

Exhibit No: 400

Issue: Demand Side Resources

Witness: Philip Mosenthal

Type of Exhibit: Rebuttal testimony

Sponsoring Party: NRDC

Case No. EO-2019-0132

Date testimony prepared: January 28, 2017

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

Kansas City Power & Light Company

File No. EO-2019-0132

**REBUTTAL TESTIMONY OF
PHILIP MOSENTHAL**

ON BEHALF OF

NRDC

PUBLIC VERSION

August 19, 2019

Previously filed on January 28, 2019

NRDC Exhibit No. 400
Date 7-23-19 Reporter TW
File No. EO-2019-0132
EO-2019-0133

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

2 A. Philip H. Mosenthal, Optimal Energy, Inc., 10600 Route 116, Hinesburg, VT
3 05461.

4 **Q. On whose behalf are you testifying?**

5 A. I am testifying on behalf of Natural Resources Defense Council (NRDC). All
6 work developing my testimony has been completed by me or under my direction.

7 **Q. How are you employed?**

8 A. I am the founding partner in Optimal Energy, Inc., (“Optimal Energy”) a
9 consultancy specializing in energy efficiency and utility planning. Optimal Energy
10 advises numerous parties including utilities, non-utility program administrators,
11 government, and environmental groups.

12 **Q. Tell me about your qualifications and experience?**

13 A. I have 30 years of experience in all aspects of energy efficiency, including facility
14 energy management, policy development and research, integrated resource planning,
15 cost-benefit analysis, and efficiency and renewable program design, implementation and
16 evaluation. I have developed numerous utility efficiency plans, and designed and
17 evaluated utility and non-utility residential, commercial and industrial energy efficiency
18 programs throughout North America, Europe and China.

19 I have also completed or directed numerous studies of efficiency potential and
20 economics in many locations, including China, Kansas, Maine, Massachusetts, Michigan,
21 Minnesota, New England, New Jersey, New York, Quebec, Texas, and Vermont. These
22 studies ranged from high level assessments to extremely detailed, bottom-up assessments
23 evaluating thousands of measures among numerous market segments. Recent examples

1 of the latter are analyses of electric and natural gas efficiency and renewable potential
2 along with the development of suggested programs for New York State, on behalf of the
3 New York State Energy Research and Development Authority (NYSERDA).

4 I have served as a lead advisor for business energy services in Rhode Island and
5 Massachusetts on behalf of the Energy Efficiency Resource Management Council and the
6 Energy Efficiency Advisory Council, respectively, overseeing and advising on their
7 nation-leading utility program administrators' plans, program designs, implementation
8 and performance, in these leading states. I also was the lead developer of Vermont's
9 "efficiency utility" (Efficiency Vermont) which is the nation's first and only regulated
10 utility dedicated solely to capturing efficiency resources.

11 I have been actively engaged in the Illinois Stakeholder Advisory Group (SAG)
12 since its inception, representing the People of Illinois on behalf of the Illinois Office of
13 the Attorney General. I have also been involved in the past few years on issues in
14 Missouri related to KCP&L's and Ameren's IRP and MEEIA filings, as well as a witness
15 on behalf of NRDC, the Sierra Club and Renew Missouri in various Ameren and
16 KCPL&L dockets.

17 Prior to co-founding Optimal Energy in 1996, I was the Chief Consultant for the
18 Mid-Atlantic Region for XENERGY, INC. (now DNV-GL). I have a B.A. in
19 Architecture and an M.S. in Energy Management and Policy, both from the University of
20 Pennsylvania.

21 **Q. Have you previously testified before this Commission?**

22 A. Yes, I have submitted direct and rebuttal testimony in numerous Ameren UE and
23 KCP&L-MO and GMO dockets related to IRP's and MEEIA Plans.

1 **Q. Please summarize your Testimony.**

2 A: My testimony addresses KCP&L's 2019-2022 Plan filing in the context of the
3 MEEIA Statute. First, I give a brief description of the MEEIA Legislation and KCP&L's
4 MEEIA III Plan. Next, I show that KCP&L is leaving significant cost-effective energy
5 efficiency potential on the table by comparing the level of savings included in KCP&L's
6 MEEIA filing with the results of KCP&L's potential study. Third, I demonstrate that the
7 MEEIA Plan benefits all KCP&L customers, including non-participants. The Plan passes
8 the total resource cost (TRC) test and has been shown to be a scenario resulting in the
9 lower net present value of future revenue requirements for KCP&L than any scenario
10 with less efficiency investment. Fourth, I show that energy efficiency provides substantial
11 benefits regardless of whether a utility currently has excess capacity. I further show how
12 all customers will indeed benefit from the MEEIA III Plan even if short term rates
13 increase for non-participants. Fifth, I explain the need for additional programs and
14 increased budgets to serve KCP&L's low-income customers. I recommend that KCP&L
15 offers an Income-Eligible Single-Family program. I then praise the improved program
16 design of the proposed Income-Eligible Multi-Family program, but also suggest how
17 additional budget would help to realize the true potential of the new design elements. I
18 conclude by recommending that the Commission approve KCP&L's MEEIA III plan,
19 given the cost-effectiveness and significant benefits to all customers.

