Staff (“Staff”), the Office of the Public Counsel (“OPC”), National Housing Trust (“NHT”), Natural Resources Defense Council (“NRDC”), Renew Missouri, Tower Grove Neighborhood Community Development Corporation (“Tower Grove”), and Missouri Division of Energy (“DE”) submitted a *Non-Unanimous Stipulation and Agreement Resolving Ameren Missouri’s MEEIA Filing* (“2016 Stipulation”).

Through its February 10, 2016 *Order Approving Unanimous Stipulation And Agreement* in Case No. EO-2015-0055, the Commission authorized Ameren Missouri to implement – beginning March 1, 2016 – the *2016 – 2018 Energy Efficiency Plan* as modified by the 2016 Stipulation (“Plan”) including: 1) eleven (11) energy efficiency programs (“MEEIA programs”), and 2) a demand-side programs investment mechanism (“DSIM”). The Plan³ which was approved on February 10, 2016 included a total program cost budget of \$158,180,000⁴ for all 11 MEEIA programs, a throughput disincentive (“TD”), an

¹ Section 393.1075, RSMo, Supp. 2017.

² 20 CSR 4240-20.093 and 20 CSR 4240-20.094 which all had an effective date of September 30, 2019.

³ Subsequent to February 10, 2016, the Plan was modified by Commission orders in Case No. EO-2015-0055 on the following effective dates: April 23, 2017; June 17, 2017; July 29, 2017; October 7, 2017; December 16, 2017; November 16, 2018; and October 4, 2019.

⁴ \$158,180,000 includes \$1.5 million for Research and Development (“R&D”). On April 13, 2017, the Commission issued an Order Approving Non-Unanimous Stipulation and Agreement, which increased the overall budget to \$163.19 million (excluding R&D).

1 Earning Opportunity (“EO”)⁵ of \$24.7 million at 100% performance, a technical reference
2 manual (“TRM”) and a plan to perform evaluation measurement and verification (“EM&V”)
3 of program cost effectiveness.

4 Through its February 10, 2016 order, the Commission finds:

5 The Signatories further agree the DSIM reasonably relies on
6 retrospective EM&V to determine the actual Throughput Disincentive
7 (“TD”) and Earnings Opportunity (“EO”) amounts. Ameren Missouri
8 agrees to have its independent EM&V evaluator(s) perform annual
9 EM&V process and impact evaluations, which will include both ex-
10 post gross and net-to-gross (“NTG”) evaluations. Annual ex-post gross
11 by measure will be used to adjust the TRM deemed annual energy and
12 demand savings.

13 The program costs and TD, including interest associated with both, are the costs subject of
14 this prudence review, which is Staff’s fourth prudence review⁶ of Ameren Missouri’s Rider
15 EEIC costs.⁷ Ameren Missouri’s MEEIA Cycle 2 Rider EEIC is included as Addendum A to
16 this Staff prudence review report (“Report”). The most recent periodic rate adjustment for the
17 Cycle 2 Rider EEIC is in File No. ER-2019-0151⁸.

18 Commission Rule 20 CSR 4240-20.093(10) requires that Ameren Missouri file
19 quarterly a Surveillance Monitoring Report. Confidential Addendum B to this Report is
20 Page 6 of Ameren Missouri’s confidential Surveillance Monitoring Report including status of
21 the MEEIA programs and DSIM costs for 1) the total month ended November 30, 2017 and
22 December 31, 2017, 2) the 12-months ended and cumulative total ended December 31, 2018,
23 and 3) the total month ended January 31, 2019 and February 28, 2019. The line items and
24 dollar amounts highlighted in yellow on Confidential Addendum B and summarized in
25 Table 1 are the primary subject of Staff’s prudence review.⁹

⁵ Tariff Sheet No. 91.9.

⁶ Prior Staff prudence reviews of Ameren Missouri’s Rider EEIC costs are in File Nos. EO-2015-0029, EO-2017-0023, and EO-2018-0155. This report, EO-2019-0376, is the Second Prudence Review of Cycle 2 of Costs Related to the Demand-Side Programs Investment Mechanism.

⁷ On January 3, 2014, the Commission approved Ameren Missouri’s Cycle 1 Rider EEIC in File No. EO-2014-0075, thereby, changing the Company’s Cycle 1 DSIM from a tracker to a rider which provides for periodic rate adjustments between general rate proceedings. (20 CSR 4240-20.093(2)(A)9.)

⁸ The remaining months of the Review Period (November 2018 through February 2019) will be included (actual costs instead of forecasted costs will be trued-up) in the periodic rate adjustment filed in November 2019.

⁹ Staff’s prudence review is for the period of November 1, 2017 through February 28, 2019.

Table 1

Item	Descriptor
Program Costs	Billed
Program Costs	Actual
Program Costs	Variance
Program Costs	Interest
First Year Gross Annual Energy Savings	Deemed Actual
Throughput Disincentive Costs	Billed
Throughput Disincentive Costs	Actual
Throughput Disincentive Costs	Variance
Throughput Disincentive Costs	Interest

Staff reviewed and analyzed a variety of items while examining whether Ameren Missouri prudently incurred program costs, TD and interest costs associated with the Plan for the Review Period. Based on its review, Staff recommends the disallowance of costs in Table 2:

Table 2

Costs	Explanation of Costs	Disallowed Cost	Interest	Total Disallowance
Travel, Conferences, and Meetings	Page 13	\$ 25,010	\$ 442	\$ 25,452
Membership and Trade Dues	Page 15	\$ 19,700	\$ 426	\$ 20,126
Contract Labor	Page 16	\$ 111,035	\$ 2,367	\$ 113,402
Other Expenses	Page 17	\$ 11,695	\$ 242	\$ 11,937
Throughput Disincentive	Page 22	\$ 23,534	\$ 0	\$ 23,534
Total Disallowed Costs		\$ 190,974	\$ 3,477	\$ 194,451

Staff Expert/Witness: Brooke Mastrogiannis

II. INTRODUCTION

A. Prudence Standard

Commission Rule 20 CSR 4240-20.093(11) requires that the Commission's Staff conduct prudence reviews of an electric utility's costs for its DSIM no less frequently than every twenty-four (24) months. This Report documents Staff's second review of the prudence

1 of Ameren Missouri's MEEIA Cycle 2 program costs, Company TD and interest for the
2 period November 1, 2017 through February 28, 2019 ("Review Period").

3 In evaluating prudence, Staff reviews whether a reasonable person making the same
4 decision would find both the information the decision-maker relied on and the process the
5 decision-maker employed to be reasonable based on the circumstances at the time the decision
6 was made, *i.e.*, without the benefit of hindsight. The decision actually made is disregarded;
7 instead, the review evaluates the reasonableness of the information the decision-maker relied
8 on and the decision-making process the decision-maker employed. If either the information
9 relied upon or the decision-making process employed was imprudent, then Staff examines
10 whether the imprudent decision caused any harm to ratepayers. Only if an imprudent decision
11 resulted in harm to ratepayers, will Staff recommend a refund.

12 **B. Staff Review and Reconciliation of FERC Accounts**

13 As a public utility, Ameren Missouri is required to maintain its books and records in
14 accordance with the Federal Energy Regulatory Commission's ("FERC") Uniform System of
15 Accounts ("USoA"). For the purpose of this MEEIA Prudence Review, Staff has focused its
16 review on FERC Account 908 - Customer Assistance Expenses and FERC Account 930 –
17 Administrative and General Expenses. Ameren Missouri provides its monthly General Ledger
18 to the Commission as ongoing surveillance data, which is a summary of all accounting
19 transactions on a monthly basis. Staff filtered the General Ledger based on FERC Major
20 Account 908 - Customer Assistance, Minor EED - Electric Energy Efficiency and Demand,
21 and FERC Major Account 930 – Administrative and General Expenses, Minor 228 – Industry
22 Association Memberships and Related Expense. Both accounts have an Activity Code of
23 M2PC¹⁰, which stands for MEEIA II. The filtering process of the General Ledger provided,
24 by month, the total amount of transactions by Activity Code and Resource Type that occurred
25 during the month in FERC Accounts 908 and 930.

26 Staff reconciled FERC Accounts 908 and 930 program costs provided by
27 Ameren Missouri in response to Staff's Data Request No. 0003 to the Surveillance
28 Monitoring Reports page 6¹¹ and the most recent Rider EEIC filing that is currently in effect
29 for this Review Period, Case No. ER-2019-0151. Subsequently, Staff used the detail in Data

¹⁰ M2PC acronym for Missouri Energy Efficiency Energy Act Program Costs – Cycle 2.

¹¹ Attached as Confidential Addendum B.

Request No. 0003 and sorted it by month, project number, activity code, and resource type then reconciled these individual line item transactions to follow-up receipts and invoices requested by Staff.

Staff analyzed these transactions recorded in the General Ledger FERC Account 908 Customer Assistance, Minor EED - Electric Energy Efficiency and Demand and FERC Account 930 Administrative and General Expenses, Minor 228 – Industry Association Memberships and Related Expense and reconciled the monthly totals by project number and resource type to the response provided by Ameren Missouri to Data Request No. 0003 as program costs.

Staff Expert/Witness: Brooke Mastrogiannis

III. ENERGY EFFICIENCY INVESTMENT RATE (EEIR) DETERMINATION

A. Overview of Program Costs

1. Description

Ameren Missouri's program costs include incentive payments and administrative costs. Administrative costs include the following: program administration, general, education, marketing and communication, market potential study, data tracking, and Evaluation Measurement and Verification costs.

Staff reviewed all actual program costs, provided in response to Data Requests No. 0002 and No. 0003, which Ameren Missouri is seeking to recover through its "Energy Efficiency Investment Charge" to insure only prudently incurred costs are recovered through the Rider EEIC. Staff reviewed and analyzed for prudence Ameren Missouri's adherence to contractual obligations, resolution of problems, adequacy of controls, and compliance with approved tariff sheets. Upon Staff's request, Ameren Missouri did provide documentation to support program costs incurred during the Review Period. Staff categorized these costs by program and segregated them between incentive payments and program administrative costs. Staff also reconciled program costs to the General Ledger FERC Accounts 908 and 930 by month, project number, and resource type; see the Staff Review and Reconciliation of FERC Accounts section for further explanation of process and review.

The results of Staff categorizing program costs are in Table 3¹².

¹² Table 3 was created from the information Ameren Missouri provided in Data Request No. 0003.

