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MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

**SARAH KLIETHERMES
REBUTTAL TO SUPPLEMENTAL TESTIMONY**

UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI

CASE NO. EO-2015-0055

*Jefferson City, Missouri
July 2015*

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File No. EO-2015-0055

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SARAH KLIETHERMES
REBUTTAL TO SUPPLEMENTAL TESTIMONY
OF
UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI
CASE NO. EO-2015-0055

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UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI
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Q. Are you the same Sarah Kliethermes who filed rebuttal and supplemental testimony in this matter?

A. Yes.

Q. What is the purpose of your rebuttal to supplemental testimony?

A. I will respond to the Non-Unanimous Stipulation and Agreement and Ameren Missouri's supplemental testimony ("Utility Stipulation") filed June 30, 2015.

SUMMARY OF STAFF OPPOSITION TO UTILITY STIPULATION

Q. What topics will you address concerning Staff's opposition to the Utility Stipulation filed June 30, 2015?

A. Under the interaction of the programs with the throughput disincentive mechanism and performance incentive mechanism outlined in the Utility Stipulation, the projected benefits for ratepayers are very low, but the cost for ratepayers is very high. While this in and of itself is not grounds for opposition, the risk of those benefits not materializing falls entirely on ratepayers. That risk shift alone would indicate the Utility Stipulation is unreasonable, but, under its design, Ameren Missouri shareholders get paid in cash, up front, for their share of benefits; thus adding to Staff's opposition and concern. The Utility Stipulation creates a MEEIA Cycle 2 that states that if the benefits of the portfolio fail to materialize, not only do ratepayers not get the benefit of the bargain expected under the

1 statute, but ratepayers are also on the hook for the share of benefits that Ameren Missouri
2 receives even if customer benefits never materialize.

3 Q. Staff witness John A. Rogers presents testimony comparing the expected costs
4 and projected benefits of the Utility Stipulation. If the margin of benefits over costs were
5 larger, would the Staff still oppose the Utility Stipulation?

6 A. Yes. While there would be more room for discussion if the projected benefits
7 were larger, or the costs to achieve those benefits were lower, there are significant problems
8 with all elements of the MEEIA Cycle 2 contemplated by the Utility Stipulation.

9 Q. Does Ameren Missouri make a commitment in the Utility Stipulation to
10 employ a rigorous process to expand the portfolio and achievable savings?

11 A. There is a commitment to employ a process, but as discussed in greater detail
12 by Staff witness John A. Rogers and Office of the Public Counsel (“OPC”) witness Geoffrey
13 Marke, this commitment does not alleviate or mitigate Staff’s opposition to the Utility
14 Stipulation.

15 Q. Does the Utility Stipulation rely on a reasonable throughput disincentive
16 mechanism?

17 A. No.

18 Q. What is a throughput disincentive?

19 A. Literally, a throughput disincentive is the concept that a utility makes its
20 money by selling energy, and so it has a disincentive to reduce the amount of energy it sells.
21 However, in the context of MEEIA discussions, parties have somewhat confusingly also used
22 that term to refer to either the value of the revenue reduction caused by energy efficiency

1 | measures, or to the value of that revenue reduction netted against applicable avoided costs and
2 | other revenues.

3 | Q. Does the design of the Throughput Disincentive Net-Shared Benefit (“TD-
4 | NSB”) mechanism in the Utility Stipulation eliminate the throughput disincentive for Ameren
5 | Missouri?

6 | A. No. Not only does the Non-Unanimous TD-NSB design not eliminate the
7 | throughput disincentive, it creates a perverse incentive against effective energy efficiency in
8 | that it incents Ameren Missouri to pursue programs with high deemed savings, low actual
9 | energy savings and low or no actual demand savings as required under MEEIA.

10 | Q. In what sense does the Ameren Missouri TD-NSB design not eliminate the
11 | throughput disincentive?

12 | A. As discussed below, due to the reliance on deeming that all the assumptions
13 | made to calculate the present value of the throughput disincentive amount are accurate, in the
14 | Utility Stipulation TD-NSB mechanism, Ameren Missouri is still incented to sell as much
15 | energy as possible, and is additionally incented to install measures with a poor ratio of
16 | projected energy savings to actual energy savings.

17 | Q. Are there also improper incentives in the design of the Utility Stipulation
18 | performance incentive?

19 | A. Yes. By incenting only immediate energy savings and ignoring persistent
20 | capacity requirements, Ameren Missouri’s performance incentive, as designed, does not
21 | accomplish the statutory goal of MEEIA to value demand-side investments equal to
22 | traditional investments in supply and delivery infrastructure, as discussed in the section of this
23 | testimony, “Objection to Utility Stipulation Performance Incentive Mechanism”.

1 Q. Can a recovery mechanism or a performance incentive mechanism
2 significantly impact whether a program portfolio as designed is ultimately cost-effective?

3 A. Yes. The costs and benefits of the portfolio are not set in stone. Under the
4 MEEIA portfolios approved in Missouri so far, the utility retains tremendous discretion
5 regarding which programs it promotes to which customers and in what ways. This is not
6 necessarily a bad thing, but it is a bad thing if the utility is incented to promote programs that
7 do not have significant long-term benefit, but come at a high cost.

8 Q. How does this interrelation drive whether or not a portfolio is cost effective for
9 all rate payers?

10 A. For non-participants (those ratepayers who pay a MEEIA charge, but are
11 unable or unwilling to take part in a MEEIA program directly) the benefits of energy
12 efficiency come from using energy efficiency programs as a least cost resource. In other
13 words, the basic idea of MEEIA is that the Commission makes a determination that ratepayers
14 as a whole will be better off if all ratepayers pay now to help some ratepayers reduce their
15 energy usage, than the non-participating ratepayers would be if they had to pay the utility to
16 build a power plant.

17 Q. How does the Commission determine if a portfolio is cost-effective?

18 A. To determine whether or not the portfolio is cost-effective, the programs are
19 studied at a portfolio level and at an individual measure level. Some measures do a lot to
20 reduce future capacity needs, but some measures do very little to reduce future capacity
21 needs.¹ If Ameren Missouri can get compensated for a foregone earnings opportunity

¹ The MEEIA statute relies on certain assumptions:

1. Utility opportunities for profits come from investment of shareholder dollars, including investment in generation facilities.