20 **Introduction**

21 **Q: Describe the MEEIA Legislation**

22 A: The MEEIA Legislation encourages the adoption in Missouri of energy efficiency
23 investments that are cost-effective using the Total Resource Cost test (TRC).

1 Specifically, it states that “The commission shall permit electric corporations to
2 implement commission-approved demand-side programs proposed pursuant to this
3 section with a goal of achieving all cost-effective demand-side savings.” Further, the
4 programs should “result in energy or demand savings that are beneficial to all customers
5 in the customer class in which the programs are proposed, regardless of whether the
6 programs are utilized by all customers.” Finally, the legislation states that, in determining
7 how to determine whether efficiency programs are beneficial to all customers, “the
8 commission shall consider the total resource cost test a preferred cost-effectiveness
9 test.”¹

10 **Q. Describe the current KCP&L MEEIA Proposal**

11 A: Over three years, KCP&L’s MEEIA III Proposal will save 343.7 GWh of energy,
12 and 185.9 MW of peak demand at a program budget of \$96.3 million.² The savings goals
13 presented in the MEEIA III Proposal are in line with the 2017 DSM Potential Study
14 Realistic Achievable Potential (RAP) levels in KCP&L-GMO and slightly lower than
15 RAP for KCP&L-MO. The proposal has a portfolio TRC benefit-cost ratio of 1.81 for
16 KCP&L-MO and 1.90 for KCP&L-GMO.³ This means that for every dollar invested in
17 the efficiency programs (including all KCP&L-leveraged customer contributions),
18 Missourians and the entire Missouri economy will enjoy roughly two dollars in benefits.

19 **Q. What does the MEEIA legislation mean by “all cost-effective” demand side savings?**

20 A. The MEEIA legislation explicitly states that the Total Resource Cost test (TRC)
21 should be used as the primary test of whether efficiency resources are cost-effective.

¹ Missouri Revised Statutes, Section 393.1075.4

² KCP&L MEEIA Cycle 3 2019-2022 Filing, pg 13.

³ KCP&L MEEIA Cycle 3 2019-2022 Filing, pg 15.

1 Therefore, “all cost-effective” savings means all energy efficiency resources for which
2 the TRC benefits are greater than the TRC costs (a benefit-cost ratio greater than 1.0).

3 **Q. Does KCP&L’s MEEIA III Plan strive for all cost-effective savings as required in**
4 **the MEEIA legislation?**

5 A. No. While I believe it falls short of pursuing all cost-effective efficiency and
6 could be expanded, KCP&L’s MEEIA III Plan is a significant step towards capturing all
7 cost-effective energy efficiency as envisioned by the MEEIA legislation. With TRC
8 ratios of 1.81 and 1.90 for KCP&L-MO and KCP&L-GMO respectively, the legislation’s
9 stated preferred test shows that the avoided marginal costs from running existing power
10 plants would be almost twice as much as achieving the same results through the MEEIA
11 III Plan efficiency programs.⁴

12 **Q. How do you know that there are additional cost-effective savings?**

13 A. Results of KCP&L’s DSM Potential study,⁵ which were used to inform the
14 Company’s 2018 IRP filing, suggests that there is additional energy savings potential in
15 the Company’s Missouri service territory. As previously mentioned, the savings goals
16 presented in the MEEIA III Proposal are closely aligned with the savings levels in the
17 RAP potential study scenario. However, results of the study suggest that the Maximum
18 Achievable potential in the KCP&L-MO service territory is 24% higher than what is
19 included in the MEEIA filing, and 43% higher for the KCP&L-GMO territory.⁶ In fact,
20 this study was very conservative in my opinion, and I believe even more is readily

⁴ KCP&L MEEIA Cycle 3 2019-2022 Filing, pg 15.

⁵ Applied Energy Group, “Kansas City Power & Light 2016 DSM Potential Study.” April 17, 2017.

⁶ Values reflect the MAP scenario increment savings for years 2019-2022 (as presented in Table 36 and Table 38 of KCP&L’s IRP) compared to the proposed energy savings found in Figure 1.3 and Figure 1.4 of KCP&L’s MEEIA Cycle 3 filing.

1 achievable. As discussed below, the leading jurisdictions are currently capturing more
2 than twice as much savings as KCP&L's plan.

3 **Q. Can you explain the difference between the RAP and MAP scenarios you reference?**

4 A. Yes. In general, achievable potential is used for setting energy savings targets
5 because it considers things like limitations in customer awareness and willingness to
6 adopt efficiency measures that may act as barriers to achieving all possible technical or
7 economic potential. The 2017 AEG study included two Achievable Potential scenarios:
8 Maximum and Realistic. Maximum Achievable Potential (MAP) assumes the maximum
9 expected participation and customer awareness level, while Realistic Achievable
10 Potential (RAP) represents a constrained scenario which assumes a more moderate set of
11 budgets and programs that corresponds to past levels of DSM activity at KCP&L.