Table 3

Programs' Costs November 1, 2017 through February 28, 2019

Program Description	Total for the Review Period	Administrative Costs	Incentives Paid
Residential Program			
Res Lighting J06DF	\$ 1,613,818	\$ 888,340	\$ 725,478
Res Energy Efficient Products J06DG*	\$ 551,797	\$ 675,517	\$ (123,720)
Res HVAC J06DH	\$ 13,543,094	\$ 2,837,590	\$ 10,705,503
Res Low Income J06DK	\$ 6,202,019	\$ 2,506,658	\$ 3,695,361
Res Kits J06DL	\$ 593,912	\$ 770,532	\$ 823,380
Res Program Gen Expense J06DM	\$ 200,148	\$ 200,148	\$ 0
Res Smart Thermostat J0C9S	\$ 2,240,181	\$ 300,781	\$ 1,939,400
Home Energy Reports J0005	\$ 1,281,381	\$ 1,281,381	\$0
Subtotal Residential Programs	\$ 27,226,351	\$ 9,460,949	\$ 17,765,402
Business Program			
Biz Standard J06D8	\$ 27,381,071	\$ 6,103,199	\$ 21,277,872
Biz Custom J06D9	\$ 15,283,726	\$ 5,806,691	\$ 9,477,035
Biz Retro-Commissioning J06DB	\$ 1,531,178	\$ 531,618	\$ 999,559
Biz New Construction J06DC	\$ 2,717,228	\$ 836,022	\$ 1,881,206
Biz Program Gen Expense J06DD	\$ 823,309	\$ 823,309	\$ 0
Biz Benchmarking J0DH0	\$ 99,304	\$ 99,304	\$ 0
Small Business Direct J0006	\$ 3,717,847	\$ 378,052	\$ 3,339,795
Subtotal Business Programs	\$ 51,553,663	\$ 14,578,195	\$ 36,975,468
General Overhead Costs			
Education J06D3	\$ 28,256	\$ 28,256	\$ 0
Marketing J06D4	\$ (191,387)	\$ (191,387)	\$ 0
Potential Study J06D5	\$ 0	\$ 0	\$ 0
Data Tracking J06D6	\$ 71,116	\$ 71,116	\$ 0
General Expense J06D7	\$ 205,981	\$ 205,981	\$ 0
Communications J06DR	\$ 870,073	\$ 870,073	\$ 0
Research and Development J000P	\$ 87,744	\$ 87,744	\$ 0
EMV Gen Expense J06DQ	\$ 22,684	\$ 22,684	\$ 0
EMV Res Programs J06DN	\$ 930,679	\$ 930,679	\$ 0
EMV Biz Programs J06DP	\$ 1,584,594	\$ 1,584,594	\$ 0
Subtotal General Overhead Costs	\$ 3,609,740	\$ 3,609,740	-
Total Program Costs	\$ 82,389,754	\$ 27,648,884	\$ 54,740,870

*In November 2017, an adjustment of \$1,024,800 was made creating the negative incentive for the year. The negative incentive for Residential Program J06DG was due to a reversing entry made in November 2017 that was previously recorded in the prior Review Period.

Ameren Missouri incurs administrative costs directly related to the implementation of its approved energy efficiency programs. Staff uses the term “administrative” to mean all

1 costs other than incentives.¹³ Staff reviewed each administrative category of cost to
2 determine the reasonableness of each individual item of cost and if the costs were directly
3 related to energy efficiency programs.

4 The Plan is budgeted for Administrative and Incentive program costs.¹⁴ Table 4¹⁵
5 provides a comparison for the 3-year Plan in total, 2016-2018 for Administrative and
6 Incentive Program Costs. Ameren Missouri's 2016-2018 Plan in Table 4 was for 52%¹⁶ of the
7 total program costs to be used toward incentives, and the other 48%¹⁷ towards administrative
8 costs. The results in Table 3 indicate that Ameren Missouri improved this ratio, as it shows
9 actual incentives of the total program costs being 66%¹⁸ during the Review Period. Delivering
10 more incentives with less administrative costs is a good thing. The results in Table 5 for the
11 total costs of Cycle 2, indicate that the incentives were 62% of the total Cycle 2 costs and
12 38% toward administrative costs. The results of the Plan of categorizing program costs,
13 administrative and incentives are provided in Table 4 below.

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¹³ Incentives are program costs for direct and indirect incentive payments to encourage customer and/or retail partner participation in programs and the costs of measures, which are provided at no cost as a part of a program.

¹⁴ Revised Appendix B and Appendix H of the February 5, 2016 Non-Unanimous Stipulation and Agreement.

¹⁵ Table 4 was created from Appendix H in the Plan's Stipulation and Agreement.

¹⁶ This percentage is calculated from total incentives over total portfolio in Table 4.

¹⁷ This percentage is calculated from total administrative costs over total portfolio in Table 4.

¹⁸ This percentage was calculated from actual incentives over total program costs, in Table 3.

Table 4

Ameren Missouri 2016-2018 plan for Administrative and Incentive Program Costs (in millions)			
MEEIA Programs	Administrative	Incentives	Total
Res. Lighting	\$ 6.65	\$ 7.64	\$ 14.29
Res. Efficient Products	\$ 2.53	\$ 2.53	\$ 5.06
Res. HVAC	\$ 12.28	\$ 13.01	\$ 25.29
Learning Thermostats*	\$ 1.07	\$ 2.81	\$ 3.88
Res. Low Income	\$ 3.94	\$ 6.81	\$ 10.75
Res. EE Kits	\$ 2.54	\$ 1.60	\$ 4.14
Res. Home Energy Reports	\$ 4.30	\$ 0.00	\$ 4.30
Total Residential Programs	\$ 33.31	\$ 34.40	\$ 67.71
Bus. Standard	\$ 10.50	\$ 11.53	\$ 22.03
Bus. Custom	\$ 24.71	\$ 27.27	\$ 51.98
Bus. Retro Commissioning	\$ 2.94	\$ 3.98	\$ 6.92
Bus. New Construction	\$ 2.08	\$ 2.74	\$ 4.82
Bus. Small Business Direct Install	\$ 4.03	\$ 5.70	\$ 9.73
Total Business Programs	\$ 44.26	\$ 51.22	\$ 95.48
Total Portfolio	\$ 77.57	\$ 85.62	\$ 163.19
*Learning Thermostats were incorporated into the Efficient Products and HVAC programs instead of being implemented as a separate program			

Ameren Missouri provides incentive payments to its customers as part of its Plan. Incentive payments are an important instrument for encouraging investment in energy efficient technologies and products by lowering higher upfront costs for energy efficiency measures compared to the cost of less efficient measures. Incentive payments can also complement other efficiency policies such as appliance standards and energy codes to help overcome market barriers for cost-effective technologies. Staff also reviewed these incentive payments to Ameren Missouri's VISION® (VISION®) software monthly activity reports and Staff was unable to reconcile the incentive payments in the detail backup from Data Request No. 0003 to the reports generated from VISION®.

Based on communication with Ameren Missouri, journal entries made by Ameren Missouri into the General Ledger and related residential and business program costs are not recorded in VISION® because only the contracted vendors enter data into VISION®. As a result, VISION® reports do not contain all the information that affects residential and business

1 program costs. Therefore, Staff concludes the difference in incentive payments between the
2 General Ledger and VISION® are due to the adjustments made to the General Ledger, which
3 are not in VISION®. Staff requested, but did not receive, a reconciliation from
4 Ameren Missouri of adjustments from VISION® to the General Ledger. In the time available
5 for this prudence review, Staff was not able to reconcile the differences between the General
6 Ledger and VISION® based on the information Ameren Missouri provided¹⁹. Due to
7 the difference in residential and business incentive payments Staff recommends as a
8 “Best Business Practice” that Ameren Missouri implement and provide Staff a complete
9 reconciliation of the internal General Ledger entries to VISION® on a quarterly basis going
10 forward. This reconciliation would increase Ameren Missouri’s internal control over program
11 costs and create a clear audit trail to verify total program costs during a prudency review.

12 The current review covered the second half of the three-year Cycle 2 MEEIA
13 programs for Ameren Missouri. Please refer to Table 5²⁰ for all costs for Cycle 2, along with a
14 comparison of the total costs and proposed (budgeted) costs in Table 6²¹. Ameren Missouri’s
15 MEEIA Cycle 2 operated under the proposed budget amount by approximately \$16 million
16 and provided more incentives in the program with less administration costs.

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¹⁹ Reports pulled from VISION® tracking system.

²⁰ Table 5 was created from a total of this prudence review periods total Program Cost (from Data Request No. 0003) and the last prudence review periods total Program Costs.

²¹ Table 6 was created from total Program Costs (from Data Request No. 0003) and the total Program Cost budget (from Appendix H).

Table 5

Programs' Costs March 1, 2016 through February 28, 2019

Program Description	Total for the Entire Cycle 3	Administrative Costs	Incentives Paid
Residential Program			
Res Lighting J06DF	\$ 7,243,679	\$ 3,185,323	\$ 4,058,356
Res Energy Efficient Products J06DG	\$ 3,735,264	\$ 1,449,744	\$ 2,285,520
Res HVAC J06DH	\$ 32,161,012	\$ 9,104,433	\$ 23,056,578
Res Low Income J06DK	\$ 8,772,111	\$ 3,938,786	\$ 4,833,325
Res Kits J06DL	\$ 2,732,871	\$ 1,147,733	\$ 1,585,138
Res Program Gen Expense J06DM	\$ 205,365	\$ 205,365	\$ -
Res Smart Thermostat J0C9S	\$ 2,898,301	\$ 762,700	\$ 2,135,600
Home Energy Reports J0005	\$ 2,437,253	\$ 2,437,253	\$ -
Subtotal Residential Programs	\$ 60,185,856	\$ 22,231,338	\$ 37,954,518
Business Program			
Biz Standard J06D8	\$ 37,437,952	\$ 9,318,660	\$ 28,119,292
Biz Custom J06D9	\$ 25,976,323	\$ 9,931,873	\$ 16,044,449
Biz Retro-Commissioning J06DB	\$ 1,700,898	\$ 603,528	\$ 1,097,370
Biz New Construction J06DC	\$ 5,193,598	\$ 1,612,295	\$ 3,581,304
Biz Program Gen Expense J06DD	\$ 2,104,153	\$ 2,104,153	\$ -
Biz Benchmarking J0DH0	\$ 129,674	\$ 129,674	\$ -
Small Business Direct J0006	\$ 4,773,243	\$ 586,391	\$ 4,186,852
Subtotal Business Programs	\$ 77,315,841	\$ 24,286,574	\$ 53,029,267
Education J06D3	\$ 73,756	\$ 73,756	\$ -
Marketing J06D4	\$ 10,363	\$ 10,364	\$ -
Potential Study J06D5	\$ 471,701	\$ 471,701	\$ -
Data Tracking J06D6	\$ 252,691	\$ 252,691	\$ -
General Expense J06D7	\$ 403,321	\$ 403,322	\$ -
Communications J06DR	\$ 2,450,971	\$ 2,450,971	\$ -
Research and Development J000P	\$ 218,602	\$ 218,600	\$ -
EMV Gen Expense J06DQ	\$ 48,180	\$ 48,180	\$ -
EMV Res Programs J06DN	\$ 2,559,502	\$ 2,559,502	\$ -
EMV Biz Programs J06DP	\$ 3,142,722	\$ 3,142,722	\$ -
Subtotal Overhead Costs	\$ 9,631,809	\$ 9,631,809	\$ -
Total Program Costs	\$ 147,133,506	\$ 56,149,721	\$ 90,983,785

Table 6

Actual vs Proposed Costs March 1, 2016 through February 28, 2019 (in millions)