1 associated with reducing future capacity needs, while not actually reducing those future
2 capacity needs, then the program does not benefit all rate payers and is not cost effective for
3 all rate payers.

4 Q. Is the Utility Stipulation performance incentive designed so that Ameren
5 Missouri will implement a MEEIA portfolio that is cost effective for all rate payers?

6 A. No. In fact, as designed in the Utility Stipulation, Ameren Missouri
7 management has an obligation to its shareholders to implement MEEIA programs so that
8 Ameren Missouri receives the maximum payout under the kWh-based performance incentive
9 while not giving up any earnings opportunity related to future capacity investments. This
10 perverse incentive is discussed in the section of this testimony, "Objection to Utility
11 Stipulation Performance Incentive Mechanism".

12 Q. How do the interrelation of programs, the TD-NSB mechanism, and the
13 performance incentive mechanism drive whether or not a portfolio is cost effective in general?

14 A. A TD-NSB mechanism can only work if it removes Ameren Missouri's
15 disincentive to reduce energy sales as evaluated through evaluation, measurement and
16 verification ("EM&V"). Instead, the Utility Stipulation relies on "deemed" savings values
17 due to Ameren Missouri's refusal to evaluate EM&V the effectiveness of the measures
18 installed under the Utility Stipulation MEEIA programs. The result is a disincentive to
19 achieve real energy savings as determined by EM&V and net to gross ("NTG") analysis, in
20 which Ameren Missouri is positively incented to promote the measures that have the worst

2. Rates can ultimately be cheaper for all ratepayers to reduce the amount of generation facilities needed in the future.

3. Absent MEEIA, the utility's incentive to invest in generation facilities serves as a disincentive for that utility to facilitate programs to reduce future capacity requirements.

In light of these assumptions, the MEEIA statute provides utilities with timely earnings opportunities associated with cost-effective measurable and verifiable efficiency savings.

1 ratio of expected savings to actual savings. Therefore, even those programs that were
2 screened as cost-effective, through Ameren Missouri's potential study and 2014 Chapter 22
3 triennial compliance filing, could experience lower benefits for the same level of costs, which
4 results in a reduction of cost-effectiveness.

5 Q. Does the Utility Stipulation encourage inefficient implementation of energy
6 efficiency programs?

7 A. Yes. Given the level of benefits to cost that Ameren Missouri projects today,
8 the Utility Stipulation shifts all risks entirely to the ratepayers. Because of the way terms are
9 defined and deemed, ratepayers pay all costs up front, and pay to Ameren Missouri, in cash,
10 now, a significant share of the future projected benefits, under an accelerated recovery
11 mechanism. The way the terms interact, if the benefits do not materialize as projected,
12 ratepayers will have already given shareholders the cash value of benefits that may never
13 materialize, without the ability for true-up.

14 Q. Given the concerns with the throughput disincentive mechanism and the
15 performance incentive mechanism, are ratepayers better off with no MEEIA than the MEEIA
16 Cycle 2 contemplated in the Utility Stipulation?

17 A. Yes, in Staff's opinion, ratepayers are better off with no MEEIA than the
18 Utility Stipulation MEEIA Cycle 2, which is overly complex and does not align incentives.²
19 It is Staff's understanding that Ameren Missouri claims accelerated recovery is related to the
20 provision in MEEIA for "timely" recovery. Accelerating recovery requires making
21 assumptions. The Utility Stipulation method of accelerating recovery unreasonably shifts the
22 risk of those assumptions being wrong to the detriment of ratepayers. It is also overly

² It should be noted that Staff supports cost-effective energy efficiency, but opposes a portfolio design that is allegedly designed under MEEIA, but not consistent with MEEIA.

1 complex, and needlessly so. There is no need to accelerate recovery, and, in fact, the
2 applicable provisions of Chapter 20 call for a significant delay of recovery.³ As indicated in
3 my supplemental testimony, Staff is willing to recommend variance of those rules to allow for
4 real-time recovery (neither accelerated nor delayed).

5 Q. To provide perspective to the impact of Ameren Missouri's request for
6 accelerated TD-NSB recovery, what would be the impact of Ameren Missouri's TD-NSB
7 mechanism on retail rates, if accelerated recovery based on assumed rate case timing, as
8 provided for in the Utility Stipulation and the supplemental testimony of Ameren Missouri
9 witness Bill Davis, was used to set all of Ameren Missouri's retail rates?

10 A. If this method were used in setting retail rates, a residential customer with
11 average usage would pay a one-time bill of approximately \$1,617 after each rate case. See
12 the table and graphs provided below.⁴

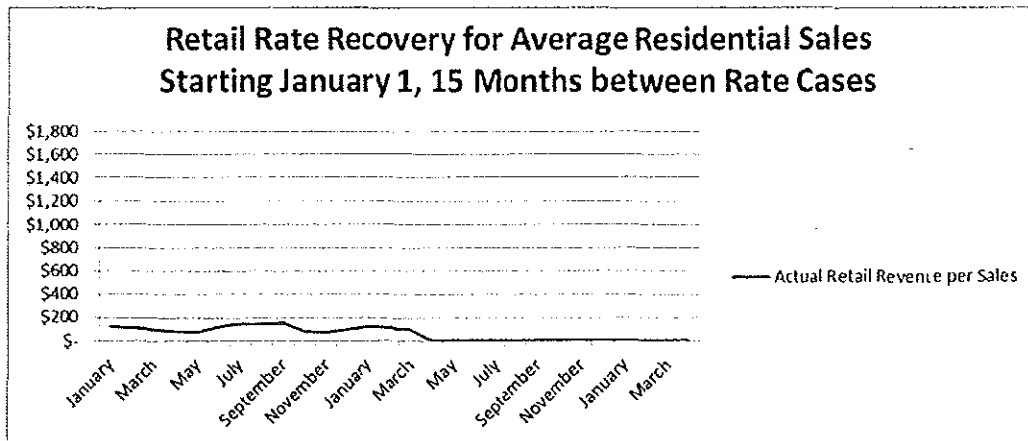
³ See, in particular, 4 CSR 240-20.093(1)(Y).