12 **Q. Which scenario most closely meets the requirements of the MEEIA legislation?**

13 A. The MAP scenario most closely represents the goal of achieving all cost-effective
14 demand-side savings, as that is how it is defined. Although more aggressive than the
15 savings presented in the RAP scenario, the MAP reflects what is estimated to be
16 achievable in the KCP&L service territory and what the Company should strive for.⁷
17 With properly designed programs, and sufficient spending on marketing and outreach,
18 KCP&L should be able to achieve savings closer to the MAP scenario level than what
19 they are currently proposing.

20 **Q. Are the savings levels in the MAP scenario realistically achievable?**

21 A. Yes. The MAP scenario for Missouri found a 19-year cumulative savings of
22 9.5%, for an annual average savings of just 0.5% of total sales (although due to some

⁷ Putting aside that I believe true MAP is much higher than the estimate, as are the levels of savings currently being captured in many of the leading States.

1 measure lives of shorter than the study period, actual incremental savings are in the 0.8%-
2 1.1% range). This is just a little over half of what was found in Ameren's 2016 potential
3 study for its service territory and would only rank at the 29th state in terms of efficiency
4 savings as a percent of load being *actually being captured, with some as high as three*
5 *times this level.*⁸ Clearly, these saving are realistic if more than half the states are
6 achieving more. In fact, this is significantly lower than what is currently being achieved
7 in Missouri – KCP&L MO itself, in the first year of MEEIA 2, achieved almost 50%
8 higher savings than the MAP scenario in the IRP.

9 **Q. Why else do you believe KCP&L should be able to achieve higher energy efficiency**
10 **savings?**

11 The high BCR ratios for many of the programs in KCP&L's portfolio indicate
12 that the company could spend more money on those programs without threatening the
13 cost-effectiveness of the portfolio. For example, the KCP&L-GMO Heating, Cooling and
14 Weatherization program has a BCR of 2.29 and the Business Customer program has a
15 BCR of 2.21. These results suggest that even if the costs were twice as high, they would
16 remain cost-effective. By increasing spending on things like customer marketing and
17 outreach, financial incentives, or contractor training, KCP&L could help to increase
18 program participation and achieve savings levels closer to, and significantly exceeding
19 the MAP scenario estimates.

⁸ Massachusetts, Rhode Island, and Vermont are currently capturing approximately 2.5-3% per year in savings, and New York just adopted a statewide goal for utilities to capture 3% per year in savings (See: <https://aceee.org/sites/default/files/publications/researchreports/u1808.pdf> Note the ACEEE figures are lower than the percentage of savings being captured by the utilities offering efficiency programs because they reflect the entire state loads including many municipal and cooperative utilities with no programs.

1 **Q. Does KCP&L’s MEEIA III Plan meet the requirement in the MEEIA legislation**
2 **that all customers benefit?**

3 A: Yes. The MEEIA III Plan benefits all customers regardless of program
4 participation in several ways. First, electricity costs would be lower for all customers
5 (including non-participants) if all cost-effective energy efficiency were
6 pursued. KCP&L’s latest IRP shows that the preferred scenario results in a total revenue
7 requirement of \$106 million lower than the scenario that assumes no additional DSM
8 beyond what is currently in progress as part of KCP&L’s MEEIA Cycle II approved
9 programs.⁹ This confirms that all ratepayers together will be better off with proposed
10 levels of efficiency, even given the current growth rates and even with any existing
11 excess capacity. This is because efficiency is the least-cost resource and would displace more
12 expensive alternatives whenever its benefit-cost ratio is greater than one.

13 **Q. You mentioned that efficiency is beneficial even when a utility has excess capacity.**
14 **Please explain.**

15 A: Energy efficiency has many benefits that aren’t related to the explicit avoidance
16 of an imminently needed additional new supply side investment in capacity. Avoided
17 energy benefits, for example, also include marginal costs related to generating additional
18 electricity at existing facilities, or the opportunity cost of having to provide electricity or
19 electric capacity to its own customers rather than selling it back to the Midcontinent ISO.
20 Generating electricity incurs variable costs, such as fuel, operation and maintenance, that
21 would not be incurred if that unit of electricity were not produced. Some types of plants
22 have higher marginal costs than others – for example peaker plants only run a few hours
23 per year because the marginal costs associated with generating electricity from these

⁹ KCP&L 2018 Integrated Resource Plan. Volume 6.

1 plants are higher than the market cost of power for all but the hours with the highest load.
2 This is despite the fact that significant fixed costs have been incurred in building the
3 power plant and will continue to be incurred whether or not the plant actually generates
4 any electricity. Efficiency, by displacing the need for the power plants with the highest
5 marginal costs, thus saves ratepayers significant money even when not explicitly
6 avoiding a new power plant.