Program Description	Actual Total Costs	Proposed Total Costs	Var	Actual Admin Costs	Proposed Admin Costs	Var	Actual Incentives Paid	Proposed Incentives Paid	Var
Residential Program									
Res Lighting J06DF	\$ 7.24	\$ 14.29	\$ (7.05)	\$ 3.19	\$ 6.65	\$ (3.46)	\$ 4.06	\$ 7.64	\$ (3.58)
Res Energy Efficient Products J06DG	\$ 3.74	\$ 5.06	\$ (1.32)	\$ 1.45	\$ 2.53	\$ (1.08)	\$ 2.29	\$ 2.53	\$ (0.24)
Res HVAC J06DH	\$ 32.16	\$ 25.29	\$ 6.87	\$ 9.10	\$ 12.28	\$ (3.18)	\$ 23.06	\$ 13.01	\$ 10.05
Learning Thermostats*	\$ 2.90	\$ 3.88	\$ (0.98)	\$ 0.76	\$ 1.07	\$ (0.31)	\$ 2.14	\$ 2.81	\$ (0.67)
Res Low Income J06DK	\$ 8.77	\$ 10.75	\$ (1.98)	\$ 3.94	\$ 3.94	\$ (0.00)	\$ 4.83	\$ 6.81	\$ (1.98)
Res Kits J06DL	\$ 2.73	\$ 4.14	\$ (1.41)	\$ 1.15	\$ 2.54	\$ (1.39)	\$ 1.59	\$ 1.60	\$ (0.01)
Home Energy Reports J0005	\$ 2.44	\$ 4.30	\$ (1.86)	\$ 2.44	\$ 4.30	\$ (1.86)	\$ -	\$ -	\$ -
Subtotal Residential Programs	\$ 59.98	\$ 67.71	\$ (7.73)	\$ 22.02	\$ 33.31	\$ (11.29)	\$ 37.96	\$ 34.40	\$ 3.56
Res Program Gen Expense J06DM**	\$ 0.21	\$ -	\$ 0.21	\$ 0.21	\$ -	\$ 0.21	\$ -	\$ -	\$ -
Total Residential Programs	\$ 60.19	\$ 67.71	\$ (7.52)	\$ 22.23	\$ 33.31	\$ (11.08)	\$ 37.96	\$ 34.40	\$ 3.56
Business Program									
Biz Standard J06D8	\$ 37.44	\$ 22.03	\$ 15.41	\$ 9.32	\$ 10.50	\$ (1.18)	\$ 28.12	\$ 11.53	\$ 16.59
Biz Custom J06D9	\$ 25.98	\$ 51.98	\$ (26.00)	\$ 9.93	\$ 24.71	\$ (14.78)	\$ 16.04	\$ 27.27	\$ (11.23)
Biz Retro-Commissioning J06DB	\$ 1.70	\$ 6.92	\$ (5.22)	\$ 0.60	\$ 2.94	\$ (2.34)	\$ 1.10	\$ 3.98	\$ (2.88)
Biz New Construction J06DC	\$ 5.19	\$ 4.82	\$ 0.37	\$ 1.61	\$ 2.08	\$ (0.47)	\$ 3.58	\$ 2.74	\$ 0.84
Small Business Direct J0006	\$ 4.77	\$ 9.73	\$ (4.96)	\$ 0.59	\$ 4.03	\$ (3.44)	\$ 4.19	\$ 5.70	\$ (1.51)
Subtotal Business Programs	\$ 75.08	\$ 95.48	\$ (20.40)	\$ 22.05	\$ 44.26	\$ (22.21)	\$ 53.03	\$ 51.22	\$ 1.81
Biz Program Gen Expense J06DD**	\$ 2.10	\$ -	\$ 2.10	\$ 2.10	\$ -	\$ 2.10	\$ -	\$ -	\$ -
Total Business Programs	\$ 77.19	\$ 95.48	\$ (18.29)	\$ 24.16	\$ 44.26	\$ (20.10)	\$ 53.03	\$ 51.22	\$ 1.81
Education J06D3	\$ 0.07	\$ -	\$ 0.07	\$ 0.07	\$ -	\$ 0.07	\$ -	\$ -	\$ -
Marketing J06D4	\$ 0.01	\$ -	\$ 0.01	\$ 0.01	\$ -	\$ 0.01	\$ -	\$ -	\$ -
Potential Study J06D5	\$ 0.47	\$ -	\$ 0.47	\$ 0.47	\$ -	\$ 0.47	\$ -	\$ -	\$ -
Data Tracking J06D6	\$ 0.25	\$ -	\$ 0.25	\$ 0.25	\$ -	\$ 0.25	\$ -	\$ -	\$ -
General Expense J06D7	\$ 0.40	\$ -	\$ 0.40	\$ 0.40	\$ -	\$ 0.40	\$ -	\$ -	\$ -
Communications J06DR	\$ 2.45	\$ -	\$ 2.45	\$ 2.45	\$ -	\$ 2.45	\$ -	\$ -	\$ -
Research and Development J000P	\$ 0.22	\$ -	\$ 0.22	\$ 0.22	\$ -	\$ 0.22	\$ -	\$ -	\$ -
Biz Benchmarking J0DHO***	\$ 0.13	\$ -	\$ 0.13	\$ 0.13	\$ -	\$ 0.13	\$ -	\$ -	\$ -
EMV Gen Expense J06DQ	\$ 0.05	\$ -	\$ 0.05	\$ 0.05	\$ -	\$ 0.05	\$ -	\$ -	\$ -
EMV Res Programs J06DN	\$ 2.56	\$ -	\$ 2.56	\$ 2.56	\$ -	\$ 2.56	\$ -	\$ -	\$ -
EMV Biz Programs J06DP	\$ 3.14	\$ -	\$ 3.14	\$ 3.14	\$ -	\$ 3.14	\$ -	\$ -	\$ -
Total Overhead Costs	\$ 9.76	\$ -	\$ 9.76	\$ 9.76	\$ -	\$ 9.76	\$ -	\$ -	\$ -
Total Program Costs	\$ 147.13	\$ 163.19	\$ (16.06)	\$ 56.15	\$ 77.57	\$ (21.42)	\$ 90.99	\$ 85.62	\$ 5.37
*Learning Thermostats-includes the Res Smart Thermostate program (J0C95)									
**This is a project number which tracks expenses associated with the overall residential and business portfolio of programs and are allocated to all the individual residential and business projects and budgets.									
***This is a pilot program which utilized some of the funds allocated to the Research and Development Account (J000P)									

If Ameren Missouri was imprudent in its decisions relating to the administration and implementation of the Residential and Business Energy Efficiency Programs, ratepayer harm could result in an increase in future Energy Efficiency Investment Charges.

Staff found Ameren Missouri did act imprudently by including inappropriate costs associated with its Energy Efficiency Programs resulting in ratepayer harm. Details of the inappropriate costs, and Staff’s recommended adjustments are detailed below in Sections B through E of this Report, and also in Table 2 of the Executive Summary.

Ameren Missouri did not provide a reconciliation of the General Ledger entries made by Ameren Missouri affecting program costs and saving amounts to the data entered in VISION® by the contracted vendors and recommends a periodic reconciliation of program costs. Staff was unable to fully reconcile VISION® to the Company's General Ledger. Staff encourages Ameren Missouri to provide such a reconciliation on a quarterly basis going forward.

- a. Ameren Missouri's *2016 – 2018 Energy Efficiency Plan*;
- b. Approved MEEIA Energy Efficiency and Demand Side Management Programs Tariff Sheets;
- c. Staff Data Requests: 0001, 0002, 0003, 0003.1, 0003.2, 0003.3, 0009, 0014, 0018 and 0018.1;
- d. Emails with Greg Lovett;
- e. Reports pulled from VISION® tracking system; and,
- f. General Ledger FERC Accounts 908 and 930.

*Staff Experts/Witnesses: Brooke Mastrogiannis (VISION®);
Cynthia M. Tandy (Program Cost)*

1. Description

Ameren Missouri staff attended several conferences in locations such as San Diego, California; Denver, Colorado; Portland, Oregon; New Orleans, Louisiana, etc. Staff requested

the Company provide agendas and receipts related to travel expenses to ensure the conferences or meetings were primarily MEEIA-related. There were travel expenses for three conferences that Staff considered MEEIA-related, with some exception (early bird seating, alcohol purchase, etc.). The remaining expenses were disallowed due to various reasons, but mostly due to the lack of receipts, no agenda provided or the agenda was not primarily MEEIA-related. After Staff reviewed the agendas for the conferences, along with the receipts, Staff found that while some conferences were related to energy efficiency, others were related to renewables, websites of the future, multicultural growth, and one trip was solely for an awards ceremony. Staff also found there was a tour on an agenda, and expensive resorts, such as Hotel Del Coronado in San Diego, CA. While Staff is aware some of these conferences were in relation to energy efficiency, others were clearly not MEEIA-related.

Based upon Staff's review, Staff has determined the costs associated with travel, conferences and meetings as submitted was \$28,621. However, Staff recommends a disallowance of \$25,452 including interest for non-MEEIA-related travel for conferences, training or meetings and some in-state travel costs for entertainment. Table 7²² below provides a more descriptive explanation for the costs associated with this disallowance of \$25,452. The table below does not include interest.

Table 7

					Conference	Person		
			Early Bird/		Not	Not On	Expenses	Add'l
	Total	No	Preferred		Primarily	Travel List	But did not	Charge
Category	Amount	Receipts	Seating Chg	Alcohol	MEEIA	(Ameren List)	Attend	No Explanation
Airfare & Airline Fees	\$ 3,895	\$ 25	\$ 217	\$ -	\$ 3,351	\$ 301	\$ -	\$ -
Alcohol Purchases	\$ 394	\$ -	\$ -	\$ 394	\$ -	\$ -	\$ -	\$ -
Hotel & Lodging	\$ 7,817	\$ 1,358	\$ -		\$ 5,321	\$ 170	\$ 967	\$ -
Meals and Snacks	\$ 4,838	\$ 4,559	\$ -	\$ 54	\$ 225	\$ -	\$ -	\$ -
Mileage	\$ 507	\$ 507	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Parking, Taxis, Tolls, etc.	\$ 748	\$ 177	\$ -	\$ -	\$ 537	\$ -	\$ 34	\$ -
Purchases-Other	\$ 5,566	\$ 5,358	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 208
Registration	\$ 1,124	\$ -	\$ -	\$ -	\$ 1,124	\$ -	\$ -	\$ -
Vehicle Rentals	\$ 122	\$ 122	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 25,010	\$ 12,106	\$ 217	\$ 448	\$ 10,559	\$ 471	\$ 1,001	\$ 208

²² This Table was created from Program Costs detailed in Data Request No. 0003.

1 **2. Summary of Cost Implications**

2 If Ameren Missouri was imprudent in its decision relating to employee out-of-state
3 travel and training, ratepayer harm could result in an increase in Energy Efficiency
4 Investment Charge billed amounts.

5 **3. Conclusion**

6 In Staff's opinion, it is imprudent for Ameren Missouri to include \$25,010.03 plus
7 \$441.82 interest for a total amount of \$25,451.85 related to out-of-state travel costs and
8 certain in-state entertainment in its Rider EEIC. Staff recommends the Commission order an
9 adjustment of **\$25,451.85**.

10 **4. Documents Reviewed**

- 11 a. Ameren Missouri's 2016-2018 Energy Efficiency Plan;
12 b. Approved MEEIA Energy Efficiency and Demand Side Management
13 Programs and Tariff Sheets;
14 c. Rider EEIC;
15 d. Phone Meeting with Greg Lovett (Ameren Missouri Staff); and,
16 e. Staff Data Requests: 0003 and 0014;

17 *Staff Expert/Witness: Cynthia M. Tandy*

18 **C. Membership and Trade Dues**

19 **1. Description**

20 Ameren Missouri incurred costs related to membership and trade dues during this
21 Review Period. Staff reviewed these costs categorized by Ameren Missouri in the General
22 Ledger with the resource type MD - Dues and Membership Other, and recorded during the
23 Review Period for a total of \$19,700.00. These costs involved the following
24 organizations/associations: AESP Corporate Membership in the amount of \$6,250.00; Facility
25 Operators and Service Providers Association in the amount of \$1,000.00; Peak Load
26 Management Alliance in the amount of \$2,450.00; and Prepay Energy Working Group
27 Corporate Membership in the amount of \$10,000.00.