⁴ Under the Non-Utility Stipulation, the Throughput Disincentive Recovery Mechanism is presented as two alternatives. Under Alternative 1, Ameren Missouri would book 66.6% of its unbilled revenue value as incurred, subject to true-up of up to 133.3% following analysis. Under Alternative 2, Ameren Missouri would book 100% of its unbilled revenue value as incurred, subject to true-up in the range of 66.6% to 133.3% following analysis. Please see supplemental testimony of Staff witness Mark Oligschlaeger for additional discussion.

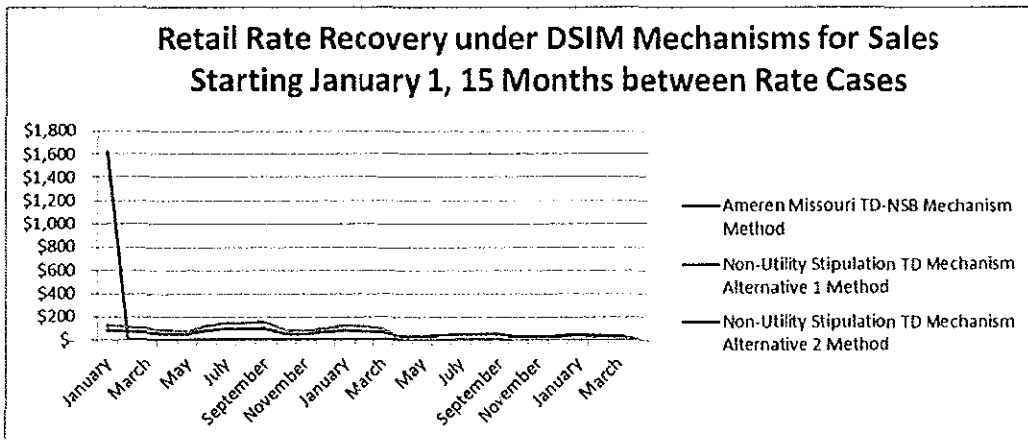
Average Retail Rate Recovery for 15 Billing Months of Service				
	Ameren Missouri TD-NSB Mechanism Method	Non-Utility Stipulation TD Mechanism Alternative 1 Method	Non-Utility Stipulation TD Mechanism Alternative 2 Method	Actual Retail Revenue per Sales
January	\$ 1,617.34	\$ 77.87	\$ 117.98	\$ 117.98
February	\$ -	\$ 75.03	\$ 113.68	\$ 113.68
March	\$ -	\$ 66.53	\$ 100.81	\$ 100.81
April	\$ -	\$ 53.34	\$ 80.82	\$ 80.82
May	\$ -	\$ 47.41	\$ 71.83	\$ 71.83
June	\$ -	\$ 80.79	\$ 122.40	\$ 122.40
July	\$ -	\$ 97.82	\$ 148.21	\$ 148.21
August	\$ -	\$ 94.91	\$ 143.80	\$ 143.80
September	\$ -	\$ 101.06	\$ 153.13	\$ 153.13
October	\$ -	\$ 52.65	\$ 79.77	\$ 79.77
November	\$ -	\$ 48.92	\$ 74.12	\$ 74.12
December	\$ -	\$ 63.45	\$ 96.13	\$ 96.13
January	\$ -	\$ 77.87	\$ 117.98	\$ 117.98
February	\$ -	\$ 75.03	\$ 113.68	\$ 113.68
March	\$ -	\$ 66.53	\$ 100.81	\$ 100.81
April	\$ -	\$ 26.67	\$ -	\$ -
May	\$ -	\$ 23.70	\$ -	\$ -
June	\$ -	\$ 40.39	\$ -	\$ -
July	\$ -	\$ 48.91	\$ -	\$ -
August	\$ -	\$ 47.45	\$ -	\$ -
September	\$ -	\$ 50.53	\$ -	\$ -
October	\$ -	\$ 26.32	\$ -	\$ -
November	\$ -	\$ 24.46	\$ -	\$ -
December	\$ -	\$ 31.72	\$ -	\$ -
January	\$ -	\$ 38.93	\$ -	\$ -
February	\$ -	\$ 37.51	\$ -	\$ -
March	\$ -	\$ 33.27	\$ -	\$ -
April	\$ -	\$ -	\$ -	\$ -

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OBJECTION TO UTILITY STIPULATION PERFORMANCE INCENTIVE MECHANISM

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Q. How does the payout of accelerated performance incentives under either stipulation equate to the earnings stream Ameren Missouri would experience from a supply-side investment?

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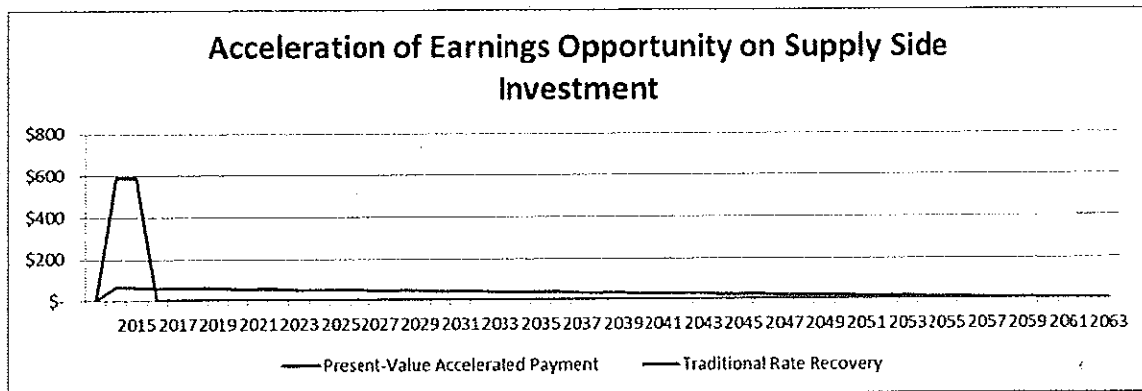
A. On a supply-side investment, Ameren Missouri receives its return on investment over the useful life of that investment, and Ameren Missouri bears some risk that the investment will not yield the assumed return, for one reason or another, over time. Under either version of the performance incentive, Ameren Missouri receives an upfront payment for the earnings stream anticipated from the demand-side investment, recovering the present

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5 value of that earnings stream over two years, thus bearing no risk should the circumstances
6 assumed at the time the upfront payment was calculated change as time goes on. The
7 assumptions relied on to calculate the upfront investment include interest rates and inflation
8 rates.