7 Both MEEIA¹⁰ and the Commission's IRP rules¹¹ call for evaluating efficiency on
8 an equal basis with supply-side investments. This does not mean that efficiency can only
9 be implemented if it reduces large near-term supply-side capital investments, but that the
10 utility should procure electricity from demand-side efficiency measures if it can do so for
11 less than the cost of procuring electricity from existing facilities. By reducing the need
12 for electricity, KCP&L's MEEIA III portfolio will allow it to either reduce costs of
13 procuring electricity from existing power plants or sell additional power back to MISO.
14 In either case, total revenue requirements are lower with the MEEIA portfolio in place,,
15 as is made clear in KCP&L's IRP.

16 **Q. Are there demand (as compared to energy) benefits of energy efficiency when there**
17 **is forecasted excess capacity?**

18 A: The demand reduction associated with energy efficiency creates significant
19 benefits even in situations of excess capacity for several reasons. First, as described
20 above, power purchased during peak periods is often several times more expensive than
21 power purchased during off-peak periods. This is because the power plants with the
22 lowest marginal cost largely serve the base load, and as the load increases, more and

¹⁰ Sec. 393.1075.3.

¹¹ 4 CSR 240-22.010(2)(A).

1 more expensive plants are brought on-line to meet the additional power need. In many
2 jurisdictions, some plants are needed for only a few hours a year, with costs that are an
3 order of magnitude higher than average electric costs. By reducing the system peak load,
4 the MEEIA III Plan will allow KCP&L to avoid purchasing this highly expensive
5 electricity, or allow it to sell this excess capacity into the MISO market when costs are
6 particularly high, either way benefitting customers.

7 Second, lower peak demand can allow KCP&L to retire any existing and
8 expensive plants earlier than they otherwise could. This can avoid possible future
9 expensive plant retrofits and maintenance, and further benefit customers.

10 Third, reduction in peak demand can result in reduced Transmission and
11 Distribution (T&D) costs. While these impacts are highly dependent on location, the need
12 for T&D investments are a significant and growing cost in the U.S. – U.S. utilities
13 invested \$37.7 billion in their T&D systems in 2013, and T&D costs have been growing
14 significantly faster than inflation since the early 2000s¹². By reducing its system-wide
15 peak, KCP&L's MEEIA III Plan will by its nature reduce the peak on substations and
16 wires that might otherwise need capacity upgrades. Reduced loading on substations can
17 also provide maintenance cost savings and reduce line losses, even when major capital
18 investments are not necessary. KCP&L can even target energy efficiency and demand
19 response initiative in certain areas to best maximize the T&D benefits.

¹² <http://kms.energyefficiencycentre.org/sites/default/files/ie1502.pdf>

1 **Q. Do efficiency investments have additional benefits beyond the electric system**
2 **benefits that aren't captured in KCP&L's cost-effectiveness estimates?**

3 A. Yes. Energy efficiency investments have many significant additional benefits that
4 are hard to quantify or are otherwise not included in the TRC cost-effectiveness analysis
5 of the MEEIA Portfolio. These include, but are not limited to:

- 6 • Job Creation and other Economic Benefits
- 7 • Lower Market Prices for Electricity
- 8 • Reduced Risk and Price Volatility
- 9 • Health and Safety Benefits
- 10 • Ancillary Grid Benefits
- 11 • Improved Comfort and Productivity

12 For example, a 2018 Report on clean jobs in the Midwest found that Missouri has 40,166
13 full time jobs related to energy efficiency. This is an important and growing sector of
14 Missouri's economy, representing 1.4% of the state's entire workforce.¹³ These jobs are
15 significantly driven by the MEEIA programs, and will continue to grow in importance if
16 MEEIA is continued and expanded. These additional benefits are enjoyed by all
17 customers regardless of program participation. Typically, a million dollars spent on
18 efficiency will create many more jobs than a million dollars spent on supply-side
19 resources.

20

21 **Q: What about customers who do not participate in MEEIA programs? Won't they be**
22 **worse off due to short term rate increases from MEEIA?**

¹³ <https://www.cleanjobsmidwest.com/state/missouri>

1 A: Virtually all efficiency programs will increase short term rates as a result of
2 reducing electricity consumption. However they reduce customer's total bills, which is
3 what they care most about. If the PSC were to consider an increase in short term rates by
4 itself as a reason not to approve a MEEIA Plan it would essentially be using the
5 Ratepayer Impact Measure Test (RIM) as the primary cost-effective metric. The RIM test
6 differs from the TRC in that it does not consider the non-electric system benefits, but
7 more importantly because it considers all "lost revenue" resulting from the energy
8 savings as a cost. In this way, RIM basically indicates whether or not short-term rates
9 will increase as a result of efficiency. The RIM test is generally negative (resulting in a
10 small increase in rates) for efficiency programs because utility retail rates are almost
11 always higher than the marginal avoided costs because there are fixed costs built into
12 utility rates. As a result, not only does the utility need to recover its program costs, but
13 the bill savings that customers enjoy result in reduced revenue collected by the utility,
14 requiring a rate increase to make up for the unrecovered fixed costs. Most broad-based
15 efficiency programs will fail the RIM test, and this metric is clearly rejected by the
16 MEEIA legislation as a dispositive cost-effectiveness test because it explicitly states that
17 the TRC should be used as the primary cost-effectiveness metric.¹⁴

18 **Q. What sorts of activity will typically result in *lowering* rates?**

19 A: Essentially wasting energy is an effective way to reduce rates because it will
20 spread the system's fixed costs over greater sales. This is clearly contrary to State policy
21 and the intent of MEEIA to encourage pursuit of all cost-effective efficiency.