28 In its evaluation of costs related to membership and trade dues, Staff relied on the
29 following categories recognized by the Commission:

- 30 1) Business and Professional: assist company employees in maintaining
31 and expanding their level of knowledge in their respective fields;

- 2) Industry: function of these organizations is the performance of research and development activities or lobbying activities;
- 3) Economic and civic: activities of these organizations include attracting new businesses to areas in which the utility operates, retaining and encouraging growth of existing companies and fostering an overall business and economic climate;
- 4) Social: utilities see membership in these organizations as a means to promote their image in the community.

The Commission adopted these categories of membership and trade dues and provided the rationale to apply when reviewing these costs: 1) no direct, quantifiable benefit to the ratepayer, 2) were not necessary in providing safe and adequate service to the ratepayer, or 3) represent an involuntary contribution on the part of the ratepayer to an organization.

Based upon Staff's review, Staff has determined the costs associated with membership and trade dues for the amount \$19,700.00 plus interest of \$425.90 for a total of \$20,125.90 should be disallowed based on the Commission rationale provided above.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in its decisions on memberships and trade dues, ratepayer harm could result in an increase in Energy Efficiency Investment Charge billed amounts.

3. Conclusion

Ameren Missouri was imprudent when it included certain membership and trade dues as MEEIA costs. Staff recommends the Commission order an adjustment in the amount of \$19,700.00 plus interest of \$425.90 for a total of **\$20,125.90**.

4. Documents Reviewed

- a. Ameren Missouri's 2016-2018 Energy Efficiency Plan;
- b. Approved MEEIA Energy Efficiency and Demand Side Management Programs and Tariff Sheets;
- c. Rider EEIC;
- d. Staff Accounting Position Paper on Dues and Donations; and,
- e. Staff Data Requests: 0003, 0018 and 0018.1.

Staff Expert/Witness: Cynthia M. Tandy

1 **D. Contract Labor**

2 **1. Description**

3 Ameren Missouri incurred costs related to contract labor through Zempleo, Inc.
4 (a temporary service). Staff reviewed the invoices for all costs paid for temporary labor during
5 the Review Period. The temporary contract labor was for one individual who worked through
6 the whole Review Period. Staff takes the position that since labor costs are already included in
7 permanent rates, and the invoices provided gave no description of what work or what type of
8 work was actually done, Staff cannot determine that this is an eligible MEEIA-related
9 expense, and therefore should be disallowed. The total amount paid to Zempleo for one
10 employee was \$111,035.42.

11 **2. Summary of Cost Implications**

12 If Ameren Missouri was imprudent in its decisions on contract labor, ratepayer harm
13 could result in an increase in Energy Efficiency Investment Charge billed amounts.

14 **3. Conclusion**

15 In Staff's opinion, Ameren Missouri was imprudent when it included unsupported
16 contract labor as MEEIA costs. Staff recommends the Commission order an adjustment in the
17 amount of \$111,035.42 plus interest of \$2,366.68 for a total of **\$113,402.10**.

18 **4. Documents Reviewed**

- 19 a. Ameren Missouri's 2016-2018 Energy Efficiency Plan;
20 b. Approved MEEIA Energy Efficiency and Demand Side Management
21 Programs and Tariff Sheets;
22 c. Rider EEIC;
23 d. Email on 09/24/2019 from Ameren Missouri Staff, Greg Lovett, with
24 copies of invoices to support the cost; and,
25 e. Staff Data Requests: 0003 and 0003.1.

26 *Staff Expert/Witness: Cynthia M. Tandy*

1 **E. Other Expenses**

2 **1. Description**

3 Ameren Missouri incurred costs related to MEEIA-related programs during the
4 Review Period. When Staff reviewed all of the expenses, Staff discovered three expenditures
5 that were questionable so Staff requested invoices for review. The three costs were:
6 1) Purchase Order to Buss(MO EngEf\$R 921) for CatalystUSA for \$1,695.00, 2) Purchase
7 Order to Wright(MOEngEf&R 921) for Missouri Energy Initiative for \$2,500.00, and 3) a
8 check to Earthways Center for a sponsorship at Botanical Gardens for \$7,500.00. After Staff
9 reviewed the copies of the invoices provided, Staff could not determine that there was a
10 relationship with these expenses and the MEEIA programs. Staff requested further
11 information²³ to understand the relationship of these expenses with the MEEIA programs,
12 which Staff never received. Therefore, the costs were determined to be ineligible for cost
13 recovery through MEEIA. The total amount paid for the three transactions was \$11,695.00.

14 **2. Summary of Cost Implications**

15 If Ameren Missouri was imprudent in its decisions on expenditures, ratepayer harm
16 could result in an increase in Energy Efficiency Investment Charge billed amounts.

17 **3. Conclusion**

18 Ameren Missouri was imprudent when it included the three expenditures as MEEIA
19 costs. Staff recommends the Commission order an adjustment in the amount of \$11,695.00
20 plus interest of \$242.00 for a total of **\$11,937.00**.

21 **4. Documents Reviewed**

- 22 a. Ameren Missouri's 2016-2018 Energy Efficiency Plan;
23 b. Approved MEEIA Energy Efficiency and Demand Side Management
24 Programs and Tariff Sheets;
25 c. Rider EEIC;
26 d. Email on 09/24/2019 from Ameren Missouri Staff, Greg Lovett, with
27 copies of invoices to support the cost; and,
28 e. Staff Data Requests: 0003 and 0003.1.

29 *Staff Expert/Witness: Cynthia M. Tandy*

²³ Data Request Nos. 0003.1 and 0013.1, emails, and phone conferences with Greg Lovett.

F. Implementation Contractors

1. Description

Ameren Missouri hired business partners for design, implementation and delivery of its portfolio of residential and business energy efficiency programs to customers. Contracting with competent, experienced and reliable program implementers is extremely important to the success of Ameren Missouri's energy efficiency programs and for affording Ameren Missouri's customers the greatest benefits.

Ameren Missouri issued RFPs for program implementers to directly administer one or more of Ameren Missouri's energy efficiency programs. Ameren Missouri selected and contracted with the organizations identified in Table 8 to implement individual MEEIA programs. All of the implementers identified on Table 8 are nationally recognized contractors that have solid histories of energy efficiency programs' design and implementation.

Table 8

Cumulative Totals November 1, 2017 through February 28, 2019				
MEEIA Programs	Planned Annual Energy Savings (kWh)	Planned Annual Demand Savings (kW)	Program Implementers	Program EM&V Contractors
Res. Lighting	18,164,228	2,526	ICF	Cadmus Group
Res. Efficient Products	6,665,187	1,452	ICF	Cadmus Group
Res. HVAC	33,783,364	47,057	ICF	Cadmus Group
Res. Smart Thermostats	3,353,208	5,611	ICF	Cadmus Group
Res. Low Income	5,300,604	3,755	ICF	ADM
Res. EE Kits	9,882,090	2,905	ICF	Cadmus Group
Res. Home Energy Reports	0	0	Lockheed Martin	Cadmus Group
Bus. Standard	52,284,499	42,271	Lockheed Martin	ADM
Bus. Custom	108,246,432	28,095	Lockheed Martin	ADM
Bus. Retro Commissioning	12,353,597	4,299	Lockheed Martin	ADM
Bus. New Construction	9,138,303	6,536	Lockheed Martin	ADM
Bus. Small Business Direct Install	18,951,381	3,357	Lockheed Martin	ADM
Cust. Ext. Lighting	0	176	Lockheed Martin	ADM
Total Portfolio	278,122,893	148,040		

Staff examined the contracts between Ameren Missouri and the implementers in an effort to determine if the terms of the contract were followed during the implementation of the

1 residential and business programs. During the review of invoices, ICF and Lockheed Martin
2 invoices were cross-checked to Data Request No. 0003, and all invoices were reviewed.

3 **2. Summary of Cost Implications**

4 If Ameren Missouri was imprudent in its decisions relating to the supervision of its
5 program implementers, ratepayer harm could result in an increase in the future Energy
6 Efficiency Investment Charge amounts.

7 **3. Conclusion**

8 Staff found no indication that Ameren Missouri has acted imprudently regarding the
9 supervision of its program implementers.

10 **4. Documents Reviewed**

- 11 a. Ameren Missouri's 2016 – 2018 Energy Efficiency Plan;
- 12 b. Approved MEEIA Energy Efficiency and Demand Side Management
- 13 Programs Tariff Sheets;
- 14 c. Data given through emails from Greg Lovett; and,
- 15 d. Staff Data Requests: 0001, 0002, 0003, 0004, 0007, 0017 and 0017.1.

16 *Staff Expert/Witness: Lisa Wildhaber*

17 **G. Billed Program Costs**

18 **1. Description**

19 For the Review Period, Ameren Missouri billed customers through a separate line item
20 on customers' bills titled "Energy Efficiency Investment Charge" to recover estimated energy
21 efficiency programs' costs and estimated Company's TD. The "Energy Efficiency Investment
22 Charge" is based on the customer's monthly consumption and the applicable energy
23 efficiency investment rates approved by the Commission in Case No. ER-2019-0151.²⁴
24 During the Review Period of November 1, 2017 through February 28, 2019, Ameren Missouri
25 billed customers \$89,665,253 to recover its estimated energy efficiency programs' costs.

²⁴ The energy efficiency investment rates on Original Sheet No. 91.11, approved in Case No. EO-2015-0055, are based upon anticipated costs as well as reconciliations of historical costs associated with Ameren Missouri's approved demand-side programs. Rate changes occurred during the Review Period in support of revisions to Rider EEIC – Energy Efficiency Investment Charge of Ameren Missouri's Schedule No. 6 – Schedule of Rates for Electric Service, 1st, 2nd, 3rd, and 4th Revised Sheet No. 91.11 (respectively), in Case Nos. ER-2016-0242, ER-2017-0149, ER-2018-0144, and ER-2019-0151.

1 For the same period, Ameren Missouri actually spent \$82,389,754 on its energy efficiency
2 programs. Thus, Ameren Missouri over-collected \$7,275,499 from its customers during the
3 Review Period. The monthly amounts that are either over- or under-collected from customers
4 are tracked in a regulatory asset account, along with monthly interest, until Ameren Missouri
5 files for rate adjustments under its Rider EEIC and new energy efficiency investment rates are
6 approved by the Commission.²⁵ The cumulative interest associated with this over-collected
7 amount was \$276,558 as of February 28, 2019, which includes \$48,801 of an over-collection
8 from the first half of Cycle 2.

9 **2. Summary of Cost Implications**

10 If Ameren Missouri was imprudent in its tracking, reporting and/or calculating its
11 estimated billed costs, ratepayer harm could result in an increase in future Energy Efficiency
12 Investment Charge amounts.

13 **3. Conclusion**

14 Staff found no indication that Ameren Missouri has acted imprudently regarding the
15 calculation of the estimated billed program costs related to the cost recovery of its MEEIA
16 program costs. The monthly amounts that were over-collected from customers are tracked in
17 a regulatory asset account, along with monthly interest, and will be reflected in a future
18 Ameren Missouri rate adjustment filing under its Rider EEIC.

19 **4. Documents Reviewed**

- 20 a. Ameren Missouri's 2016 – 2018 Energy Efficiency Plan;
- 21 b. Approved MEEIA Energy Efficiency and Demand Side Management
22 Programs Tariff Sheets;
- 23 c. Discussions and meetings with Greg Lovett, Ameren Missouri; and,
- 24 d. Staff Data Requests: 0001, 0002, 0005 and 0011.