8 Q. How would such an upfront payment compare to the actual earnings stream to
9 be expected on a per-kW basis for Ameren Missouri's hypothetical combined cycle unit, if the
10 unit were assumed to require no further investment and have a 50 year service life?

13 A. The upfront payment for the earnings stream on a \$1,297/kW supply-side
14 investment with a 50 year assumed life would be approximately \$1,181/kW, or \$590/kW each
15 year for two years. The difference between this upfront payment to shareholders similar to
16 the performance incentive design, compared to traditional rate recovery over the life of the
17 asset is presented below:



14
17 Q. Given the advantages of this accelerated recovery over traditional supply side
18 investments, is it reasonable to require that the performance incentive relate to measurable
19 and verifiable savings of future supply side investments that would reduce future rates?

1 A. Yes, not only does the MEEIA statute require that any performance incentive
2 associated with MEEIA be based on measurable and verifiable savings, it is also reasonable to
3 measure and verify such savings as good rate-making practice.

4 Q. Is payout of the performance incentive (“PI”) presented in the Utility
5 Stipulation based on measurable and verifiable savings of future capacity requirements that
6 would reduce future rates?

7 A. No.

8 Q. Is payout of the PI presented in the Utility Stipulation calculated to compensate
9 shareholders for lost earnings opportunities associated with those shareholders missing out on
10 opportunities for capacity investments at some point in the future?

11 A. No.

12 Q. Does the Utility Stipulation performance incentive allow for double recovery
13 for shareholders of compensation for lost earnings opportunities while allowing shareholders
14 to retain those earnings opportunities?

15 A. Yes.

16 Q. Does the Utility Stipulation performance incentive create a perverse incentive
17 for Ameren Missouri management to maximize the level of energy savings during MEEIA
18 Cycle 2, while minimizing the realized level of actual capacity savings after MEEIA Cycle 2
19 ends?

20 A. Yes, to the benefit of its shareholders and the detriment of its ratepayers.

21 **OBJECTION TO UTILITY STIPULATION TD-NSB MECHANISM**

22 Q. Does the mechanism described in the Utility Stipulation provide for “timely”
23 throughput disincentive recovery?

1 A. No, the Utility Stipulation TD-NSB mechanism provides for accelerated
2 throughput recovery, based on the results of a complex present-valuing process that requires a
3 multitude of assumptions.

4 Q. What do you mean by accelerated throughput recovery?

5 A. The Non-Unanimous TD-NSB Mechanism compensates Ameren Missouri –
6 up front – for the decrease in sales revenue expected from the reduction in energy sales due to
7 the installation of the measure, forward in time until the assumed effective date of the
8 assumed next rate case.

9 Q. How does that accelerated recovery compare to the timing of when Ameren
10 Missouri actually incurs reductions in revenue associated with successful energy efficiency
11 measures?

12 A. Under the Utility Stipulation accelerated recovery method, Ameren Missouri
13 books that revenue day one when the measure was installed (or deemed to have been
14 installed). Ameren Missouri collects that revenue starting on the day its Demand Side
15 Investment Mechanism (“DSIM”) Rider rate is adjusted for Cycle 2, based on projections of
16 the level of measure installations expected. However, each month, Ameren Missouri only
17 incurs the revenue reduction for the kWh it did not sell that month.

18 Q. Does Staff object to the practice of basing the DSIM Rider rate on a projection
19 of measure installations?

20 A. No. Staff is not aware of a better way to do this. The concern is whether the
21 goal of those projections should be to compensate Ameren Missouri for the throughput
22 disincentive on a deemed and accelerated basis, or on an as-incurred basis.

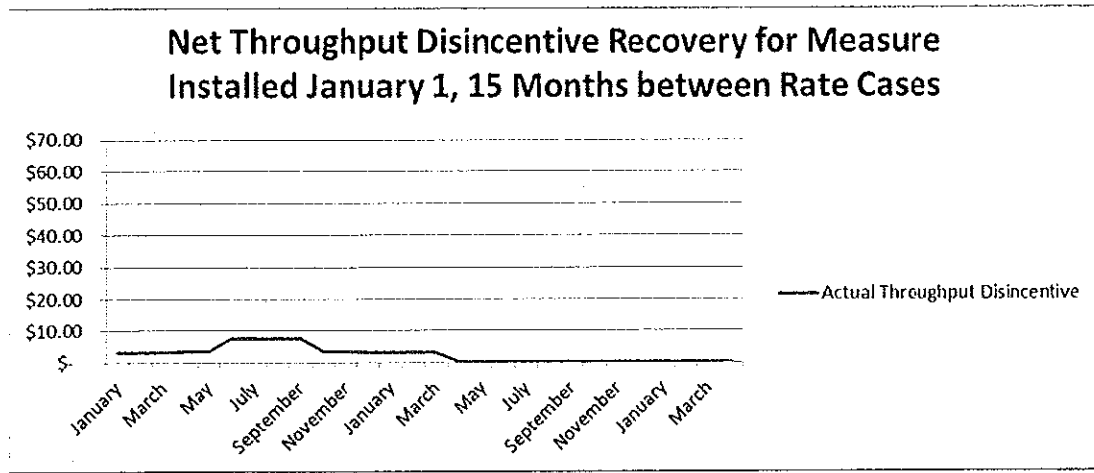
1 Q. Using a hypothetical residential measure installation that would reduce energy
2 consumption by 100 Watts each hour, every hour, what is the value of the throughput
3 disincentive actually experienced for each month in the form of revenue not collected net of
4 expenses not incurred?

5 A. The value of that throughput disincentive is the applicable monthly margin
6 rate, minus the applicable seasonal avoided cost rate, times the number of kWh expected to
7 *not* be sold because of the measure. The values for the hypothetical example for 15 months
8 are provided in the table and depicted in the graph, below:

Net Throughput Disincentive
 for Measure Installed
 January 1, 15 Months
 between Rate Cases

	Actual Throughput Disincentive
January	\$ 3.17
February	\$ 3.22
March	\$ 3.30
April	\$ 3.42
May	\$ 3.61
June	\$ 7.51
July	\$ 7.51
August	\$ 7.51
September	\$ 7.51
October	\$ 3.48
November	\$ 3.58
December	\$ 3.28
January	\$ 3.17
February	\$ 3.22
March	\$ 3.30
April	\$ -
May	\$ -
June	\$ -
July	\$ -
August	\$ -
September	\$ -
October	\$ -
November	\$ -
December	\$ -
January	\$ -
February	\$ -
March	\$ -
April	\$ -

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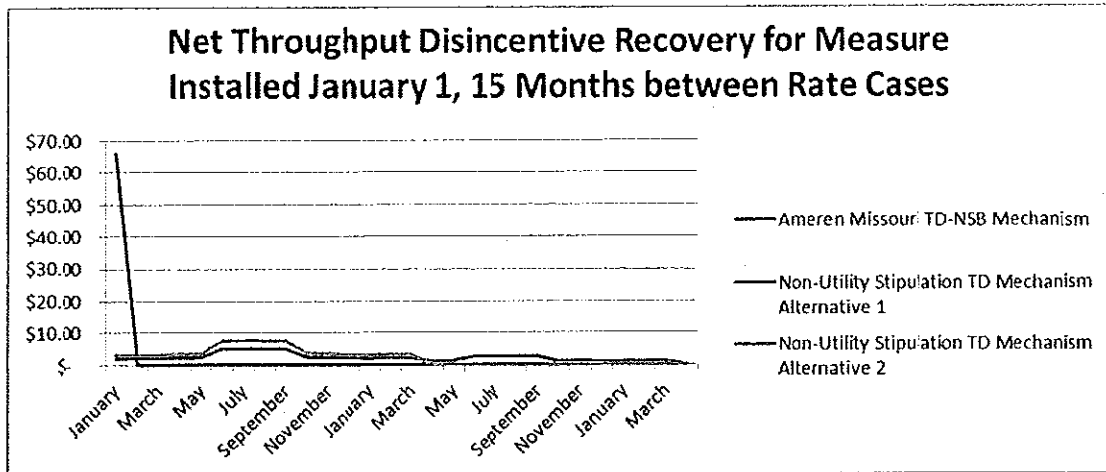
Q. What recovery would Ameren Missouri book for the hypothetical example under the Utility Stipulation TD-NSB?

A. Upon recording the installation of the measure, Ameren Missouri would book recovery of revenue equal to the present value of the amounts provided above, which would be approximately \$66.03.

Q. What amounts would be booked under the Non-Utility Stipulation throughput mechanism?

A. As discussed by Staff witness Mark Oligschlaeger in his supplemental testimony, the structure of the Net Throughput Disincentive (“NTD”) mechanism in the Non-Utility Stipulation would allow Ameren Missouri to collect an amount upfront for throughput disincentive recovery (at 66.67% of expected amounts) which would not be subject to later true-up and customer refund. If Ameren Missouri would prefer to collect 100% of its estimated MEEIA throughput disincentive upfront, but with up to one-third of that amount subject to retrospective true-up and customer refund if 100% of the forecasted kWh savings are not achieved, that approach would also be acceptable to the Staff as well. The recoveries

4 of these various Non-Utility Stipulation mechanisms versus the Utility Stipulation / Ameren
5 Missouri Direct TD-NSB mechanism are provided in the table and depicted in the graph,
6 below:



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Net Throughput Disincentive for Measure Installed January 1, 15 Months
 between Rate Cases

	Ameren Missouri TD- NSB Mechanism	Non-Utility Stipulation TD Mechanism Alternative 1	Non-Utility Stipulation TD Mechanism Alternative 2	Actual Throughput Disincentive
January	\$ 66.03	\$ 2.09	\$ 3.17	\$ 3.17
February	\$ -	\$ 2.12	\$ 3.22	\$ 3.22
March	\$ -	\$ 2.18	\$ 3.30	\$ 3.30
April	\$ -	\$ 2.25	\$ 3.42	\$ 3.42
May	\$ -	\$ 2.38	\$ 3.61	\$ 3.61
June	\$ -	\$ 4.95	\$ 7.51	\$ 7.51
July	\$ -	\$ 4.95	\$ 7.51	\$ 7.51
August	\$ -	\$ 4.95	\$ 7.51	\$ 7.51
September	\$ -	\$ 4.95	\$ 7.51	\$ 7.51
October	\$ -	\$ 2.30	\$ 3.48	\$ 3.48
November	\$ -	\$ 2.36	\$ 3.58	\$ 3.58
December	\$ -	\$ 2.16	\$ 3.28	\$ 3.28
January	\$ -	\$ 2.09	\$ 3.17	\$ 3.17
February	\$ -	\$ 2.12	\$ 3.22	\$ 3.22
March	\$ -	\$ 2.18	\$ 3.30	\$ 3.30
April	\$ -	\$ 1.13	\$ -	\$ -
May	\$ -	\$ 1.19	\$ -	\$ -
June	\$ -	\$ 2.48	\$ -	\$ -
July	\$ -	\$ 2.48	\$ -	\$ -
August	\$ -	\$ 2.48	\$ -	\$ -
September	\$ -	\$ 2.48	\$ -	\$ -
October	\$ -	\$ 1.15	\$ -	\$ -
November	\$ -	\$ 1.18	\$ -	\$ -
December	\$ -	\$ 1.08	\$ -	\$ -
January	\$ -	\$ 1.04	\$ -	\$ -
February	\$ -	\$ 1.06	\$ -	\$ -
March	\$ -	\$ 1.09	\$ -	\$ -
April	\$ -	\$ -	\$ -	\$ -

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Q. In the example provided above, is it assumed that the assumption of rate case timing and measure effectiveness are exactly correct?

A. Yes, the assumptions are assumed to be entirely correct in the hypothetical example presented above.

Q. Are some levels of assumptions necessary under any throughput mechanism?

A. Any mechanism that does not function fully retrospectively will require some assumptions to be made. However, due to its present-valuing, the Utility Stipulation

1 mechanism requires extra assumptions, makes no effort to true-up most of the assumptions,
2 and the limited provisions for true-up work only in a manner that benefits shareholders.

3 Q. Does the mechanism described in the Utility Stipulation cause the utility to be
4 financially indifferent to whether or not it sells less energy as a result of its promotion of
5 energy efficiency programs?

6 A. No. While the throughput disincentive mechanism is normally intended to
7 promote financial indifference, the mechanism described in the Utility Stipulation does not
8 promote financial indifference. Instead, under the Utility Stipulation, Ameren Missouri
9 retains its incentive to sell as much energy as possible, but is also now perversely incented to
10 promote programs in a manner that least reduces its energy sales.

11 Q. Does the Utility Stipulation address “the concerns expressed by other parties
12 arising from the sensitivity of the TD-NSB calculation to future rate case timing (and also to
13 the magnitude of rate changes in those future rate cases)” as stated by Mr. Davis at page 3,
14 lines 3 et seq. of his supplemental direct testimony?

15 A. No, it does not. The rate case timing adjustment makes some movement
16 toward addressing the concerns expressed by the non-utility parties, but it does not move far
17 enough to result in utility financial indifference. In addition, the rate case timing adjustment
18 only operates one way. The rate change magnitude adjustment moves in the wrong way and
19 causes Ameren Missouri to have greater disincentive to promote energy efficiency programs.

20 Q. Which direction does the rate case timing adjustment work?

21 A. The rate case timing adjustment under the Utility Stipulation can only increase
22 the throughput disincentive recovery, and cannot reduce that recovery.

23 Q. Which direction does the rate change magnitude adjustment work?

1 A. The rate change magnitude adjustment under the Utility Stipulation can only
2 increase the throughput disincentive recovery, and cannot reduce that recovery.

3 Q. How much variability does rate case timing introduce?

4 A. The difference will vary by month, since the marginal avoided revenue rate per
5 kWh applicable to each class is different each month. There is a difference in recovery
6 depending on if new rates would take effect in July of 2016 or August of 2016. A series of
7 examples are provided in Appendix A. Using the simple example of a single installation of a
8 residential measure that is assumed to create efficiency savings of 73kWh per month. Those
9 efficiency savings are experienced as 100 watts an hour, every hour, and the measure is
10 assumed to be installed January 1, 2016. Depending on the timing assumed for the effective
11 dates of rates resulting from the first rate case during MEEIA Cycle 2, Ameren Missouri
12 would recover vastly different amounts under the Utility Stipulation design of the TD-NSB
13 for that measure:

- 14 ▪ August 2015 rate case filing: \$24.22⁵
- 15 ▪ September 2015 rate case filing: \$30.97
- 16 ▪ The variance is a 28% difference.

17 Q. How does the Utility Stipulation rate change magnitude adjustment move the
18 wrong way from the utility direct filing?

19 A. The Utility Stipulation implements a TD-NSB that allows upward adjustment
20 of the net throughput disincentive on a per kWh basis as a result of a rate case, but does not
21 allow for downward adjustment of the net throughput disincentive on a per kWh basis as a
22 result of a rate case.

⁵ For simplicity, the present-valuing calculation has not been performed on these numbers.

1 Q. In practice, has Ameren Missouri requested rate changes that would increase or
2 decrease the net throughput disincentive on a per kWh basis?

3 A. For the past several rate cases, Ameren Missouri has requested that its
4 residential customer charge be increased at a rate greater than the system average increase.
5 This means that, all else being equal, Ameren Missouri is requesting that its per kWh net
6 throughput disincentive decrease in each rate case. However, the Utility Stipulation assumes
7 a 1% increase to the net throughput disincentive on a per kWh basis and only allows upward
8 adjustment from there.

9 Q. How much variability does the change to a customer charge in a rate case
10 introduce under the Utility Stipulation TD-NSB calculation?

11 A. The difference will vary by month, since the marginal avoided revenue rate per
12 kWh applicable to each class is different each month. There is a difference in recovery
13 depending on if new rates would take effect in July 2016 or August 2016.

14 A. A simple example looks at the impact of whether the same number of a
15 measure is installed each month as well as whether the level of measures installed each month
16 ramps up over time. The example measure is the same residential measure assumed to create
17 efficiency savings of 73kWh per month. Those efficiency savings are experienced as 100
18 watts an hour, every hour. Depending on whether a rate case results in the customer charge
19 being increased by the system average increase, or if the customer charge is increased such
20 that the residential energy charge is slightly decreased, Ameren Missouri would recover vastly
21 different amounts under the Utility Stipulation design of the TD-NSB for that measure:

22 ▪ September 2015 Rate Case - Where the same number of measures are installed
23 each month:

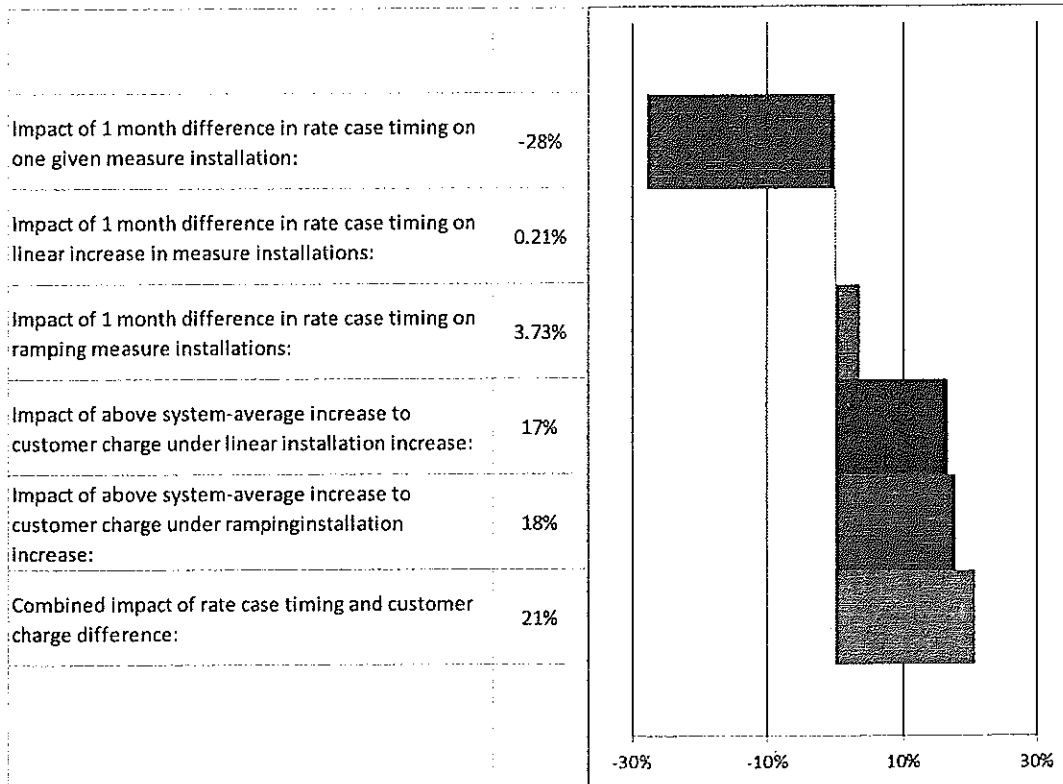
- 1 ▪ September 2015 rate case filing, final applicable rate case takes effect in
2 February of 2020, customer charge increased by system average:
3 \$1,430.30.
- 4 ▪ September 2015 rate case filing, customer charge receives above-average
5 increase resulting in slight decrease to residential energy charge:
6 \$1,196.34.
- 7 ▪ The variance is a 16% difference.
- 8 ▪ August 2015 Rate Case - Where the number of measures installed each month
9 ramps up over time:
- 10 ▪ August 2015 rate case filing, final applicable rate case takes effect in
11 January of 2020, customer charge increased by system average:
12 \$27,603.30.
- 13 ▪ August 2015 rate case filing, customer charge receives above-average
14 increase resulting in slight decrease to residential energy charge:
15 \$22,365.16.
- 16 ▪ The variance is an 18% difference.
- 17 ▪ 21% difference from August 2015 rate case with customer charge system-
18 average increase to September 2015 rate case with customer charge above
19 system-average increase.

20 Q. Does the Utility Stipulation reduce the number of assumptions required for the
21 TD-NSB calculation?

22 A. No.

23 Q. Have you prepared a summary of the impact of the variables discussed above?

3 A. Yes. Please see Appendix A for a more thorough discussion of the scenarios
 4 discussed above. Graphically, the variances of each example are provided below:



4
 6 Q. What assumptions are rendered unnecessary if the throughput disincentive is
 7 recovered as incurred instead of on an accelerated basis?

9 A. There is no need to make assumptions about rate case timing, marginal energy
 10 rates, marginal avoided cost rates, or marginal impacts to off system sales and transmission-
 11 related charges if the throughput disincentive is recovered as incurred.

11 Q. Do you agree with the true-up Mr. Davis provides of the net marginal rate
 12 calculation?

13 A. For certain applications, in part, excluding his calculation error, his results do
 14 not seem unreasonable.

1 Q. What is Mr. Davis's calculation error?

2 A. Mr. Davis used a residential summer energy charge rate of \$0.1218/kWh, but
3 the tariff rate is \$0.1208/kWh. This appears to be a simple typographical error which can be
4 easily corrected.

5 Q. Have you extensively reviewed the commercial and industrial net marginal rate
6 calculations Mr. Davis provided?

7 A. No. I will endeavor to do so and will work with Mr. Davis to address any
8 concerns that may be found prior to the filing of any compliance tariffs.

9 Q. For what applications would you agree with a correction of Mr. Davis's
10 calculation?

11 A. Mr. Davis's calculation, if corrected, would be acceptable at this time, for a
12 mechanism that does not rely on a present-valuing of the throughput disincentive. An
13 additional correction would need to be applied to account for the fuel adjustment charge
14 ("FAC") sharing mechanism.⁶

15 Q. Is it appropriate to rely on a calculation such as Mr. Davis's for a mechanism
16 that relies on a present valuing of the throughput disincentive?

17 A. No. The mechanism in the Utility Stipulation looks at what energy will not be
18 sold if everything works for a particular installed measure as modeled, and then compensates
19 Ameren Missouri instantly upon the installation of that measure for the difference between the
20 applicable marginal rate and the applicable FAC Base Factor.

21 Q. Why is that not reasonable?

⁶ Staff recommends that future MEEIA cycles move towards development of measure-specific throughput calculations that account for the variety of avoided energy costs experienced throughout the year, and for the variety of shapes of energy savings that are caused by different measures.

1 A. Setting aside the lack of EM&V and NTG and the reliance on unnecessary
2 assumptions, Ameren Missouri avoids different energy costs in different hours. So, the
3 energy cost that Ameren Missouri avoids will vary widely depending on whether a measure
4 reduces energy consumption on a springtime evening or on a summertime afternoon. Under
5 the Non-Unanimous TD-NSB, once a measure goes out the door, Ameren Missouri gets a
6 stream of compensation that assumes that the energy saved by the measure was priced at the
7 base factor rate. But, as time goes on, ratepayers will only receive compensation in the form
8 of increased off system sales marginal revenue ("OSSMR") flowed back through the FAC
9 after any savings are actually experienced. So Ameren Missouri gets the time-value benefit of
10 that earnings stream. This of course assumes that ratepayers actually receive compensation in
11 the form of 95% of the increase in OSSMR, which will only occur if the measure was
12 effective.

13 Q. Does the Utility Stipulation TD-NSB mechanism provide for adjustment once
14 it is determined that a measure is more or less effective than was assumed?

15 A. Absolutely not.

16 Q. Does the Utility Stipulation TD-NSB mechanism provide for adjustment if rate
17 cases occur less frequently than every 15 months?

18 A. No.

19 Q. If the timing of rate cases is every 15 months, but those rate cases are not timed
20 at the specific points in time assumed when the TD-NSB is set up to begin, does the Utility
21 Stipulation TD-NSB mechanism provide for corrective adjustments?

22 A. No.

1 Q. Does the Utility Stipulation TD-NSB mechanism provide for adjustment if, as
2 a result of a rate case, the per kWh net throughput disincentive decreases (or remains the
3 same) instead of increases?

4 A. Absolutely not.

5 Q. Does the Utility Stipulation TD-NSB mechanism provide for adjustment if the
6 long-term benefits to be shared that were assumed in determining the TD-NSB mechanism
7 never materialize?

8 A. Absolutely not.

9 Q. On page 8 of his supplemental direct testimony Mr. Davis refers to sharing
10 percentages. Is it your understanding that Ameren Missouri will share the percentages of
11 realized benefits with its ratepayers?

12 A. No. While Ameren Missouri refers to the TD-NSB as a share of net benefits,
13 the Utility Stipulation requires that ratepayers pay, in up-front fixed dollars, the shareholder's
14 share of deemed benefit under those sharing percentages. All risk that benefits do not
15 materialize, whether through factors outside of the utility's control or factors entirely under
16 the utility's control, is placed upon customers under the terms of the Utility Stipulation.

17 Q. Mr. Davis, at page 10, states that modifications to the Utility Stipulation TD-
18 NSB from the Direct-filed TD-NSB are good for customers. Do you agree with this claim?

19 A. No. The modifications do not remove the perverse incentive that was present
20 in the direct-filed TD-NSB because there is no attempt to true-up the deemed kWh savings.
21 Further, the rate case timing mechanism in the Utility Stipulation only works in one direction,
22 and the rate case impact mechanism only works in the wrong direction.

1 Q. Does this conclude your rebuttal to Ameren Missouri's supplemental
2 testimony?

3 A. Yes.

APPENDIX A:

What difference does a month make?

Example residential measure:

- Creates efficiency savings of 73kWh per month:
 - 100 watts an hour, every hour,
 - Installed January 1, 2016,
 - Reduces utility revenue by \$57.08 over the course of a year, all else being equal.
- Depending on the scenario you choose, the utility would recovery vastly different amounts under its design of the TD-NSB for that measure:
 - August 2015 rate case filing: \$24.22
 - September 2015 rate case filing: \$30.97
 - 28% difference,
 - Difference will vary by month, since marginal avoided revenue rate per kWh applicable to each class is different each month.

What difference does a rate case make when the same number of measures are installed each month?

Example residential measure:

- Every month during the MEEIA cycle, an additional measure is installed. That measure creates efficiency savings of 73kWh per month:
 - 100 watts an hour, every hour,

- One measure is installed January 1, 2016, and another of that measure is installed the first day of each month through December of 2018.
- Reduces utility revenue by \$5,279.32 if no rate cases take effect before December of 2019, all else being equal.
- Depending on when rate cases occur, the utility would recover vastly different amounts under the Utility Stipulation design of the TD-NSB for that measure, when rate cases are assumed to be filed every 15 months, with an equal percentage increase to the customer charge:
 - August 2015 rate case filing, final applicable rate case takes effect in January of 2020: \$1,433.34.
 - September 2015 rate case filing, final applicable rate case takes effect in February of 2020: \$1,430.30.
 - Only .21% difference,
 - Difference will vary by month, since marginal avoided revenue rate per kWh applicable to each class is different each month.

What difference does a rate case make when the number of measures installed each month ramps up over time?

Example residential measure:

- Every month during the MEEIA cycle, one more measure is installed than the month before. That measure creates efficiency savings of 73kWh per month:
 - 100 watts an hour, every hour,

- One measure is installed January 1, 2016, and one more measure than the month before of that measure is installed the first day of each month through December of 2018.
 - Reduces utility revenue by \$78,966.13 if no rate cases take effect before December of 2019, all else being equal.
 - Depending on when rate cases occur, the utility would recover vastly different amounts under the Utility Stipulation design of the TD-NSB for that measure, when rate cases are assumed to be filed every 15 months, with an equal percentage increase to the customer charge:
 - August 2015 rate case filing, final applicable rate case takes effect in January of 2020: \$27,603.30.
 - September 2015 rate case filing, final applicable rate case takes effect in February of 2020: \$26,574.93.
 - 3.73% difference,
 - Difference will vary by month, since marginal avoided revenue rate per kWh applicable to each class is different each month.

What difference does an increase to the customer charge make when the same number of measures is installed each month?

Example residential measure:

- Every month during the MEEIA cycle, an additional measure is installed. That measure creates efficiency savings of 73kWh per month:

- 100 watts an hour, every hour,
 - One measure is installed January 1, 2016, and another of that measure is installed the first day of each month through December of 2018.
 - Reduces utility revenue by \$5,279.32 if no rate cases take effect before December of 2019, all else being equal.
- Depending on when rate cases occur, the utility would recover vastly different amounts under the Utility Stipulation design of the TD-NSB for that measure, when rate cases are assumed to be filed every 15 months, with an equal percentage increase to the customer charge:
- August 2015 rate case filing, final applicable rate case takes effect in January of 2020, customer charge increased by system average: \$1,433.34.
 - August 2015 rate case filing, customer charge receives above-average increase resulting in slight decrease to residential energy charge: \$1,190.23.
 - 17% difference.
 - September 2015 rate case filing, final applicable rate case takes effect in February of 2020, customer charge increased by system average: \$1430.30.
 - September 2015 rate case filing, customer charge receives above-average increase resulting in slight decrease to residential energy charge: \$1,196.34.
 - 16% difference.
 - 20% difference from August 2015 rate case with customer charge above system-average increase to September 2015 rate case with customer charge system-average increase.

- Difference will vary by month, since marginal avoided revenue rate per kWh applicable to each class is different each month.

What difference does an increase to the customer charge make when the number of measures installed each month ramps up over time?

Example residential measure:

- Every month during the MEEIA cycle, one more measure is installed than the month before. That measure creates efficiency savings of 73kWh per month:
 - 100 watts an hour, every hour,
 - One measure is installed January 1, 2016, and one more measure than the month before of that measure is installed the first day of each month through December of 2018.
 - Reduces utility revenue by \$78,966.13 if no rate cases take effect before December of 2019, all else being equal.

Depending on when rate cases occur, the utility would recovery vastly different amounts under its design of the TD-NSB for that measure, when rate cases are assumed to be filed every 15 months, with an equal percentage increase to the customer charge:

- August 2015 rate case filing, final applicable rate case takes effect in January of 2020, customer charge increased by system average: \$27,603.30.
- August 2015 rate case filing, customer charge receives above-average increase resulting in slight decrease to residential energy charge: \$22,365.16.
- 18% difference.

- September 2015 rate case filing, final applicable rate case takes effect in February of 2020, customer charge increased by system average: \$26,574.93.
- September 2015 rate case filing, customer charge receives above-average increase resulting in slight decrease to residential energy charge: \$21,828.17.
- 18% difference.
- 21% difference from August 2015 rate case with customer charge system-average increase to September 2015 rate case with customer charge above system-average increase.
- Difference will vary by month, since marginal avoided revenue rate per kWh applicable to each class is different each month.