22 **Q. Do any jurisdictions use the RIM test as a primary cost-effectiveness screen?**

23 A: No. No other states use such a metric.

¹⁴ Sec. 393.1075.4, RSMo.

1 **Q. Are lost revenues a true new “cost” to customers?**

2 A: No. The revenue that is “lost” reflects fixed costs that are already spent, are PSC
3 approved, and are embedded in KCP&L’s current rates. KCP&L’s payments from its
4 throughput incentive are simply a reallocation of these already incurred costs to
5 compensate for the efficiency improvement that results in lower electricity consumption.
6 They do not impact overall cost-effectiveness of efficiency for Missouri’s economy.

7 **Q. How may some of the rate impacts for non-participants be mitigated?**

8 A: The best way to reduce the impacts of efficiency for non-participants is simply to
9 ensure that the program offerings are broad enough that everyone can easily participate.
10 The proposed MEEIA portfolio takes significant steps in this direction – by minimizing
11 the number of non-participants, the plan further reduces KCP&L’s total revenue
12 requirements while minimizing short-term negative impacts to KCP&L customers who
13 do not participate. Through things like its upstream products program, the vast majority
14 of KCP&L customers will participate in some way and typically not even be aware they
15 are participating, even if just to buy a few discounted lightbulbs, which by itself will
16 likely offset their rate impacts and still provide them with a lower overall bill.

17 **Q. How else does energy efficiency benefit KCP&L’s customers?**

18 A: The benefits of efficiency are aptly demonstrated by a recent article in the Kansas
19 City Star. This article discusses a recent surge of customer complaints due to higher bills
20 from the particularly hot weather this summer (there were over 50 days with weather over
21 90 degrees - more than double the number in 2017). Robust MEEIA programs can help
22 provide customers with some degree of control over their electric bills, and mitigate risk

1 of unexpected outside events rendering their electricity unaffordable.¹⁵ Quite simply,
2 customers care most about the magnitude of their bills, not their rates. Finally, because
3 the efficiency resource KCP&L has proposed to capture is cheaper than supply
4 alternatives, in the long run overall customer bills and rates go down as a result of the
5 MEEIA III Plan, as KCP&L avoids future larger capital expenses in supply they would
6 otherwise have to make.

7 **Q. Does Kansas City Power and Light’s MEEIA III proposed portfolio match the need**
8 **and the opportunity for energy savings within low-income housing in the**
9 **Company’s service territory?**

10 A. No. It is noteworthy that there are major improvements on the low-income multi-
11 family side, but the Company has no stand-alone program to serve its low-income single-
12 family customers. I am thrilled to see the enhancements in the Company’s program
13 design for serving its low-income multi-family customers compared to its Cycle II
14 portfolio. The program has a detailed design which encompasses best practices, including
15 improved eligibility guidelines, going deeper into each building and the units, and
16 partnerships with housing agencies to help reach low-income multifamily customers
17 where they are. But the goals lag far behind where they should be, in order to meet the
18 intent of the newly designed program. Therefore, the Company is leaving energy savings
19 potential on the table for both low-income single-family and multi-family housing and is
20 failing to fully serve its low-income customers.

21 **Q. What specific low-income programs does the Company propose in its MEEIA III**
22 **portfolio?**

¹⁵ <https://www.kansascity.com/opinion/readers-opinion/guest-commentary/article217671510.html>

1 A. The Company is proposing a small income-eligible component of its Home
2 Energy Reports program. The Company is also proposing an Income-Eligible Multi-
3 Family program. The Income-Eligible Multi-Family Program has drastically improved in
4 terms of its detailed program design compared to Cycle II, but it needs additional budget
5 to realize the true energy savings potential intended by the new design. It will also need a
6 different ramp up of the budget, which I'll explain in further detail later in my testimony.
7 Finally, there is a mention of exploring programs that would serve low-income single-
8 family customers in the research and pilots section of the Company's portfolio. The
9 Company specifically states that it is evaluating opportunities for additional income
10 eligible programs including "energy efficiency for single-family, low- to -mid-income
11 customers."¹⁶ But there is no stand-alone income-eligible single-family program being
12 offered, despite the portfolio's clear new emphasis on serving low-income customers, and
13 the fact that traditional income eligible single-family programs are well developed and
14 proven. The Company states in the introduction to its portfolio that it has included "more
15 than \$10 million of income qualified programs [which] will expand options for all,
16 including families with tight budgets."¹⁷ The proposed portfolio also highlights that it has
17 "special programs targeted to income-eligible customers."¹⁸ But the portfolio does not lay
18 out a plan to reach low-income single-family customers, nor are the budgets proposed
19 sufficient to reach low-income multi-family customers in the deep, holistic way the
20 Company has outlined in its improved design. The Company has a residential program
21 now titled "heating, cooling, and weatherization" which is intended to at least partially

¹⁶ KCP&L MEEIA Cycle 3 2019-2022 Filing, p. 44

¹⁷ KCP&L MEEIA Cycle 3 2019-2022 Filing, p. 13

¹⁸ KCP&L MEEIA Cycle 3 2019-2022 Filing, p. 24

1 serve single-family homes, but there is no specific call-out of low-income single-family
2 customers.

3 **Q. Did Kansas City Power & Light offer a program for low-income single-family**
4 **customers in previous MEEIA Cycles?**

5 A. Yes, the Company offered a program with direct install kits and some
6 weatherization measure incentives specifically for low-income single-family customers in
7 MEEIA Cycle I and part of MEEIA Cycle II.¹⁹ But that program has not been proposed
8 as any part of the Company's MEEIA Cycle III portfolio.

9 **Q. What are the energy efficiency needs of low-income households in the state of**
10 **Missouri, and the city of Kansas City, MO?**

11 A. Over 43% of renters in Missouri live in unaffordable housing, meaning they
12 spend more than 30% of their income on rent and utilities.²⁰ Low-income single-family
13 and multifamily households face a higher energy burden than non-low-income
14 households. A 2016 report by Energy Efficiency for All and the American Council for an
15 Energy Efficient Economy found that low-income households in the Kansas City
16 metropolitan area had a median energy burden of 8.49%, compared to just 4.48% for the
17 median household in the Kansas City metropolitan area.²¹ The report also found that
18 energy efficiency is a primary solution for relieving excess energy burden. "We find
19 [energy efficiency programs] are an underutilized strategy that could complement bill

¹⁹ In MEEIA Cycle II the Company only offered a low-income single-family program in 2016, only on the GMO side.

²⁰ U.S. Census Table GCT2515. 2012-2016 American Community Survey 5-Year Estimates.

²¹ Drehobl, A. and Ross, L., Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities, Energy Efficiency for All and ACEEE, April 2016. http://www.energyefficiencyforall.org/sites/default/files/Lifting%20the%20High%20Energy%20Burden_0.pdf. p. 46

1 assistance and weatherization programs to reduce high energy burdens in low-income
2 communities.”²² Additionally, 12.7% of Americans currently live at or below the federal
3 poverty level.²³ In Missouri the poverty rate is even higher at 14%, and 19.2% of
4 children.²⁴ For a statewide population 14% of 5,911,099 means 826,358 Missourians
5 living at or below the federal poverty level. Missourians to End Poverty has identified
6 five key factors that impact poverty—economic and family security, education, food and
7 nutrition, health, and housing and energy.²⁵ “High household energy expenditures and
8 below-average family incomes strain the budget of Missouri’s lower- and middle-income
9 families.” Missouri low-income households need energy efficiency, so they can receive
10 lower energy bills and reduce one of the many burdensome factors contributing to low-
11 income Missouri families in poverty.

12 **Q. Given the need for low-income families in Kansas City and the state of Missouri to**
13 **reduce their energy burdens, what ways could Kansas City Power & Light improve**
14 **its treatment of low-income single-family customers in its Cycle III portfolio?**

15 A. The Company should offer a stand-alone Income-Eligible Single-Family program
16 focused on serving low-income single-family homeowners and renters in its MEEIA
17 Cycle III portfolio, with the purpose of delivering long-term energy savings and bill
18 reductions. At a minimum, the Company should bring back what was previously offered
19 to its low-income single-family customers. Additionally, the Company should offer a
20 one-stop shop approach of serving low-income single-family customers as the Company
21 plans to do for its Income Eligible Multi-Family Program. While the Company does

²² Ibid p.7

²³ <http://www.communityaction.org/2018-poverty-report/>

²⁴ Ibid

²⁵ Ibid

1 contribute to the low-income Weatherization Assistance Program (LIWAP) outside of
2 MEEIA, that is only serving a small number of the low-income customers in need. KCPL
3 should treat income-eligible single-family and multi-family customers directly and
4 comprehensively under its MEEIA programs. The Income-Eligible Single-Family
5 program should provide energy assessments and install a comprehensive package of
6 whole house energy saving measures at no cost to customers. More specifically, the
7 program should include direct installation of all appropriate and cost-effective measures
8 at no-cost to the participant. These should include: low-flow faucet aerators, low-flow
9 showerheads, advanced power strips, hot water pipe insulation and LEDs, HVAC tune-
10 ups, blower-door-guided air and duct sealing, and ceiling, duct, and/or wall insulation, at
11 no cost to the participant. Finally, the Company should offer rebates for prescriptive
12 and/or custom capital intensive measures at no or low-cost to participants. These
13 measures may include but are not limited to: early retirement of inefficient HVAC
14 systems and appliances.

15 **Q. What additional details would you recommend for a Kansas City Power & Light**
16 **Income-Eligible Single-Family Program?**

17 A. The Company should partner with local community action agencies, community-
18 based organizations, and non-profit organizations to help with program delivery -
19 including marketing of the program, signing-up customers, and implementation of the
20 program. There are many benefits that come from partnering with a trusted community
21 voice. For example, working directly with community action agencies will allow the
22 Company to better tie the income-eligible energy efficiency programs to bill assistance
23 programs, so low-income customers can receive both bill assistance and energy

1 efficiency help in a coordinated way to reduce their overall energy burdens. In addition,
2 this approach may provide economies by enabling KCP&L to leverage the existing
3 infrastructure for serving these households. In addition, this melding of funding sources
4 can potentially allow KCP&L to focus its funding on energy efficiency measures while
5 other funding sources can address any health and safety needs in the home.

6 **Q. What would you recommend in terms of length and size of an Income-Eligible
7 Single-Family Program?**

8 A. The Income Eligible Single-Family Program should be offered for six years, to
9 align with the timeline of the Company's Income Eligible Multifamily program. It is also
10 noteworthy that Ameren Missouri will also be offering all of its income-eligible programs
11 for six years.²⁶ I recommend KCP&L adopt proportional budgets consistent with
12 Ameren's plans. Explicitly, dividing Ameren Missouri's Single Family Low-Income total
13 six year budget by its total portfolio six year budget, and multiplying the result by the
14 proposed combined GMO and KCP&L-MO six year budget would result in a combined
15 total six year budget of \$9.8 million for GMO and KCP&L-MO.²⁷

16 **Q. Are Kansas City Power and Light's Multifamily Low-Income annual program
17 budgets and savings goals appropriately distributed over the six-year plan period?**

18 A. The Company's budgets and savings for the Income-Eligible Multi-Family
19 (IEMF) program are difficult to compare with MEEIA Cycle II because those figures
20 included the food bank channel which is now proposed to be eliminated, and accounted

²⁶ Ameren MEEIA III EO-2018-0211 - order approving stipulation p.2

²⁷ Ibid. p.28,105.

1 for a large share of the savings.²⁸ I encourage the increased emphasis the plan places on
2 developing comprehensive projects in the low-income multifamily segment rather than
3 the food bank initiative. However, I have some concerns about the trajectory of both the
4 budgets and savings targets over the six-year planning period. Table 1 shows the
5 combined KCP&L-MO and GMO proposed budgets and savings for each of the 6 years.

6 **[**Table 1: 2019-2024 MEEIA Plan Residential Income-Eligible Multi-Family Program**

7

8 **[****

9

10

11

12 **_____**]** Even acknowledging that the elimination of
13 LED distribution at food banks will reduce achievable savings, it is noted that actual
14 2017 savings achievement is 388% higher than the targets proposed for 2019. Even
15 without the food bank distribution channel, efficient lighting installed through direct-
16 install efforts should still capture a large share of these savings.

17

²⁸ Note that while the Food Bank savings were included by KCP&L under IEMF for MEEIA Cycle 2, it is unknown how many of the participants were in fact income eligible multifamily customers.

1 More importantly, KCP&L should be installing much more comprehensive
2 measures in these buildings.

3 The most likely explanation for the drop in the proposed savings and budgets in
4 year 2022 is the reduction in lighting measure savings due to the impacts of the 2007
5 Energy Independence and Security Act (EISA)²⁹. The EISA “backstop” that takes effect
6 in January 2020 (with a likely lag in inventory up to several years) will essentially require
7 that efficient lighting be used in all general service lamp applications. Therefore, the
8 program will need to expand to a broader, deeper set of measures to meet savings targets
9 and address market needs.

10 It is clear that, in spite of the stated intent, the program has not found traction
11 beyond relatively simple, low-cost measures. As evidence, [**

12 _____
13 _____ **] It appears all
14 major measures are considered custom. Clearly, significant opportunity remains to
15 expand program offerings to capture lighting potential and pursue more comprehensive
16 projects. Developing a program that successfully captures comprehensive energy
17 efficiency in the low-income multifamily segment will require significant time to build
18 relationships with building owners and suggests a deliberate, sustained ramp up in both
19 savings and budget targets to meet the program’s full potential is appropriate.

20

²⁹ H.R. 6 — 110th Congress: Energy Independence and Security Act of 2007.
<<https://www.congress.gov/bill/110th-congress/house-bill/6/text>>

1 Our understanding is that the Company has had more success developing a pipeline of
2 properties in Program Year 2018, providing a foundation for further program
3 development in Cycle III.

4 The proposed \$/kWh saved values for 2019-2024 range from [** _____ **]
5 for KCP&L-MO and GMO combined. While these costs implicitly suggest a gradual
6 shift to more comprehensive improvements and phasing out of lighting measures, hitting
7 such low-cost targets in the initial years would likely require business-as-usual, direct-
8 install heavy implementation of primarily low-cost measures. I am concerned that the
9 budgets are not high enough to support a truly comprehensive program. Recognizing that
10 KCP&L has struggled to ensure greater adoption of the custom measures, I generally
11 support a gradual improvement over time, starting with KCP&L's current year one plan,
12 but then with a much more significant ramp up over the six years.

13 As points of comparison, Massachusetts program administrators spent, on
14 average, \$1.14 and \$1.27 per first year kWh saved in their Low-Income Multifamily
15 Retrofit programs for 2016 and 2017, respectively.³⁰ In addition, Ameren Illinois's
16 budget for the Residential Income-Eligible Program for 2018-2021 is \$1.66/kWh saved.³¹
17 While this reflects spending for both single family and multifamily buildings, it is
18 comparable to combined spending in Massachusetts—\$1.48/kWh saved in 2017.³²

19 To develop an illustrative program spending scenario that may more realistically
20 represent what the Company may expect to spend to achieve comprehensive energy

³⁰ <http://masssavedata.com/Public/home>

³¹ Ameren Illinois Company Electric and Gas Energy Efficiency and Demand Response Plan 2018 – 2021. Prepared for: Illinois Commerce Commission Docket No. 17-0311. June 30, 2017. Appendix H, pp.4-6.

³² <http://masssavedata.com/Public/home>

1 efficiency in the low-income multifamily segment, I adopt KCP&L's first year budget as
 2 a reasonable starting point given its past experience, and then the \$/kWh saved increases
 3 linearly from the Company's proposed \$0.64/kWh (KCP&L-MO and GMO combined) in
 4 year 1 to a maximum of \$1.00 in years 4 through 6 to reflect a gradual shift from a direct-
 5 install-based to a more comprehensive, custom program design. The illustrative
 6 combined KCP&L-MO and GMO six-year budget was established based on a total six
 7 year budget that represents 17% of the total proposed portfolio budget—a spending ratio
 8 recommended for Ameren Missouri which they did not oppose for MEEIA Cycle III.³³

9 The recommended increased budgets and savings are presented below:

10

11 Table 2: 2019-2024 Illustrative Modified Income-Eligible Multi-Family Program Budgets and
 12 Savings Targets (KCP&L-MO and GMO combined).

	2019	2020	2021	2022	2023	2024	Total
Estimated Annual Budget (\$ million)	1.8	2.1	2.4	2.8	3.3	3.9	16.2
MWh Target/Savings	2,745	2,705	2,733	2,814	3,293	3,852	18,752
\$/kWh Saved	0.64	0.76	0.88	1.00	1.00	1.00	0.89

13

14 **Q. In what additional ways could Kansas City Power & Light generally improve its**
 15 **treatment of low-income multifamily customers?**

16 A. I am generally supportive of the arguments made by National Housing Trust and
 17 Westside Housing, and the details they lay out on how Kansas City Power & Light can
 18 increase the budget and refine the improved program design of its Income Eligible Multi-

³³ Rebuttal Testimony of Matthew Socks On Behalf of Natural Resources Defense Council. August 30, 2018. Case No.:EO-2018-0211, p.7.

1 Family Program. Their recommendations to the program will allow the Company to
2 better serve the needs of the low-income multifamily housing in its territory in a deep,
3 comprehensive way.

4 **Conclusion**

5 **Q. Please Summarize and conclude your testimony**

6 A. MEEIA legislation states that the Commission shall provide timely cost recovery,
7 ensure that utility financial incentives are aligned with efficiency, and provide earnings
8 opportunities associated with cost-effective and verifiable efficiency savings. Further, the
9 legislation instructs that “The commission shall consider the total resource cost test a
10 preferred cost-effectiveness test.”³⁴ KCP&L’s MEEIA III Plan as proposed passes the
11 Total Resource Cost Test, has a significantly lower utility revenue requirement as shown
12 in the IRP than not pursuing it, and will thus provide a net benefit to all customers,
13 regardless of some potential short-term increase in rates for the very few non-participants
14 who may exist. Moreover, the total benefits are almost certainly understated due to risk,
15 price, health, economic and other impacts. Further, real and significant benefits accrue
16 from efficiency even when it may not defer a specific planned supply side investment.
17 KCP&L’s IRP analysis and the fact that the portfolio passes the TRC prove that the
18 ratepayers as a whole are better off with efficiency and will enjoy reduced present value
19 revenue requirement (total bills) and align with the mandate created by the MEEIA
20 legislation. KCP&L’s proposed programs can provide significant savings to all
21 customers, continue to create jobs and other economic benefits in the service territory,
22 and align perfectly with the type of programs envisioned in the MEEIA legislation. There

³⁴ Missouri Revised Statues, Section 393.1075.4.

1 are improvements needed on KCP&L's income-eligible programs in order to reach low-
2 income customers in a deep, meaningful way. For these reasons, I recommend that the
3 Commission approve the Plan, along with the addition of an Income-Eligible Single-
4 Family Program and additional budget for the Income-Eligible Multi-Family Program.
5 Not approving the Plan, and offering benefits to all customers, would be inconsistent with
6 the MEEIA statute and represent a U-turn to the policy followed by the Commission and
7 supported by Staff over the last six years.

8 **Q. Does this conclude your testimony?**

9 A. Yes.