25 *Staff Expert/Witness: Brooke Mastrogiannis and Cynthia M. Tandy*

²⁵ On November 21, 2014, Ameren Missouri filed, in Case No. ER-2015-0075 and Tariff Tracking No. YE-2015-0210, testimony, work papers and its proposed 1st Revised Sheet No. 90.5 to adjust Rider EEIC rates effective with its February 2015 billing month, beginning January 27, 2015, to reflect an increase in annual revenue requirements of \$45.4 million (from \$80.9 million to \$126.3 million).

H. Throughput Disincentive Costs Billed and Actual

1. Description

Ameren Missouri calculates TD monthly based upon all end use measures installed during the month and the savings associated with each installed measure. The TD calculation is prescribed in the Rider EEIC where $TD = MS \times NMR \times NTGF^{26}$. Staff reviewed the various components of the TD calculation for the accuracy and proper timing of measure counts. TD is also billed to customers through the “Energy Efficiency Investment Charge” line item on the customers’ bill by combining net program cost with net throughput disincentive (\$/kWh) rates as prescribed in Ameren Missouri’s Rider EEIC.²⁷ During the Review Period, Ameren Missouri billed customers \$40,750,304 for the Cycle 2 estimated Company TD. The actual Company TD for Cycle 2 during the Review Period was \$34,013,858, while the cumulative TD for the entire Cycle 2 period to date is \$46,599,939. Thus, Ameren Missouri over-collected \$6,736,446 from its customers during the Review Period.

As explained in the Gross Annual Energy and Demand Savings section of this Report, the Company provided multiple sources of information for the energy savings kWhs, which affects the total TD calculation. For instance, the Quarterly Surveillance Reports reflect a total of 508,638,826 energy savings kWhs, and the TD Calc spreadsheet reflects a total of 509,005,962 energy savings kWhs, for a difference of 367,136 kWhs.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in its tracking, reporting and/or calculating the Company’s estimated billed TD or actual TD cost, ratepayer harm could result in an increase in future Energy Efficiency Investment Charge amounts.

3. Conclusion

Due to the differing amounts for energy savings kWhs and the lack of detailed reconciliations between the sources of information, Staff is proposing a disallowance of

²⁶ Throughput Disincentive = Monthly Savings x Net Margin Revenue x Net to Gross Factor.

²⁷ ER-2016-0242; Union Electric Company Rider EEIC MO.P.S.C Schedule No. 6, 1st Revised No. 91.11, Tracking No. YE-2016-0244 and ER-2017-0149; Union Electric Company Rider EEIC MO.P.S.C Schedule No. 6, 2nd Revised No. 91.11, Tracking No. YE-2017-0079 and ER-2018-0144; Union Electric Company Rider EEIC MO.P.S.C. Schedule No. 6, 3rd Revised Sheet No. 91.11, Tracking No. YE-2018-0063 and ER-2019-0151; Union Electric Company Rider EEIC MO.P.S.C. Schedule No. 6, 4th Revised Sheet No. 91.11.

1 \$24,533.53, without interest, which is calculated as the percentage of actual TD to kWh
2 savings of 6.68%²⁸, applied to the 367,136 difference in kWh savings.

3 **4. Documents Reviewed**

- 4 a. Ameren Missouri's 2016 – 2018 Energy Efficiency Plan;
- 5 b. Ameren Missouri's MEEIA EEIC Rider, ER-2019-0151;
- 6 c. Approved MEEIA Energy Efficiency and Demand Side Management
7 Programs Tariff Sheets;
- 8 d. Ameren Missouri's Quarterly Surveillance Reports;
- 9 e. Discussions with Ameren Missouri; and,
- 10 f. Staff Data Requests: 0001, 0002 0005, 0015 and 0015.1.

11 *Staff Expert/Witness: Lisa Wildhaber*

12 **IV. GROSS ANNUAL ENERGY AND DEMAND SAVINGS (kWh and kW)**

13 **1. Description**

14 The purpose of Ameren Missouri's energy efficiency programs is for customers to use
15 less energy and therefore everything else being equal reduces the need for more generation.
16 In the 2016 Stipulation, Ameren Missouri planned for cumulative annual energy savings of
17 570,980,000 kWh and demand savings of 166,642 kW. For the Review Period, Ameren
18 Missouri reported actual gross energy and demand savings based upon installed measures of
19 509,005,962 kWh and 148,040 kW, respectively. Ameren Missouri monetizes the actual
20 energy savings through its TD calculation as discussed earlier.

21 Achieved cumulative deemed annual energy and demand savings relative to the
22 planned cumulative annual energy and demand savings for the same period is important to
23 understanding the overall performance of Ameren Missouri's energy efficiency programs.
24 Table 8 provides a comparison of achieved savings and planned savings for Ameren
25 Missouri's residential and business programs for the Review Period. If Ameren Missouri was
26 unable to achieve its planned energy and demand savings levels, that could be an indication
27 the programs were not being prudently administered by the implementers and by

²⁸ Actual TD of \$34,013,858 divided by total kWh savings of 509,005,962 equals 6.68%; difference of 367,136 times 6.68% equals \$24,533.53 proposed disallowance.

1 Ameren Missouri. The results in Table 9²⁹ indicate that Ameren Missouri exceeded its plan
2 for cumulative deemed annual energy savings by 83%³⁰ during the Review Period. This
3 measurement only represents this Review Period of Ameren Missouri's 2016-2018 Energy
4 Efficiency Plan.

5 Staff notes that the Company provided different sources of information for the total
6 energy savings (kWh): the Dashboard spreadsheet, the TD Calc spreadsheet (included with
7 Data Request No. 0015), and the Quarterly Surveillance Reports. The Company explained
8 that the Dashboard spreadsheet and Quarterly Surveillance Reports are based on a snapshot in
9 time when the reports were created and are fluid documents due to savings adjustments that
10 can be made to previous months. The Quarterly Surveillance Reports use the Dashboard
11 spreadsheet as the source document. The Quarterly Surveillance Reports reflect a total of
12 508,638,826 actual energy savings kWh for the period under review, whereas the TD Calc
13 spreadsheet reflects a total of 509,005,962 actual energy savings kWh for the period. The
14 Company stated that the correct amount and source for kWh is the March 7, 2019 version of
15 the TD Calc spreadsheet, which is the 509,005,962 energy savings kWh, although Staff could
16 not verify this amount due to the lack of reconciliation between the different sources. In
17 addition, Staff reviewed the VISION[®] reporting system, and it does not fully capture all
18 savings information and could not be relied upon to confirm the total energy savings kWh.

19 Staff requested Ameren Missouri perform a detailed reconciliation in an effort to
20 determine the most accurate determination of energy savings associated with the MEEIA Plan
21 for the Review Period. Further, in Staff's first MEEIA prudence review of Ameren Missouri's
22 MEEIA Cycle 2 Plan, Staff noted the same issue with the reporting of these values.
23 However, Ameren Missouri did not take any action to resolve the issue so that it would not
24 impact this prudence review. Staff will note that Ameren Missouri has agreed, as a result of
25 the settled MEEIA Cycle 3, that it will no longer adjust totals outside of a reporting month.

26 Staff is also concerned, as it has been in other prudence reviews, that the VISION[®]
27 tracking system is not updated to reflect changes and/or corrections that occur and a detailed
28 reconciliation has not been provided by the Company. Staff relies on VISION[®] during the
29 prudence review process to confirm that measures and the associated savings are accounted

²⁹ Table 9 was partially created from information provided in an email from Ameren Missouri on September 6, 2019. The Company labeled this information as Final Dashboard.

³⁰ This calculation derived from the total variance divided by the total planned energy savings (kWh).

for correctly, which provides a reasonable assurance what Ameren Missouri and its vendors say happens actually happened.

Table 9

Cumulative Totals November 1, 2017 through February 28, 2019						
MEEIA Programs	Achieved Annual Energy Savings (kWh)	Planned Annual Energy Savings (kWh)	Variance	Achieved Annual Demand Savings (kW)	Planned Annual Demand Savings (kW)	Variance
Res. Lighting	16,925,555	18,164,228	(1,238,673)	2,526	2,713	(187)
Res. Efficient Products	5,263,619	6,665,187	(1,401,568)	1,452	1,880	(428)
Res. HVAC	70,616,546	33,783,364	36,833,182	47,057	21,499	25,558
Res. Smart Thermostats	5,922,840	3,353,208	2,569,632	5,611	3,172	2,439
Res. Low Income	14,780,885	5,300,604	9,480,281	3,755	1,234	2,521
Res. EE Kits	10,983,791	9,882,090	1,101,701	2,905	1,666	1,239
Res. Home Energy Reports	0	0	-	0	0	-
Total Residential Programs	124,493,236	77,148,681	47,344,555	63,306	32,164	31,142
Bus. Standard	223,656,429	52,284,499	171,371,930	42,271	10100	32,171
Bus. Custom	79,316,105	108,246,432	(28,930,327)	28,095	24261	3,834
Bus. Retro Commissioning	8,555,567	12,353,597	(3,798,030)	4,299	2807	1,492
Bus. New Construction	24,064,690	9,138,303	14,926,387	6,536	3007	3,529
Bus. Small Business Direct Install	17,681,194	18,951,381	(1,270,187)	3,357	3576	(219)
Bus. Cust. Ext. Lighting	31,238,741	0	31,238,741	176	0	176
Total Business Programs	384,512,726	200,974,212	183,538,514	84,734	43,751	40,983
Total Portfolio	509,005,962	278,122,893	230,883,069	148,040	75,915	72,125

2. Summary of Cost Implications

If Ameren Missouri was imprudent in its tracking, reporting and/or calculating the Company's estimated energy and demand savings ratepayer harm could result in an increase in future Energy Efficiency Investment Charge amounts.

3. Conclusion

Due to the differences in energy savings kWhs explained above, Staff is proposing a disallowance for the throughput disincentive, as noted in the Throughput Disincentive section of this Report. Staff also encourages Ameren Missouri to either make the changes and corrections that occur directly in VISION® or provide a detailed and complete reconciliation between the various sources that it does use to track energy savings kWhs.

1 **4. Documents Reviewed**

- 2 a. Ameren Missouri’s 2016 – 2018 Energy Efficiency Plan and Technical
3 Resource Manual;
4 b. Approved MEEIA Energy Efficiency and Demand Side Management
5 Programs Tariff Sheets;
6 c. Ameren Missouri’s Quarterly Surveillance Reports;
7 d. Staff Data Requests: 0001, 0002, 0015, 0015.1, 0017 and 0017.1;
8 e. September 26, 2019 emailed information from Greg Lovett; and,
9 f. Reports pulled from VISION® tracking system.

10 *Staff Expert/Witness: Lisa Wildhaber*

11 **V. INTEREST**

12 **1. Description**

13 Staff reviewed the interest calculations for program costs and throughput disincentive,
14 broken out by rate class as provided in Ameren Missouri’s response to Data Request No. 0005
15 for the Review Period of November 1, 2017 through February 28, 2019. Ameren Missouri’s
16 tariff sheets provide that for program costs and TD: “Such amounts shall include monthly
17 interest charged at the Company’s monthly short-term borrowing rate.” Staff verified the
18 Company’s monthly short-term borrowing rate was applied correctly to the over- or under-
19 recovered balances for program costs and TD. Ameren Missouri calculates interest associated
20 with TD by each rate class.

21 During the Review Period Ameren Missouri’s total for the interest amount accrued for
22 the Company’s program costs as reported on Page 6 of Ameren Missouri’s Quarterly
23 Surveillance Monitoring Report was \$224,561 for the over-billing for program costs and
24 \$57,637 for the over-billing of TD.

25 **2. Summary of Cost Implications**

26 If Ameren Missouri was imprudent in its reporting and/or calculating of the interest
27 associated with the over- or under-recovery of energy efficiency programs’ costs and/or
28 the TD, ratepayer harm could result in an increase in future Energy Efficiency Investment
29 Charge amounts.

1 **3. Conclusion**

2 Staff found no indication that Ameren Missouri has acted imprudently regarding the
3 calculation of the interest.

4 **4. Documents Reviewed**

- 5 a. Ameren Missouri's 2016 – 2018 Energy Efficiency Plan;
6 b. Approved MEEIA Energy Efficiency and Demand Side Management
7 Programs Tariff Sheets; and,
8 c. Staff Data Requests: 0001, 0003 and 0005.

9 *Staff Expert/Witness: Brooke Mastrogiannis*

10 **VI. EARNINGS OPPORTUNITY (EO)**

11 **1. Description**

12 Ameren Missouri's EO is designed to provide a substitute for earnings lost on physical
13 plant that was not built by Ameren Missouri because of the energy and demand savings
14 achieved by Ameren Missouri's MEEIA programs. In the 2016 Stipulation, stakeholders
15 agreed that EO would be determined at the conclusion of the MEEIA cycle and upon full
16 retrospective EM&V. Also, Ameren Missouri's tariff sheet defines EO as:

17 "EO Determination" (EO) means EO shall be calculated using the
18 matrix below³¹. EO will not go below zero dollars (\$0). The EO at
19 100% is \$27,471,935. Before adjustments reflecting TD EM&V
20 including NTG, the EO cannot go above \$38,783,516. The EO
21 including adjustments reflecting TD EM&V including NTG cannot
22 go above \$53,783,516. The cap is based on current program levels. If
23 Commission approved new programs are added in years 2017 and
24 2018, the Company may seek Commission approval to have the
25 targets and the cap of the EO matrix scale adjusted. EO shall be
26 adjusted for the difference, with carrying cost at the Company's
27 monthly Allowance for Funds Used During Construction (AFUDC)
28 rate compounded semi-annually, between TD billed and what TD
29 billed would have been if: 1) the ME used in the calculation were the
30 normalized savings for each measure at customer meter per measure
31 determined through EM&V ex-post gross analysis for each program
32 year, and 2) the NTGF used in the calculation was the net-to-gross
33 values determined through EM&V, except that if the NTGF value
34 determined through EM&V is less than 0.80, the recalculation shall

³¹ The Earnings Opportunity Matrix is on page 10 of Addendum A.

1 use 0.80 and if the NTG value determined through EM&V is greater
2 than 1.0, the recalculation shall use 1.0.³²

3 For this Review Period an EO has not been awarded, however a review of the EO component
4 and the calculations of the prior EO was performed.

5 **2. Summary of Cost Implications**

6 If Ameren Missouri was imprudent in its reporting and/or calculation of the EO,
7 ratepayer harm could result in an increase in future DSIM Charge amounts.

8 **3. Conclusion**

9 Staff has verified that Ameren Missouri is not seeking any recovery of an earnings
10 opportunity in this Review Period as none has been awarded.

11 **4. Documents Reviewed**

- 12 a. Ameren Missouri's Cycle 2 Plan;
- 13 b. Ameren Missouri Tariff Sheet 91.9;
- 14 c. Ameren Missouri Cycle 2 Stipulation and Agreement, Appendix A;
- 15 d. Ameren Missouri's Quarterly Surveillance Monitoring Report, Page 6; and,
- 16 e. Staff Data Request: 0015.

17 *Staff Expert/Witness: Brooke Mastrogiannis*

18 **VII. EVALUATION MEASUREMENT AND VERIFICATION (EM&V)**

19 **1. Description**

20 In the 2016 Stipulation, Ameren Missouri agreed³³ to have its independent EM&V
21 evaluator(s) perform annual EM&V and file annual EM&V reports with the Commission
22 following each program year. During this Review Period, Ameren Missouri's evaluators filed
23 their 2017 Program Year EM&V Reports (PY 2017 EM&V). Final changes to the Cadmus
24 PY 2017 EM&V Report resulted from the Commission's October 17, 2018 *Order Approving*
25 *Non-Unanimous Stipulation and Agreement* in Case No. EO-2015-0055. The cost of EM&V
26 work performed by Ameren Missouri's independent evaluators for the Review Period is
27 ** _____ **.

³² Tariff Sheet No. 91.9.

³³ 2016 Stipulation, Paragraph 11 and Appendix C – EMV Plan and Timeline.

Ameren Missouri contracted with The Cadmus Group, Inc. (“Cadmus”) and ADM Associates, Inc. (ADM) to be the independent EM&V evaluators. Ameren Missouri holds back or retains 10% of the total amount of each invoice submitted by the EM&V evaluators. The 10% held back is not paid until a project has been completed to the satisfaction of Ameren Missouri. Therefore, only 90% of the invoices submitted are paid and reflected in the transactions provided in responses to Data Request No. 0003 and No. 0008. This 10% is an accumulating balance and only paid on projects completed, at which time the accumulating balance is reduced. Staff requested from Ameren Missouri copies of the EM&V evaluators’ invoices. EM&V invoices submitted by Ameren Missouri did provide an itemized list of the dollar amount for each 10% held back. Staff was able to verify the recording of invoices at 90% of the total invoiced amount and the subsequent payments for the 10% held back in the responses provided to Data Request No. 0003 and No. 0008.

Commission rules allow Ameren Missouri to spend up to 5% of its total program costs budget for EM&V.³⁴ During the Review Period, Ameren Missouri expended ** _____ **³⁵ for EM&V, which represents 3.09% of the \$82,389,751 total programs’ costs. Thus, the costs associated with the EM&V did not exceed the 5% maximum cap.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in administration of its EM&V contracts, ratepayer harm could result in an increase in future Energy Efficiency Investment Charge amounts.

3. Conclusion

Staff found no indication that Ameren Missouri acted imprudently regarding the administration of EM&V contracts concerning its PY 2016 EM&V.

4. Documents Reviewed

- a. Ameren Missouri’s 2016 – 2018 Energy Efficiency Plan;

³⁴ 20 CSR 4240-20.093(8)(A) Each utility’s EM&V budget shall not exceed five percent (5%) of the utility’s total budget for all approved demand-side program costs.

³⁵ There is a \$3,523 difference compared to Table 3 because there are some expenses associated with Project Code J000P also included in EM&V.

- b. Ameren Missouri's 2017 EM&V and associated Stipulation and Agreement;
- c. Approved MEEIA Energy Efficiency and Demand Side Management Programs Tariff Sheets;
- d. Cadmus invoices;
- e. ADM invoices;
- f. Telecommunication with Greg Lovett and Neil Grazer; and,
- g. Staff Data Requests: 0001, 0002, 0003, 0005 and 0008.

Staff Expert/Witness: Brooke Mastrogiannis

See attached Addendum A and Confidential Addendum B

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Second Prudence Review)
of the Missouri Energy Efficiency Investment) File No. EO-2019-0376
Act (MEEIA) Cycle 2 Energy Efficiency)
Programs of Union Electric Company)
d/b/a Ameren Missouri)

AFFIDAVIT OF BROOKE MASTROGIANNIS

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

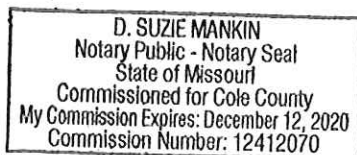
COMES NOW BROOKE MASTROGIANNIS and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Second Prudence Review*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


BROOKE MASTROGIANNIS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 29th day of October 2019.




Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Second Prudence Review)
of the Missouri Energy Efficiency Investment) File No. EO-2019-0376
Act (MEEIA) Cycle 2 Energy Efficiency)
Programs of Union Electric Company)
d/b/a Ameren Missouri)

AFFIDAVIT OF CYNTHIA M. TANDY

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

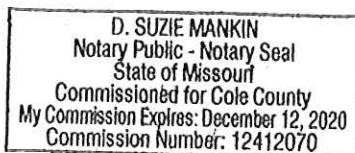
COMES NOW CYNTHIA M. TANDY and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Second Prudence Review*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


CYNTHIA M. TANDY

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 29th day of October 2019.




Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Second Prudence Review)
of the Missouri Energy Efficiency Investment) File No. EO-2019-0376
Act (MEEIA) Cycle 2 Energy Efficiency)
Programs of Union Electric Company)
d/b/a Ameren Missouri)

AFFIDAVIT OF LISA WILDHABER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW LISA WILDHABER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Second Prudence Review*; and that the same is true and correct according to her best knowledge and belief.

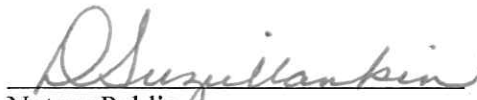
Further the Affiant sayeth not.


LISA WILDHABER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 29th day of October 2019.




Notary Public

UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 61st RevisedSHEET NO. 91CANCELLING MO.P.S.C. SCHEDULE NO. 6OriginalSHEET NO. 91APPLYING TO MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGEFor MEEIA Cycle 2 PlanAPPLICABILITY

This Rider EEIC - Energy Efficiency Investment Charge (Rider EEIC) is applicable to all kilowatt-hours (kWh) of energy supplied to customers served under Company's Service Classification Nos. 1(M), 2(M), 3(M), 4(M), 11(M), and 12(M), excluding kWh of energy supplied to "opt-out" or "low-income" customers.

An Ameren Missouri low-income customer who has received assistance from Missouri Energy Assistance (a.k.a. Low Income Home Energy Assistance Program or LIHEAP), Winter Energy Crisis Intervention Program, or Summer Energy Crisis Intervention Program and (i) whose account has not automatically been exempted from Rider EEIC, or (ii) who has been charged Rider EEIC charges and whose account has not been credited for said charges, may provide the Company, via facsimile to **866.297.8054**, via email to myhomeamerenmissouri@ameren.com, or via regular mail to **Ameren Missouri, P.O. Box 790352, St. Louis, MO 63179-0352**

- a. documentation of the assistance received in the form of:
 - i. a copy of the Division of Social Services Family Support Division ("DSSFS") form EA-7 energy assistance payment notice received by the low-income customer, or
 - ii. a copy of the DSSFS LIHEAP Energy Assistance direct payment check received by the low-income customer, or
 - iii. a copy of the Contract Agency energy crisis intervention program ("ECIP") payment notification letter received by the low-income customer, or
 - iv. a printout of the low-income customer's DSSFS LIHEAP EA EIRG System Registration screen identifying the supplier, benefit amount and payment processing date.
- b. Upon receipt of the documentation, the Company will credit the low-income customer's account for:
 - i. energy efficiency investment charges, and
 - ii. any municipal charges attributable to said EEIC charges, that were previously charged to the low-income customer within twelve billing months following the documented receipt of energy assistance; provided that the low-income customer shall not be entitled to any credit, nor shall Company credit the low-income customer, for energy efficiency investment charges and associated municipal charges incurred and billed prior to the June 2015 commencement of the low-income exemption.
- c. Upon receipt of the documentation, for the remainder of the twelve months following the documented receipt of energy assistance, the Company will exempt such low-income customer from any Rider EEIC charges thereafter imposed. The exemption will be evidenced on the low-income customer's bill as an EEIC charge, followed by a credit.

Charges passed through this Rider EEIC reflect the charges approved to be billed from the implementation of the Missouri Energy Efficiency Investment Act (MEEIA) 2016-18 Plan and any remaining unrecovered balances from the MEEIA 2013-15 plan. Those charges include:

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UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 61st Revised SHEET NO. 91.1CANCELLING MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 91.1APPLYING TO MISSOURI SERVICE AREA

RIDER EEIC
ENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)
For MEEIA Cycle 2 Plan

APPLICABILITY (Cont'd.)

- 1) Program Costs, Company's Throughput Disincentive ((TD) and Earnings Opportunity (EO) Award (if any) for each Effective Period (EP)
- * 2) Reconciliations, with interest, to true-up for differences between the revenues billed under this Rider EEIC and total actual monthly amounts for:
 - i) Program Costs incurred in the MEEIA 2016-18 Plan, including those related to Long-Lead Projects, and/or remaining unrecovered Program balances for MEEIA 2013-15,
 - ii) Company's TD incurred in the MEEIA 2016-18 Plan, including those related to Long-Lead Projects, and/or remaining TD-NSB Share balances for MEEIA 2013-15,
 - iii) Amortization of Earnings Opportunity ordered by the Missouri Public Service Commission (Commission), including those related to Long-Lead Projects, and/or remaining balances for the MEEIA 2013-15 Performance Incentive.
- 3) Any Ordered Adjustments.

Charges under this Rider EEIC shall continue after the anticipated February 28, 2019 end of MEEIA 2016-18 Plan until such time as the charges described in items 1), 2), and 3) above have been billed.

Charges arising from the MEEIA 2016-18 Plan that are the subject of this Rider EEIC shall be reflected in one "Energy Efficiency Invest Chg" on customers' bills in combination with any charges arising from a rider that is applicable to the MEEIA 2013-15 Plan demand-side management programs.

DEFINITIONS

As used in this Rider EEIC, the following definitions shall apply:

"AFUDC" means the Allowance for Funds Used During Construction rate computed in accordance with the formula prescribed in the Code of Federal Regulations Title 18 Part 101.

"Company's Throughput Disincentive" (TD) means to represent the utility's lost margins associated with the successful implementation of MEEIA programs. The detailed method for calculating the TD is described in Tariff Sheets 91.6 - 91.8.

"Earnings Opportunity" (EO) means the amount ordered by the Commission based on actual performance verified through Evaluation Measurement & Verification (EM&V) against planned targets. The details of determining EO are described herein.

"Effective Period" (EP) means the twelve (12) billing months beginning with the February billing month and ending with the January billing month. Where an additional Rider EEIC filing is made to change the EEIR components during a calendar year, the EP for such a filing shall begin with the June or October billing month and end with the subsequent January billing month.

* "End Use Category" means the unique summary category of end-use load shapes. The list of End Use Categories is included in Appendix E to the Stipulation.

*Indicates Change.

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UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 6

2nd Revised

SHEET NO. 91.2CANCELLING MO.P.S.C. SCHEDULE NO. 6

1st Revised

SHEET NO. 91.2

APPLYING TO

MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)For MEEIA Cycle 2 PlanDEFINITIONS (Cont'd.)

* "Evaluation Measurement & Verification" (EM&V) means the performance of studies and activities intended to evaluate the process of the Company's program delivery and oversight and to estimate and/or verify the estimated actual energy and demand savings, cost effectiveness, and other effects from demand-side programs.

"Impact Measurement & Verification" (IM&V) means the determination of ex-post net energy and demand savings for Long-Lead Projects through application of a net-to-gross ratio, but does not include a cost-effectiveness analysis.

"Incentive" means any consideration provided by the Company, including, but not limited to, buy downs, markdowns, rebates, bill credits, payments to third parties, direct installation, giveaways, and education, which encourages the adoption of program measures.

** "Long-Lead Program Costs" means incentive payments made to customers, contract payments made to program administrators, and costs for IM&V. There will be no portfolio-level costs allocated to long-lead projects.

** "Long-Lead Project" means a project committed by a Customer, accepted by the Company, and submitted a signed commitment offer to the program administrator by January 31, 2019, according to the terms and implementation of the MEEIA 2016-2018 Energy Efficiency Plan that will require until a date after February 28, 2019, but no later than January 31, 2021, to certify completion.

"Low-Income" customers means those Service Classification 1(M)-Residential customers eligible for the low income exemption provisions contained in Section 393.1075.6, RSMo. As approved in File No. ER-2014-0258, customers eligible under this definition will be exempt from Rider EEIC charges for 12 billing months following assistance received from either Missouri Energy Assistance (a.k.a. Low Income Home Energy Assistance Program or LIHEAP), Winter Energy Crisis Intervention Program, Summer Energy Crisis Intervention Program, the Company's Keeping Current Low Income Pilot Program, and/or the Company's Keeping Cool Low Income Pilot Program.

"Measure" means energy efficiency measures described for each program attached as Appendix B to the Stipulation.

"MEEIA 2013-15 Plan" means Company's "2013-15 Energy Efficiency Plan" submitted in File No. EO-2012-0142 and its corresponding tariff sheets.

"MEEIA 2016-18 Plan" means Company's "2016-18 Energy Efficiency Plan" submitted in File No. EO-2015-0055 and modified by the Stipulation.

"Programs" means MEEIA 2016-18 programs listed in tariff sheet no. 174.

"Program Costs" means any prudently incurred program expenditures, including such items as program planning, program design, administration, delivery, end-use measures and incentive payments, advertising expense, evaluation, measurement and verification, market potential studies and work on a utility and/or statewide Technical Resource Manual (TRM).

"TRM" means the Company's Technical Resource Manual (attached as Appendix F to the Stipulation) and updated based on EM&V ex-post gross adjustments determined for Year 1 no later than twenty-four (24) months after commencement of MEEIA 2016-18.

"Stipulation" means the Stipulation and Agreement approved by the Commission in File No. EO-2015-0055, as it may be amended further by subsequent Commission orders.

*Indicates Reissue. **Indicates Addition.

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Addendum A, Page 3 of 12

UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 91.3

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)For MEEIA Cycle 2 PlanENERGY EFFICIENCY INVESTMENT RATE (EEIR) DETERMINATION

The EEIR during each applicable EP is a dollar per kWh rate for each applicable Service Classification calculated as follows:

$$\text{EEIR} = [\text{NPC} + \text{NTD} + \text{NEO} + \text{NOA}] / \text{PE}$$

Where:

NPC = Net Program Costs for the applicable EP as defined below,

$$\text{NPC} = \text{PPC} + \text{PCR}$$

PPC = Projected Program Costs is an amount equal to Program Costs projected by the Company to be incurred during the applicable EP.

PCR = Program Costs Reconciliation is equal to the cumulative difference, if any, between the PPC revenues billed resulting from the application of the NPC component of the EEIR and the actual Program Costs incurred through the end of the previous EP (which will reflect projections through the end of the previous EP due to timing of adjustments). Such amounts shall include monthly interest charged at the Company's monthly short-term borrowing rate. Any remaining PCR balance from MEEIA Cycle 1 shall be rolled into the PCR calculation starting February 2017.

NTD = Net Throughput Disincentive for the applicable EP as defined below,

$$\text{NTD} = \text{PTD} + \text{TDR}$$

PTD = Projected Throughput Disincentive is the Company's TD projected by the Company to be incurred during the applicable EP. For the detailed method for calculating the TD, see Sheet 91.6.

TDR = Throughput Disincentive Reconciliation is equal to the cumulative difference, if any, between the PTD revenues billed during the previous EP resulting from the application of the NTD component of the EEIR and the Company's TD through the end of the previous EP (which will reflect projections through the end of the previous EP due to timing of adjustments). Such amounts shall include monthly interest charged at the Company's monthly short-term borrowing rate. Any remaining TDR balance from MEEIA Cycle 1 shall be rolled into the TDR calculation starting February 2017.

NEO = Net Earnings Opportunity for the applicable EP as defined below,

$$\text{NEO} = \text{EO} + \text{EOR}$$

EO = Earnings Opportunity is equal to the Earnings Opportunity Award monthly amortization multiplied by the number of billing months in the applicable EP.

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MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 91.4

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)For MEEIA Cycle 2 PlanEEIR DETERMINATION (Cont'd.)

The monthly amortization shall be determined by dividing the Earnings Opportunity Award by the number of available billing months between the first billing month of the first EEIR filing after the determination of the Earnings Opportunity Award and 24 calendar months following the end of the annual period in which the Earnings Opportunity Award is determined.

The number of applicable billing months in the EP shall be the number of applicable billing months less the number of months including Earnings Opportunity Award amortization from previous EPs.

EOR = Earnings Opportunity Reconciliation is equal to the cumulative difference, if any, between the EO revenues billed resulting from the application of the NEO+NPI component of the EEIR and the monthly amortization of the Performance Incentive Award through the end of the previous EP (which will reflect projections through the end of the previous EP due to timing of adjustments). Such amounts shall include monthly interest charged at the Company's monthly short-term borrowing rate. Any remaining PIR balance from MEEIA Cycle 1 shall be rolled into the EOR calculation starting February 2019.

NOA = Net Ordered Adjustment for the applicable EP as defined below,

$$NOA = OA + OAR$$

OA = Ordered Adjustment is the amount of any adjustment to the Rider EEIC ordered by the Commission as a result of prudence reviews and/or corrections under this Rider EEIC. Such amounts shall include monthly interest at the Company's monthly short-term borrowing rate.

OAR = Ordered Adjustment Reconciliation is equal to the cumulative difference, if any, between the OA revenues billed resulting from the application of the EEIR and the actual OA ordered by the Commission through the end of the previous EP (which will reflect projections through the end of the previous EP due to timing of adjustments). Such amounts shall include monthly interest charged at the Company's monthly short-term borrowing rate.

PE = Projected Energy, in kWh, forecasted to be delivered to the customers to which the Rider EEIC applies during the applicable EP.

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UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 91.5

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)For MEEIA Cycle 2 PlanEEIR DETERMINATION (Cont'd.)

The EEIR components and Total EEIR applicable to the individual Service Classifications shall be rounded to the nearest \$0.000001.

Allocations of charges for each applicable Service Classification for the MEEIA 2016-18 Plan will be made in accordance with the Stipulation and Agreement in File No. EO-2015-0055, Company's MEEIA 2016-18 Plan.

This Rider EEIC shall not be applicable to customers that have satisfied the opt-out provisions contained in Section 393.1075.7, RSMo or the low-income exemption provisions described herein.

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No. ~~EO-2015-0055~~ EO-2016-0376-d2

MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 91.6

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)For MEEIA Cycle 2 PlanTD DETERMINATION

Monthly TD is the sum of the TD calculation for all End Use Categories applicable to Service Classifications as set out in the Availability section herein.

The TD for each End Use Category shall be determined by the following formula:

$$TD = MS \times NMR \times NTGF$$

Where:

TD = Throughput Disincentive, in dollars, to be collected for a given month, for a given Service Classification.

MS = Monthly Savings, is the sum of all programs' monthly savings, in kWh, for a given month, for a given Service Classification. The MS for each End Use Category shall be determined by the following formula:

$$MS = ((MAS_{CM} / 2) + CAS_{PM} - RB) \times LS$$

Where:

MAS_{CM} = The sum of (MC x ME) for all measures in a program in the current calendar month.

MC = Measure Count. MC for a given month, for a given Service Classification, for each measure, is the number of each measure installed in the current calendar month. For the Home Energy Report program, the number of reports mailed during the current calendar month shall be used as the Measure Count.

ME = Measure Energy. ME will be determined as follows, for each Measure:

- a. Prior to finalization of EM&V for MEEIA 2016-18 Plan, Year 1 programs, for Measures not listed under those programs listed in (c) below, the ME is the annual total of normalized savings for each measure at customer meter per measure defined in the Company's Technical Resource Manual (TRM).
- b. After finalization of EM&V for MEEIA 2016-18 Plan, Year 1 programs, for Measures not listed under those programs listed in (c) below, the ME is the annual total of normalized savings for each measure at customer meter per measure defined in the updated TRM (which will be updated based on EM&V ex-post gross adjustments determined for Year 1 no later than 24 months after the commencement of MEEIA 2016-18 Plan).

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UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 61st Revised SHEET NO. 91.7CANCELLING MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 91.7APPLYING TO MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)For MEEIA Cycle 2 PlanTD DETERMINATION (Cont'd.)

c. For Measures under the -Business Custom Incentive Program, Business New Construction Incentive Program, and Business Retro-Commissioning Program, the ME will be the annual value attributable to the installations reported monthly by the program implementer.

CM = Current calendar month.

CAS = Cumulative sum of MAS of all prior calendar months for each End Use Category for the MEEIA 2016-18 Plan.

PM = Prior calendar month.

RB = Rebased Adjustment. The RB shall equal the CAS applicable as of the date used for MEEIA normalization when base rates are adjusted in any general electric rate case or otherwise resulting in new retail electric rates becoming effective during the accrual and collection of TD pursuant to this MEEIA 2016-18 Plan. In the event base rates are adjusted by more than one general electric rate case or otherwise resulting in new rates becoming effective during the accrual and collection of TD pursuant to this MEEIA 2016-18 Plan occurs, the RB adjustment shall include each and every prior RB adjustment calculation.

LS = Load Shape. The LS is the monthly load shape percent (%) for each End-Use Category (attached as Appendix E to the Stipulation).

*NMR = Net Margin Revenue. NMR values for each applicable Service Classification are as follows:

Month	Service Classifications				
	1 (M) Res \$/kWh	2 (M) SGS \$/kWh	3 (M) LGS \$/kWh	4 (M) SPS \$/kWh	11 (M) LPS \$/kWh
January	0.047640	0.051510	0.039208	0.039679	0.032205
February	0.048358	0.051361	0.040171	0.040327	0.034811
March	0.050250	0.053864	0.041181	0.040935	0.033627
April	0.052130	0.056283	0.041883	0.040619	0.033490
May	0.054358	0.058034	0.042811	0.042414	0.034512
June	0.109291	0.095491	0.082589	0.082629	0.059935
July	0.109291	0.095491	0.081263	0.081994	0.062387
August	0.109291	0.095491	0.081614	0.082803	0.061130
September	0.109291	0.095491	0.081939	0.082068	0.061869
October	0.051354	0.056247	0.041868	0.041285	0.035011
November	0.054399	0.057698	0.042226	0.041439	0.034514
December	0.050066	0.054705	0.040610	0.040618	0.033040

* Indicates Change.

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ISSUED BY Michael Moehn
NAME OF OFFICER

President
TITLE

St. Louis, Missouri
ADDRESS

No. ER-2016-0179-d2

UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 61st Revised SHEET NO. 91.8CANCELLING MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 91.8APPLYING TO MISSOURI SERVICE AREA

RIDER EEIC
ENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)
For MEEIA Cycle 2 Plan

TD DETERMINATION (Cont'd.)

The Company shall file an update to NMR rates by month by Service Classification contemporaneous with filing any compliance tariff sheets in any general electric rate case reflecting the rates set in that case, and the billing determinants used in setting rates in such case. Updates to the NMR values shall be calculated following the same process described on pages 32-35 of the Company's filed December 22, 2014 2016-18 Energy Efficiency Plan.

NTGF = Net To Gross Factor. The initial NTGF is 0.85. Upon completion of the three year cycle, the final portfolio Net To Gross factor applied for the Earnings Opportunity shall be used as the NTGF prospectively starting with the month in which the Earnings Opportunity is determined.

Annual kWh savings per measure will be updated prospectively in the Company's TRM no later than twenty-four (24) months after the commencement of the plan based on EM&V ex-post gross adjustments determined for Year 1.

* The Company shall file a general electric rate case at some point before February 28, 2021 to make a Rebasing Adjustment to rebase the TD arising from the MEEIA 2016-18 plan in its entirety, except as described below concerning Long-Lead Projects, and if Company fails to do so, the accrual and collection of the TD terminates beginning March 1, 2021. The filing of a general electric rate case utilizing an update or true-up period that ends between thirty (30) months and sixty (60) months after the effective date of the electric tariff sheets implementing MEEIA 2016-18 satisfies this requirement. For the rate case used to rebase the TD arising from the MEEIA 2016-18 plan in its entirety, the MEEIA normalization shall reach forward as far as the effective date of new rates in that rate case.

** Projects designated as Long-Lead Projects shall continue to incur TD until a rate case rebases all such projects or until February 28, 2023, whichever occurs first.

*Indicates Change. **Indicates Addition.

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UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 6

1st Revised

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Original

SHEET NO. 91.9

APPLYING TO

MISSOURI SERVICE AREA

RIDER EEIC**ENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)****For MEEIA Cycle 2 Plan*****EO DETERMINATION**

EO shall be calculated using the matrix below. EO will not go below zero dollars (\$0). The EO at 100% is \$27,801,935. Before adjustments reflecting TD EM&V including NTG, the EO cannot go above \$39,212,516. The EO including adjustments reflecting TD EM&V including NTG cannot go above \$54,212,516. The cap is based on current program levels. If Commission approved new programs are added in years 2017 and 2018, the Company may seek Commission approval to have the targets and the cap of the EO matrix scale adjusted. EO shall be adjusted for the difference, with carrying cost at the Company's monthly Allowance for Funds Used During Construction (AFUDC) rate compounded semi-annually, between TD billed and what TD billed would have been if:

- (1) The ME used in the calculation were the normalized savings for each measure at customer meter per measure determined through EM&V ex-post gross analysis for each program year, and
- (2) The NTGF used in the calculation was the net-to-gross values determined through EM&V, except that if the NTGF value determined through EM&V is less than 0.80, the recalculation shall use 0.80 and if the NTG value determined through EM&V is greater than 1.0, the recalculation shall use 1.0.

***EARNINGS OPPORTUNITY MATRIX**

Performance Metric	Ameren Missouri						
	Payout Rate	Payout Unit	% of Target EO	100% payout	Target @ 100%	Cap/100% Multiplier	Cap
Home Energy Report criteria will be effective, prudent spend of budget	n/a		7.19%	\$ 2,000,000			\$ 2,000,000
EE MWh (Excl. Home Energy Report, TStat & LIMF): criteria will be the cumulative of the 1st yr incremental MWh during the 3 year plan	\$ 7.50	\$/MWh	15.11%	\$ 4,201,935	560,258	130%	\$ 5,462,516
EE Coincident MW (Excl. Home Energy Report, TStat & LIMF): criteria will be cumulative of the 2023 MW reduction, coincident with system peak	\$ 141,428.57	\$/MW	71.22%	\$ 19,800,000	140	150%	\$ 29,700,000
Number of Learning Thermostats Installed	\$ 30.62	\$/Unit	1.80%	\$ 500,000	16,331	150%	\$ 750,000
Low Income Multi-Family (LIMF) and Low Income Assistance Program: criteria will be effective, prudent spend of budget	n/a		4.68%	\$ 1,300,000			\$ 1,300,000
Total Cap Including TD Adjustments				\$ 27,801,935			\$ 39,212,516
							\$ 54,212,516

*Indicates Change

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Addendum A, Page 10 of 12

UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 6

Original

SHEET NO. 91.10

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREARIDER EEICENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)For MEEIA Cycle 2 PlanFILING

The Company shall make a Rider EEIC filing each calendar year to be effective for the subsequent calendar year's February billing month. The Company is allowed or may be ordered by the Commission to make one other Rider EEIC filing in each calendar year with such subsequent filing to be effective beginning with either the June or October billing month. Rider EEIC filings shall be made at least sixty (60) days prior to their effective dates.

PRUDENCE REVIEWS

A prudence review shall be conducted no less frequently than at twenty-four (24) month intervals in accordance with 4 CSR 240-20.093(10). Any costs which are determined by the Commission to have been imprudently incurred or incurred in violation of the terms of this Rider EEIC shall be addressed through an adjustment in the next EEIR determination and reflected in factor OA herein.

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UNION ELECTRIC COMPANY

ELECTRIC SERVICE

MO.P.S.C. SCHEDULE NO. 63rd Revised SHEET NO. 91.11CANCELLING MO.P.S.C. SCHEDULE NO. 62nd Revised SHEET NO. 91.11APPLYING TO MISSOURI SERVICE AREA**RIDER EEIC****ENERGY EFFICIENCY INVESTMENT CHARGE (Cont'd.)**

(Applicable To Determination of EEIR Beginning February, 2018 through the Billing Month of January 2019)

MEEIA 2013-15 EEIR Components (Applicable to MEEIA Cycle 1 Plan)

Service Class	NPC/PE (\$/kWh)	NTD/PE (\$/kWh)	NPI/PE (\$/kWh)	NOA/PE (\$/kWh)
1(M)-Residential Service	\$0.000000	\$0.000000	\$0.000666	\$0.000000
2(M)-Small General Service	\$0.000000	\$0.000000	\$0.000253	\$0.000000
3(M)-Large General Service	\$0.000000	\$0.000000	\$0.000455	\$0.000000
4(M)-Small Primary Service	\$0.000000	\$0.000000	\$0.000453	\$0.000000
11(M)-Large Primary Service	\$0.000000	\$0.000000	\$0.000644	\$0.000000
12(M)-Large Transmission Service	\$0.000000	\$0.000000	\$0.000000	\$0.000000

MEEIA 2016-18 EEIR Components (Applicable to MEEIA Cycle 2 Plan)

Service Class	NPC/PE (\$/kWh)	NTD/PE (\$/kWh)	NEO/PE (\$/kWh)	NOA/PE (\$/kWh)
1(M)-Residential Service	\$0.002029	\$0.001064	\$0.000000	(\$0.000074)
2(M)-Small General Service	\$0.003122	\$0.001126	\$0.000000	(\$0.000002)
3(M)-Large General Service	\$0.003136	\$0.000897	\$0.000000	(\$0.000002)
4(M)-Small Primary Service	\$0.003166	\$0.001127	\$0.000000	(\$0.000002)
11(M)-Large Primary Service	\$0.003136	\$0.000140	\$0.000000	(\$0.000002)
12(M)-Large Transmission Service	\$0.000000	\$0.000000	\$0.000000	\$0.000000

Summary EEIR Components and Total EEIR

Service Class	NPC (\$/kWh)	NTD (\$/kWh)	(NEO+NPI) (\$/kWh)	NOA (\$/kWh)	Total EEIR (\$/kWh)
1(M)-Residential Service	\$0.002029	\$0.001064	\$0.000666	(\$0.000074)	\$0.003685
2(M)-Small General Service	\$0.003122	\$0.001126	\$0.000253	(\$0.000002)	\$0.004499
3(M)-Large General Service	\$0.003136	\$0.000897	\$0.000455	(\$0.000002)	\$0.004486
4(M)-Small Primary Service	\$0.003166	\$0.001127	\$0.000453	(\$0.000002)	\$0.004744
11(M)-Large Primary Service	\$0.003136	\$0.000140	\$0.000644	(\$0.000002)	\$0.003918
12(M)-Large Transmission Service	\$0.000000	\$0.000000	\$0.000000	\$0.000000	\$0.000000

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ADDENDUM B

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY