COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00349**

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00350**

REBUTTAL TESTIMONY OF
KENT W. BLAKE
CHIEF FINANCIAL OFFICER
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: April 12, 2021

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I. INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is Kent W. Blake. I am the Chief Financial Officer of Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, the "Companies"), and an employee of LG&E and KU Services Company, which provides services to KU and LG&E. I have held this role for more than nine years. My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. What are the purposes of your testimony?

A. The purpose of my testimony is to respond to certain revenue requirement issues raised by intervenor witnesses concerning the changes in depreciation rates, Federal Energy Regulatory Commission ("FERC") Account Number 923, and the Companies' labor forecast. I will also address intervenor witnesses' assertions concerning the Companies' ratemaking proposal for the Advanced Metering Infrastructure ("AMI") project. The Companies' other rebuttal witnesses are Mr. Garrett and Mr. Arbough who address the remaining revenue requirement claims of the intervenors, Mr. Bellar who responds to intervenor testimony regarding AMI operations, headcount in Operations and generator outage expense, Mr. McKenzie who responds to the intervenor testimonies on the return on equity, and Mr. Spanos who address certain intervenor depreciation arguments. Mr. Meiman addresses intervenor testimony as it relates to the Companies' workforce practices and the assertion that certain retirement benefits are unreasonable. In addition, Mr. Wolfe addresses certain AMI and street lighting operational claims. Ms. Saunders also addresses certain AMI operation issues and responds to claims concerning DSM. Finally, Mr. Conroy and Mr. Seelye address the issues raised by the intervenors concerning the allocation of the increase in the revenue requirement, rate design and net metering, as well as other rate and tariff matters.

II. SUMMARY OF REVENUE REQUIREMENT POSITIONS

Q. Do you have any general comments about the positions expressed in the intervenor testimony on the Companies' proposed rate applications?

A. Yes. We understand our customers' concerns about rate cases. As stated in our direct testimony, we are aware of and sensitive to the current challenges facing our customers and the local economy brought on by the COVID-19 pandemic. We took these circumstances into account when determining when and how to file these cases. In doing so, we took unique measures to minimize the bill impact occasioned by a rate increase. These proposed measures to minimize the customer bill impact are described in detail in my direct testimony and include considered ways to (1) make these proceedings the last base rate cases the Companies will file for a number of years; (2) minimize the requested increase in these proceedings; (3) return certain funds to customers in the form of the Economic Relief Surcredit; and (4) provide the proposed AMI investment with no customer bill impact.

As noted in my direct testimony, the full rate effect proposed by the Companies will not take effect until the middle of 2022. At the time of the Companies' filing, many economists were projecting the economy would be back to pre-pandemic levels by that time. Since the filing was made, there has been substantial progress on the development of and disbursement of COVID-19 vaccines creating even more optimism about the strength and pace of the recovery. We remain convinced that the investments the Companies are planning to make as part of these proceedings are beneficial and least-cost to customers, and thus are beneficial as the vaccinations continue and the economy continues to recover.

Q. Do you have any specific comments about the claims and assertions raised in the intervenor testimony on the Companies' proposal?

A. Yes. As in previous cases, many of the adjustments raised in the testimony of the intervenors simply defer recovery of incurred costs, in some cases to an indefinite period in the future. Under this approach, customers in effect receive a one-time benefit, with the costs to be borne later by other customers. Other intervenor positions concerning the valuation of the Companies' property and accounting for construction costs of projects represent radical and abrupt departures from decades of accepted, approved, and otherwise established ratemaking treatment of the Companies' property and are simply not justified based on the facts and circumstances detailed in these proceedings. Proposed "normalization" adjustments once again selectively use historical averages in a results-oriented fashion and, in doing so, yet again demonstrate why such adjustments continue to be contrary to Commission precedent with respect to the appropriate use of normalization and the basic tenets of a forward-looking test period. Finally, other intervenor adjustments are asymmetrical, selectively recommending the disallowance of costs without regard to corresponding benefits or ignoring increases in other associated costs. The effect of these intervenor adjustments is simply to ensure that the Companies have no way of earning a return for its equity investors that is anywhere close to *their* recommendations for an authorized return on equity. This could certainly challenge the Companies' ability to maintain their outstanding reliability and customer service performance as well as their ability to avoid future rate cases.

Q. Do you agree with Mr. Kollen's, the witness for the Attorney General and the Kentucky Industrial Utility Customers, Inc. ("AG/KIUC"), general criticism of the use of the forecasted test year in these cases at page 11 of his testimony?

A. No. Mr. Kollen has made these same claims in prior proceedings. He seems to want to ignore Kentucky statute regarding the use of a forecasted test period which provides a better matching of revenues and cost of service. In doing so, he knowingly ignores the record in these cases that show in great detail exactly how the Companies developed their revenues and cost estimates, as well as the Companies' verified position that this is the same forecast it is currently using to manage its operations.[1] Similarly, he offers no specific support for his disparaging argument that utilities have every "incentive to propose new programs that increase rate base/capitalization." In making such statements, Mr. Kollen ignores LG&E and KU's history of transparency, integrity, customer focus, operational excellence, and low rates. Moreover, forecasted test periods are widely used throughout many jurisdictions and have been presented to and accepted by this Commission for many years. This is the fourth base rate application where the Companies have used the forecasted test period to support their requested changes in base rates. In every case, the Companies have opened their budgeting and planning processes in great detail for review and scrutiny. The investments in facilities

[1] As required by 807 KAR 5:001 Section 16(7)(e), Tab 18, the Companies' applications in these cases contains the statement of attestation signed by Mr. Paul Thompson, President and Chief Executive Officer of Louisville Gas and Electric Company and Kentucky Utilities Company that "[t]he forecast contains the same assumptions and methodologies as used in the forecast prepared by management except for the differences that have been identified and explained in the filing requirements and schedules thereto ….".

proposed in these cases are based upon detailed analyses that are subject to complete review and question.

III. DEPRECIATION EXPENSE

Q. Do you have any general comments about the positions expressed in the intervenor testimony on the Companies' proposed changes in depreciation rates for their generation units?

A. Yes. Mr. Kollen, witness for AG/KIUC, and Mr. Justin Bieber, the witness for the Kroger Company ("Kroger"), object to the Companies' changes in depreciation rates in general, simply asserting now is not the right time to change depreciation rates. In doing so, neither witness gives any consideration to the Companies' decision to not request the increases recommended by Mr. Spanos for electric and gas distribution, transmission, and common plant asset classes. The impact of this decision, as noted in my direct testimony was to reduce the requested revenue requirements in these proceedings by $37.8 million (KU $21.8 million, LG&E Electric $11.3 million, and LG&E Gas $4.7 million). Likewise, neither witness acknowledges that the Companies also extended the projected remaining economic lives and proposed lower depreciation rates for Other Production assets.

Neither witness contests the calculation of the proposed depreciation rates or disputes the Companies' analysis of the remaining economic lives of the generation units in Exhibit LEB-2, *Analysis of Generating Unit Retirement Years (October 2020)* by showing flaws or errors. In addition, neither Mr. Kollen's nor Mr. Bieber's testimonies offer any evidence to refute the determinations in Exhibit LEB-2, *Analysis of Generating Unit Retirement Years (October 2020)* that environmental regulations will likely require the retirement of Mill Creek Units 1 and 2 in 2024 and 2028 respectively or that the remaining economic life of Brown Unit 3 is now reasonably expected to extend to only 2028.

The Companies' investments in Mill Creek Units 1 and 2 and Brown Unit 3 without question are prudent investments. Under the proposed retirement dates, these units will have provided customers with safe, reliable, and economic power for over 50 years, with an average life of approximately 55 years. The Companies cannot be denied the opportunity to fully recover and earn a reasonable return on their prudent investments.

Q. Do you agree with Mr. Kollen's and Mr. Bieber's common assertion that the Companies' are "accelerating" the probable retirement dates of their coal generation units at page 12 of his testimony?

A. No. I can certainly understand why they may have jumped to that conclusion prior to reading the Companies' testimony. Many utilities across the country have chosen to accelerate coal-fired generation retirements beyond that suggested by traditional economic analysis due to state policies, investment pressures, the current state of their generation fleet, or the fact that they operate in a climate that is more conducive and improves the economics of renewable generation. However, the Companies have not changed their traditional resource planning process in the economic life analysis presented in these proceedings. It is the same thoughtful, analytic process used more recently in the decision to retire units at the Companies' E. W. Brown, Cane Run and Green River sites and construct Cane Run Unit 7. The economic life analysis presented in Exhibit LEB-2, *Analysis of Generating Unit Retirement Years (October 2020)* demonstrates that the projected economic lives of Mill Creek Units 1 and 2 are largely driven by environmental regulations and the economic life of Brown Unit 3 is largely driven by economics. The existing retirement dates are no longer reasonable. In addition, Mr. Spanos also performed an independent review based on his 35 years of experience and knowledge of other facilities in the industry and, as stated in his direct and rebuttal testimonies, the recommended retirement dates in the depreciation studies represent the most reasonable probable retirement dates for each facility. There is nothing extraordinary or catastrophic causing their retirements. They are simply approaching the end of their economic lives. The testimonies of Mr. Kollen and Mr. Bieber present no evidence that the previous projected retirement dates for Mill Creek Units 1 and 2 and Brown Unit 3 remain reasonable.

Q. Do you agree with Mr. Kollen's assertions that the timing of the economic life assessment of the generation units is "unusual" or the change in the facts and circumstances since the last change in depreciation rates is not sufficient to justify the new economic lives of these three generation units?

A. No. There is no question that these three generation units will have served customers reliably for over 50 years at their projected retirement dates. Mill Creek Unit 1 and Mill Creek Unit 2 operations are challenged by existing environmental regulations. The life of Brown Unit 3 as shown in the analysis is limited by changes in costs. There is nothing unusual about assessing the remaining economic life of generation units when their economic life horizon is now in sight. Mr. Kollen's testimony again presents no direct evidence to rebut or even question the evidence in Exhibit LEB-2, *Analysis of Generating Unit Retirement Years (October 2020).*

Q. Do you agree with Mr. Kollen's and Mr. Bieber's assertion that the economic life analysis presented in Exhibit LEB-2, *Analysis of Generating Unit Retirement Years (October 2020)* should not be used to make actual retirement decisions?

A. Yes. However, this is a rhetorical argument by Mr. Kollen and Mr. Bieber designed to prevent timely analysis and changes to depreciation rates for generation units. Each contends the Integrated Resource Planning process should be used for further evaluation of the retirement dates. But the same planning processes used as part of the Integrated Resource Planning process were used by the Companies in preparing the analysis in this case. The Companies are also currently conducting a thorough analysis of replacement capacity alternatives which demonstrates that they are planning around the projected retirement dates put forward in these proceedings. It is simply not yet time for definitive announcements given the fact that the first retirements which would require replacement capacity are not projected to occur until 2028. It is, however, time to reset to the most likely "base case" scenario of remaining useful lives for purposes of setting depreciation rates in order to provide for a rational recovery of and on these prudent investments over their remaining economic lives. Mr. Kollen's speculative concern about "a future that is unknown and uncertain" is not supported by any evidence.[2] The fact that the retirement dates are estimates and not absolute commitments to remove the units from service at a specific date is not a flaw but sound, prudent operating practice. As they have done in the past, the Companies will remove

[2] There can be no reasonable question about the need to adjust the depreciation rate for Mill Creek Unit 1 based on the record and Commission's approval in its September 29, 2020 Order of LG&E's 2020 Environmental Compliance Plan in Case No. 2020-00061, *Electronic Application of Louisville Gas and Electric Company for Approval of an Amended Environmental Compliance Plan and a Revised Surcharge*. Mr. Kollen concedes he did not review the record, including LG&E's 2020 Environmental Compliance Plan in KPSC Case No 2020-00061 when making this assertion. KIUC Response to LG&E/KU Data Request No. 28.

the units from service and install replacement capacity if needed, when it is in the best interests of customers from both a reliability and affordability standpoint.

Q. Do you agree with Mr. Kollen's argument that the "pattern of ever-increasing depreciation rates and depreciation expense [is] likely to repeat itself in future base rate case proceedings" at pages 17 and 18 of his testimony?

A. No. While the Companies acknowledge the stated positions of President Biden, the figures and arguments put forth by Mr. Kollen are simply not a part of the current proceedings and are not ripe for decision as no such legislation or regulation has been passed that would impact the Companies' economic analysis put forth in Exhibit LEB-2 beyond that already incorporated therein. Mr. Kollen estimates the net book value and future decommissioning cost for each of the Companies' coal-fired generating units and gas-fired generating units at the end of 2035 based on the assumption that KU and LG&E will be required by a legal mandate to retire every coal and gas fired generation unit in their fleet by 2035. Mr. Kollen indicates that he chose the end of 2035 as the estimated retirement date for all coal-fired and gas-fired generating units to "correspond to the earliest date cited in President Biden's recent Executive Order directing various federal agencies and task forces to develop a 'comprehensive plan' that 'shall aim to use, as appropriate and consistent with all applicable law, all available procurement authorities to achieve or facilitate: (i) a carbon pollution-free electricity sector no later than 2035.'" Assuming all coal-fired and gas-fired generation will need to be retired by 2035 based on this language is pure speculation. The same Executive Order states its objective is to "put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050." While this calculation may create the appearance of large numbers, there is no such legal mandate today, and to borrow Mr. Kollen's earlier observation, this is an assumption about a future requirement that is at best "unknown and uncertain."

Q. **Do you agree with Mr. Kollen's four reasons why the remaining net book value and future decommissioning costs should not be recovered from customers over the proposed shorter remaining service lives in order to avoid intergenerational inequities at pages 21 through 23 of his testimony?**

A. No. These four reasons are a collection of non-sequiturs. Notwithstanding the analysis in Exhibit LEB-2, Mr. Kollen first claims the record shows "there is no plan and no certainty that the generating units will be retired earlier than previously assumed or on the proposed new probable retirement dates." This argument was addressed earlier in my rebuttal testimony. Second, he asserts that "the decommissioning costs have not yet been incurred and will not be incurred until after the generating units actually are retired." However, recovering overall depreciation expense including decommissioning costs over the expected life of the generation unit is completely consistent with established depreciation practices and methods as explained by Mr. Spanos in this rebuttal testimony. Current customers are paying for this decommissioning cost by the inclusion of a cost of removal component in the depreciation rate and will continue to do so with the proposed change in depreciation rates. Third, he asserts the least-cost methodology and determinations in the Companies' study provided as Exhibit LEB-2 somehow support making customers who will not receive the benefit of the power from these units nevertheless pay for the remaining current net book value and decommissioning costs. The customers who benefit from the electric service produced by these generation facilities should pay their depreciation expense, including the cost of removal. Finally, Mr. Kollen asserts that because the Companies incur and presently recover the decommissioning costs and remaining net book value of some retired units after those units are retired is reason to do the same for the three units in question. But his argument begs the question of whether this practice should be used to a much greater degree when there is time to remedy this issue now. Deferring decommissioning costs until they are incurred creates the very intergenerational inequities he claims is a concern.

Q. Do you agree with Mr. Kollen's argument that there is a penalty imposed on customers if the decommissioning costs are recovered before they actually are incurred?

A. No. Customers are being provided a return on cost of removal's inclusion in depreciation rates via lower capitalization. There is also no income tax "penalty" as he asserts. The Companies have always taken advantage of accelerated depreciation for tax purposes for the benefit of their customers and continue to have a significant accumulated deferred income tax liability balance, including excess deferred income tax liabilities reclassified to regulatory liabilities following the passage of the Tax Cuts and Jobs Act. Mr. Kollen chooses to cast cost of removal as providing a "tax penalty" because it operates in the opposite direction with respect to book and tax timing differences associated with utility plant. However, as noted above, customers benefit from the collection of cost of removal in rates via a lower capitalization. It is simply a fact that the reduction in capitalization takes the form of after-tax dollars.

Q. Do you have any comments on the other issues Mr. Kollen asserts which need to be addressed when generating units are retired?

A. Yes. Mr. Kollen proposes to recognize only the changes that reduce expenses caused by retiring a generation unit but does not recognize the changes in expenses that increase by the same event. Mill Creek Unit 1 represents the smallest of the four coal-fired units operating at that plant site. While there is no plan to add replacement capacity for Mill Creek Unit 1, there will be a need to replace the energy currently provided by that unit. That will mean that the remaining units of the Companies' fleet will be run more and likely require more operation and maintenance expenses than those being embedded in base rates during these proceedings. Replacement capacity will be required upon the projected retirements of Mill Creek Unit 2 and Brown Unit 3 in 2028. As has occurred in the past, the Companies will only be able to recover the cost of and on such replacement capacity and the resulting operation and maintenance expense via a base rate case. Likewise, any reduction in operation and maintenance expenses and depreciation expense caused by the retirements of Mill Creek Unit 2 and Brown Unit 3 should be handled in the same manner.

Further, the Companies can provide no assurance that they will experience a property tax decrease given his proposed regulatory asset accounting treatment. The Commonwealth of Kentucky uses multiple valuation approaches including income, cost, and market valuations to determine the Companies' property tax valuations.

Q. Are Mr. Kollen's calculations correct?

A. No, as shown in the rebuttal testimony of Mr. Garrett and detailed in Rebuttal Exhibit CMG-7, Mr. Kollen fails to address the excess accumulated deferred income tax

("ADIT") impacts of his proposed reduction in depreciation rates for Mill Creek Units 1 and 2 and Brown Unit 3. He further fails to address the excess ADIT impacts from the Private Letter Ruling on the cost of removal. [3]

Q. Do you have any comments on Mr. Kollen's retirement rider and securitization proposals or Mr. Bieber's regulatory asset proposal?

A. Yes. The retirement rider and regulatory asset approaches are not complete substitutes for the recovery of these costs through depreciation. Both raise intergenerational equity issues in exchange for mitigating the increases. In fact, Mr. Kollen's proposal for a recovery period longer than that embedded in current depreciation rates for those units, further exaggerates this issue. Mr. Kollen's design of the retirement rider is also asymmetrical because it seeks to reflect the reduction in depreciation as well as operation and maintenance expenses with the retirement of a particular generation unit without recognizing the increase in depreciation expense and operations and maintenance expenses associated with the additional demands being placed on the Companies' remaining generation resources or replacement capacity added as discussed earlier in my rebuttal testimony.

The securitization suggestion identified by Mr. Kollen and Mr. Bieber requires the passage of legislation and, for the reasons set forth in the rebuttal testimony of Mr. Arbough, is not a solution to the recovery of the three generating units at issue.

Q. Do you agree with Mr. Brian C. Andrews's, witness for the Department of Defense and all other Federal Executive Agencies ("DOD/FEA"), assertion that KU has

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[3] As discussed in the Companies' response to AG-KIUC 2-8(g), the Companies have become aware of an issue that will necessitate a change in its amortization of excess ADIT as a result of a recently issued Private Letter Ruling from the Internal Revenue Service. Mr. Garrett's Rebuttal Testimony discuss this issue in detail.

not sufficiently justified the decision to assume the retirement of Brown Unit 3 by 2028 instead of 2035?

A. No.[4] In support of his position, Mr. Andrews attempts to support his argument by asserting that the omission in the Companies' analysis in Exhibit LEB-2 of the change in depreciation expense ignores the rate impact of changing the deprecation rates. His argument is not correct. Mr. Andrews selectively considered only the impact to the "return of" component of the revenue requirement, i.e., depreciation, and ignored the impact to the "return on" component of revenue requirement, i.e., return on capital.[5] When both impacts are included, assuming the Companies' cost of capital is used both to discount the revenue requirement to net present value and to calculate the return on capitalization, they result in no net change to the net present value revenue requirement. For that reason, it is not necessary in the economic analysis to consider these costs and certainly not appropriate to bias the analysis by including only the return of or the return on component.

IV. OUTSIDE SERVICES

Q. Do you agree with AG/KIUC witness Mr. Kollen's recommendation that the Commission should use the base period rather than forecast test period projection of expense for FERC Account Number 923 Outside Services?

A. No. Once again Mr. Kollen has ignored the forecast in favor of the partially historic base period expenses. He made this selection notwithstanding the fact that it is the forecast the Companies are using to manage its business and one for which there has

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[4] DOD/FEA does not contest LG&E's proposed depreciation rates in Case No 2020-00350.
[5] DOD/FEA response to KU/LG&E Data Request No 2 (April 1, 2021).

been extensive discovery in these proceedings. While Mr. Kollen correctly points out that the forecast test year for KU jurisdictional expenses for FERC Account 923 are projected to be $3.291 million higher than that of the base year and that LG&E expenses for FERC Account 923 are projected to be $3.254 million higher for LG&E's electric operations and $1.367 million higher for LG&E's gas operations, in doing so, he asks that a base year encumbered by a global pandemic be used to set the ongoing level to be embedded in rates for this account. However, the Companies have explained these increases in its initial filing requirements and again in discovery.

To summarize, the increases are driven by the following:

- Approximately $1 million for KU and $1.1 million for LG&E is due to hardware and software maintenance expenses. The base year reflected many large IT capital projects as the Companies' continued to automate various operations and required certain large-scale upgrades to core business applications. Those capital projects lead to an increase in hardware and software maintenance going forward. In addition, many vendor applications are becoming subscription-based, meaning that capital expenditures for software licenses and deployment are being replaced by a subscription fee for cloud-based applications which are entirely charged to expense rather than capital. The Companies' budget is supported by a detailed listing of hardware and software maintenance expenses by product. This area, as well as others noted below, also includes increases in spend related to cybersecurity in order to address the increasing level and complexity of threats.

- Approximately \$0.6 million for KU and \$0.5 million for LG&E is an increase in ongoing IT supplemental contract labor. The Companies have developed several in-house applications recently using open source technologies. The Companies now have approximately 40 such internally developed applications that help to improve efficiency and productivity while also enhancing reliability and compliance. The Companies utilize outside contractors to supplement its workforce with the ongoing maintenance of these applications to ensure their long-term reliability and security.
- Approximately \$0.7 million for KU and \$0.4 million for LG&E for third-party contract labor that is more project specific. For the forecast test year, this included the discussion in discovery of costs associated with the Companies' implementation of a consolidated Geographic Information System. While these represent expenses associated with specific projects planned for and to be executed during the forecast test period, future years also include IT projects that will involve such work that must be booked to expense rather than capitalized.

The remainder of the increases for KU and LG&E are more a function of the impacts of the COVID-19 pandemic on base year activities. In this regard, it is the base year that is the anomaly and not the forecast test period. For example, half of the remaining difference for LG&E represent outside services in the Legal department. As a result of the pandemic, many courts were closed for a portion of the base year with multiple proceedings being delayed. A detailed listing of matters supporting the budgeted legal fees for the forecast test period were provided in response to Question No. 2 of the Commission Staff's Fifth Request for Information. Other examples of reductions in base year expenses caused by the pandemic which cannot and should not be expected to continue include third party environmental audits and permitting activity, as well as events in areas such as energy efficiency and supplier diversity.

V. LABOR FORECAST

Q. Are any of the intervenors critical of the Companies' proposed staffing levels and payroll expense?

A. Yes. AG-KIUC witness Mr. Kollen claims that the Companies propose an increase in staffing level when comparing the proposed staffing level at the end of the forecasted test period to the staffing level at the end of 2020.[6] He claims KU requests an increase of 52 full-time employees ("FTEs") and LG&E requests as increase of 117 FTEs. Likewise, DOD-FEA witness Mr. Gorman criticizes the Companies' proposed staffing levels (especially LG&E's) on the basis that the proposed staffing levels are higher than actual historic levels.[7]

Q. Do you agree with Mr. Kollen's recommendation that the Companies' labor forecast for the forecast test period be adjusted based on differences between the Companies' actual employee headcount as of December 31, 2020 and that projected as of June 30, 2022?

A. No. First, this is another example of Mr. Kollen not wanting to acknowledge the use of forecasts in ratemaking as provided by Kentucky statute. Second, Mr. Kollen and Mr.

[6] Kollen Testimony, p. 78.
[7] Gorman Testimony, p. 21.

Gorman are simply comparing two isolated points in time, that being December 31, 2020, and June 30, 2022, rather than the average headcount for the forecast test period. Use of just those two points is misleading because they do not represent the time period on which labor expense is based which is average headcount over the period rather than headcount as of a specific day.

With the use of a forecasted test period, two possibilities exist for forecasting and rate recovery of labor expense. First, the Companies could assume no vacancies and forecast overtime and contractor expenses accordingly. Alternatively, the Companies could assume vacancies and increase overtime and contractor expenses accordingly. The Companies have used the first option in developing their labor expense forecast in these proceedings and every rate proceeding in which the Companies have utilized a forecast test period, because that is the way the Companies have always developed their forecasts used to manage the business. This approach has been approved by the Commission in the past, provides for better management of personnel costs and is fiscally responsible because overtime hours are more expensive than "straight time" hours.

Q. Is DOD-FEA witness Mr. Gorman correct that the Companies have not reduced their projected overtime expense to counterbalance the projection of a fully staffed workforce?

A. No. Mr. Gorman's argument on this point is premised on his limited and selective use of time periods that are not representative of reality. The fact is that the Companies have projected significant decreases in overtime hours and dollars when compared to a longer and more representative time period. Using the five-year period 2015-2019 as the relevant time period, it is clear that the forecasted overtime expense for the Companies is much lower than historic actual expense. For LG&E for 2015-2019, the average annual overtime hours were 304,552 for $17.2 million annually. For the forecasted test period, the projected hours are 205,220 for $12.6 million.[8] For KU for 2015-2019, the average annual overtime hours were 298,852 for $18.3 million annually. For the forecasted test period, the projected hours are 251,603 for $15.7 million.[9] Thus, significant reductions are projected in contemplation of the proposed fully staffed workforce.

Q. Do you agree with Mr. Kollen's testimony regarding the level of payroll costs proposed to be expensed rather than capitalize in the forecasted test period?

A. No. Mr. Kollen criticizes the fact that the Companies propose to expense a slightly higher percentage amount of payroll cost in the test year compared to the base period (yet he does not recommend a revenue requirement disallowance based on this issue).[10] The amount proposed to be expensed is a purely mathematical calculation based on the projected levels of construction activity in the test period.[11] In other words, the amount expensed vs. capitalized is a direct result of the type of work expected to be performed and neither Mr. Kollen nor any other intervenor witness challenges the Companies' proposed capital projects. Additionally, Mr. Kollen's statement that lower construction activity should mean fewer employees is misplaced. The Companies' proposed staffing levels are necessary and appropriate[12] and it is of no consequence that

[8] Case No. 2020-00350, Tab 60 of the Filing Requirements for Attachment 1 of Schedule 16(8)(g), page 2 of 2.
[9] Case No. 2020-00349, Tab 60 of the Filing Requirements for Attachment 1 of Schedule 16(8)(g), page 2 of 2.
[10] Kollen Testimony, p. 81.
[11] Companies' response to AG-KIUC 1-45.
[12] See Mr. Blake's and Mr. Bellar's rebuttal testimony.

employees are projected to spend slightly more time operating and maintaining the Companies' facilities rather than constructing or upgrading those facilities. In either case, there is a definite amount of "work" the Companies must perform to provide safe and reliable service. Thus, there is no reason for the Commission to be concerned about this issue or to factor it into its decisions in the Companies' rate cases.

Q. Can you speak to the difference in actual headcount as of December 31, 2020, compared to the Companies' headcount forecast as of June 30, 2022, as it relates to areas other than Operations which Mr. Bellar is addressing?

A. Yes. The variance in headcount between those two periods noted by Mr. Kollen included a net increase of 23 for employees across all departments outside of Operations. Of those 23 positions, 13 represented interns. Intern positions have a seasonal nature to them not considered by comparing headcount as of December 31 to June 30. Many interns graduate or elect to pursue other opportunities in December at the end of the Fall semester prior to the holidays. Those same interns are usually replaced in January. In contrast, interns that graduate or elect to pursue other opportunities at the end of the Spring semester have generally been backfilled by June 30.

With respect to Mr. Kollen's recommendation, that leaves a net increase of 10 full-time employees between actuals as of December 31, 2020 and that projected as of June 30, 2022. The term "net" is used here as there were employees in place at December 31, 2020 which the Companies' forecast projects will not be in place as of June 30, 2022. These net 10 positions are necessary, appropriately included in the Companies' labor forecast for the forecast test year, and do not represent new positions but rather represent vacancies due to retirement or other turnover as of that single point in time on December 31, 2020. They represent one corporate attorney who has since been hired; one IT auditor position which has since been backfilled; an administrative assistant position for Mr. Conroy which has since been backfilled; a Manager of Supplier Diversity and sourcing employee position which have both since been backfilled; a staffing position in HR which is necessary in light of the Companies' hiring plans; and 7 net IT positions, 4 of which have since been backfilled and 3 of which are currently being backfilled by contractors or other temporary resources. Those 13 net additions are further offset by a reduction of one budget analyst who retired January 1, 2021, while the replacement had been brought on board in December 2020, as well as two accounting positions appropriately forecast to be removed during the forecast test period upon the completion of the Oracle upgrade project and an expected retirement.

Q. Have Mr. Kollen and Mr. Gorman accurately monetized the operational expense savings that could be achieved by eliminating all positions in the forecast test period that were vacant as of December 31, 2020?

A. No. First, both Mr. Kollen and Mr. Gorman have calculated total incremental headcount from December 31, 2020 to the end of the forecast test period as a percentage of total test period headcount, and then applied that vacancy rate to total operating expense. This is not an accurate quantification of the impact on operating expense of these headcount differences between two discrete points in time and has the effect of overstating the impact of reverting to December 31, 2020, headcount for the forecast test period. Second, the witnesses have included 4 headcount in their analyses that are properly attributable to the Environmental Cost Recovery ("ECR") mechanism and thus are not included in base rates. Finally, the witnesses have failed to adjust for the allocation of headcount between KU and LG&E for shared operational assets. This omission results in a higher percentage of costs being allocated to LG&E, which is meaningful for Mr. Gorman's calculation since he challenges only the LG&E labor expense.

Q. Why is it improper to apply the additional headcount to total operating expense in calculating the operating expense associated with these positions?

A. This is a crude means to calculate the labor expense associated with these vacant positions. First, it assumes that each of the positions has the same average annual salary and benefits. This, of course, does not comport with reality. Furthermore, the method used by Mr. Kollen and Mr. Gorman does not recognize that more than thirty percent (52 out of 169) of the total vacancies at year end 2020 were intern positions which are part-time employees with no benefits.

Q. How have Mr. Kollen and Mr. Gorman failed to allocate between KU and LG&E headcount for shared assets?

A. Neither Mr. Kollen nor Mr. Gorman have adjusted their calculations for labor associated with jointly held assets, including Cane Run Unit 7 and Trimble County Unit 2. When properly accounting for labor expense for shared assets, roughly 16 percent of LG&E labor attributable to shared assets would be transferred to KU, further reducing the labors savings that Mr. Gorman assumed would accrue to LG&E if vacant positions were eliminated.

Q. Do you have a recommendation for the Commission?

A. The Companies' workforce planning process is sophisticated and rigorous. It accurately accounts for the labor needed to perform the Companies' administrative and operational functions. The Companies have demonstrated the need to fill vacancies and to add reasonable incremental headcount to support the Companies' obligation to adequately and reliably serve our customers in a cost-effective manner. The proposed adjustments by Mr. Kollen and Mr. Gorman regarding reductions in labor expense in the forecast test period should be rejected.

VI. AMI RATEMAKING

Q. At page 107, at lines 11 through 17 of Mr. Kollen's testimony, Mr. Kollen asserts, "[t]he Companies' base revenue requirements include the AMR investment in rate base in the test year; however, the rate base will continue to decline as the AMR meters are depreciated after the end of the test year and then abandoned when they are retired. The Companies do not propose to capture this savings due to the decline in the return on component of the AMR meters after the end of the test year in the proposed regulatory liabilities." Is Mr. Kollen's assertion correct that the Companies plan to "retain" these savings?

A. Mr. Kollen is correct that the Companies did not consider the cost of capital effect during the implementation period for the reduction in net book value and increase in accumulated deferred income taxes. The Companies did appropriately reduce the capitalization to be recovered from customers as of the end of the implementation period for these effects as shown in Exhibit KWB-1 to my direct testimony in the rows labeled "Remaining Net Book Value – Retired & Replaced Meters" and "ADIT –

Retired & Replaced Meters". Rebuttal Exhibit KWB-1 calculates this omission as just under $2 million using the Companies' filed weighted average cost of capital and $1.8 million using the AG/KIUC proposed weighted average cost of capital.[13] While arguments could be made against the inclusion of such an adjustment, the Companies believe that its inclusion is consistent with the intended balance of the AMI ratemaking proposed by the Companies. Of course, it does not have any impact on the revenue requirement in these proceedings as all revenue requirement impacts of the AMI project have been removed. It would, however, represent an additional AMI regulatory liability or reduction to an existing AMI regulatory asset and lower the $316.8 million projected AMI Capitalization as of the end of the implementation period shown on Exhibit KWB-1.

Q. At page 108, at lines 1-10 of Mr. Kollen's testimony, Mr. Kollen asserts, "In addition, the Companies will discontinue depreciation on the existing AMR meters when they are retired, thus, effectively "freezing" the net book value at the retirement dates even though they continue to recover the depreciation expense on the retired meters through their base revenues. The Companies do not propose to capture this savings due to the decline in the depreciation expense during the implementation period or the post-implementation period in the proposed regulatory liabilities. In other words, they also plan to "retain" these savings even

[13] The EXCEL file for Rebuttal Exhibit KWB-1 is produced in electronic medium and filed with the Companies' Rebuttal Testimony in the record in these cases through the Commission's website.

though they neglected to mention this." Is Mr. Kollen's assertion correct that the Companies plan to "retain" these savings?

A No. Mr. Kollen is mistaken. As detailed in the attachment to Question No. 1-202 of the Companies' Response to the Joint Initial Data Requests of the Attorney General and KIUC and pointed to again in response to Question No. 2-26 of the Joint Supplemental Data Requests of the Attorney General and KIUC, the Companies continued to reduce the "Remaining Net Book Value – Retired & Replaced Meters" included in Exhibit KWB-1 for depreciation expense embedded in base rates during this proceeding after those meters are retired. The Companies simply do that via a reduction of the regulatory asset rather than through depreciation expense or the creation of a separate regulatory liability. The attachment to AG-KIUC Question No. 1-202 shows this in row 3 of the "Summary" tab of that EXCEL file where the proposed regulatory asset is reduced by $5,140,268 to derive the "Projected Regulatory Asset – Retired and Replaced Meters" of $26,839,963 which is carried forward to Exhibit KWB-1. The support for the calculation is shown in the tab of that same attachment labeled "DATA". Specifically, for each month, the "Legacy Meter Depr Exp" in column AC is compared to the depreciation "Embedded in Rates Per TYE 6/30/22" per column AD to derive column AE labeled "Regulatory Asset Amortization". The sum of column AE is that same $5,140,268 noted above. In short, the Companies in no way are planning to "retain" these depreciation savings and certainly disclosed their position to reduce the "Remaining Net Book Value – Retired & Replaced Meters" included in Exhibit KWB-1 for depreciation expense embedded in base rates during these proceedings after those meters are retired.

Q. Do you agree with Mr. Kollen's assertion that the Commission should "state that the estimated costs, both plant and regulatory assets, and the regulatory liabilities reflected on Exhibit KWB-1 attached to Mr. Blake's Direct Testimony, should be considered a cap and a minimum" at page 109 of his testimony?

A. No. The Companies do not believe such a "cap and minimum" is necessary, appropriate, or consistent with regulatory precedent in Kentucky. It is not necessary since the Companies are not seeking to incorporate the AMI project into rates in this proceeding. The Companies have proposed to defer all rate impacts of the AMI project until it is completed. At that time, all costs will be known, and all monetary benefits, except for those already flowing through the Companies' fuel adjustment clause, will be included in the Companies' rates at that time if any change thereto is needed. The Companies continue to believe that the costs and benefits projected in its current analysis are reasonable and likely conservative, as noted by certain intervenors in this proceeding. When the AMI project is incorporated into base rates, the Commission and other parties will be able to review the actual costs, as well as current and projected benefits, at that time. The Companies acknowledge that should actual costs be significantly greater, or benefits be significantly less than those included in the Companies' current cost-benefit analyses in these proceedings, such variations will be scrutinized, and the Companies must be able to support the prudency of their actions and reasonableness of investment.

In addition, such an asymmetrical condition whereby a certain level of benefits are guaranteed by a "minimum" with any incremental benefits being provided to customers and any shortfall of achieving benefits relative to those projected at the start of the project are absorbed by the utility due to a "ceiling" is not consistent with the Companies' efforts to bring the benefits outlined in the testimonies of Mr. Bellar, Ms. Saunders, and Mr. Wolfe to customers in the innovative manner described in my direct testimony. The Companies have proposed to carry the net costs in the early years until they are offset by the cumulative monetary benefits of the project such that, based on the Companies' current projections, the AMI project implementation will never result in an increase in the Companies' combined revenue requirement. The Companies would expect to consider actual costs, projected benefits, allocations, as well as regulatory asset and liability balances, in their next base rate proceedings following full AMI deployment to optimize cost recovery for the benefit of LG&E and KU customers at that time. Optimizing these benefits on an individual utility basis will likely require different amortization periods between LG&E and KU in their next rate cases to account for differences in the revenue requirements for certain years with offsetting reductions in the revenue requirements in those same years. In approving the ratemaking proposal set forth in my direct testimony, the Commission is not foregoing its authority to review the costs, regulatory assets, and regulatory liabilities for ratemaking purposes in the next base rate case.

Q. Do you agree with DOD/FEA witness Gorman's assertion that the AMI savings during the forecasted test year ($1.2 million in meter reading and field service expense) should be reflected in the rates set in this case rather than recorded as a regulatory liability?

A. No. This is another example of asymmetrical ratemaking. As I stated in my direct testimony, the cost of the AMI project is excluded from the revenue requirements in this case. That deferred revenue requirement increase of $4.7 million (KU $2.7 million, LG&E Electric $1.7 million, and LG&E Gas $0.3 million) included the $1.2 million of AMI savings during the forecast test period from lower meter reading and field service expenses. The Companies are not proposing to retain these savings but rather defer them along with the costs of implementation of the AMI project to provide for an optimal matching of costs and benefits from the customers' perspective such that neither are reflected in rates prior to the project's completion and, using the Companies' current projections, will never result in an increase in the Companies' combined revenue requirement. Mr. Gorman's adjustment selectively unbalances this ratemaking proposal by reducing expenses but excluding the capital necessary to create that reduction in expenses.

Q. Will you please comment on Joint Intervenors[14] witness Owen's recommendation on the Companies' AMI ratemaking position?

A. Yes. At page 62 of his testimony, Mr. Owen states his agreement with the Companies' AMI ratemaking proposal, stating that it is "reasonable." He then asserts that the "breadth of the requested regulatory assets is less reasonable." He appears to argue (1) that the recovery of the cost of the meters retired before the end of their useful life should not be permitted and (2) the component of the AMI ratemaking proposal that records the difference between AFUDC accrued at the Companies' weighted average cost of capital and that calculated using a strict interpretation of the methodology approved by FERC is unreasonable. Both arguments should be rejected.

[14] The intervenors collectively referred to in the two case records as "Joint Intervenors" are Kentuckians For The Commonwealth, Kentucky Solar Energy Society, Mountain Association (in Case No. 2020-00349 only), and Metropolitan Housing Coalition (in Case No. 2020-00350 only).

The Companies are proposing as part of the AMI ratemaking to reclassify any remaining unrecovered net book value of the retired meters to a regulatory asset or liability once the AMI project is fully implemented. Mr. Owens argues this prudent investment should be disallowed. Like Mr. Gorman, Mr. Owens selectively proposes to remove cost from the balanced AMI ratemaking proposal without regard to the symmetry of the ratemaking. The cost of the retired meters was included in the cost benefit analysis that shows AMI is an investment that will benefit customers. His recommendation is also inconsistent with the Commission's decisions cited in my direct testimony that allowed electric utilities to recognize a regulatory asset for the net book value of meters retired as part of an AMI deployment.

Mr. Owens further criticizes the part of the AMI ratemaking proposal for recording a regulatory asset during this implementation period that includes the difference between AFUDC accrued at the Companies' weighted average cost of capital per Filing 13 Requirement: Tab 63 – Sec 16(8) (j) Schedule J-1.1 and that calculated using a strict interpretation of the methodology approved by FERC. Mr. Owens asserts this component is a "gratuitous hand-out to the companies." The Companies are not sure how recovery of the Companies' actual weighted average cost of capital can be considered a "gratuitous hand-out". In making this unsupported, odd assertion, Mr. Owens ignores the fact, demonstrated in my direct testimony, that strict adherence to the FERC methodology produces over the five-year implementation period of the AMI project an implied cost of equity range of 5.49% to 8.06%, which is significantly below any projection as to what constitutes a fair, just, and reasonable cost of equity. This component to the AMI ratemaking proposal is appropriate because the

Companies will finance the AMI project with the same balanced capital structure used in these proceedings both during implementation and beyond.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Kent W. Blake**, being duly sworn, deposes and says he is the Chief Financial Officer for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Kent W Blake

Kent W. Blake

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 12th day of April 2021.

Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 11, 2022

Retired and Replaced Meters
Declining Cost of Capital as Meters Retired

	7/1/21 to 6/30/22	7/1/22 to 6/30/23	7/1/23 to 6/30/24	7/1/24 to 6/30/25	7/1/25 to 6/30/26	Total
NBV - Retired & Replaced Meters	39,679,860	37,357,697	35,042,449	33,139,791	32,143,263	31,980,232
Regulatory Asset Amortization for Retired and Replaced Meters	-	(46,219)	(468,507)	(1,640,062)	(3,750,044)	(5,140,268)
Remaining Net Book Value - Retired & Replaced Meters	**39,679,860**	**37,311,478**	**34,573,942**	**31,499,729**	**28,393,219**	**26,839,963**
ADIT - Retired & Replaced Meters	**(9,537,954)**	**(8,982,204)**	**(8,426,381)**	**(7,968,457)**	**(7,728,496)**	**(7,689,221)**
Rate Base - Retired & Replaced Meters	**30,141,906**	**28,329,274**	**26,147,560**	**23,531,272**	**20,664,723**	
Reduction of Rate Base from TYE 6/2022		(1,812,632)	(3,994,346)	(6,610,634)	(9,477,183)	
Cost of Capital Savings - Company's WACOC		(163,094)	(359,397)	(594,802)	(852,724)	**(1,970,018)**
Cost of Capital Savings - AG/KIUC WACOC		(149,921)	(330,369)	(546,759)	(783,849)	**(1,810,897)**

	Filing	**AG-KIUC**
Grossed Up Cost of Capital	9.00%	8.27%

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00349**

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00350**

REBUTTAL TESTIMONY OF
LONNIE E. BELLAR
CHIEF OPERATING OFFICER
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: April 12, 2021

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I. BACKGROUND

Q. Please state your name, position and business address.

A. My name is Lonnie E. Bellar. I am the Chief Operating Officer for Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E"), (collectively, the "Companies") and an employee of LG&E and KU Services Company. My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. What is the purpose of your rebuttal testimony?

A. I will first describe how the Companies' operations performed safely and reliably during the winter storm events in February of this year, and how that performance is directly tied to prudent investments the Companies have made in their power generation, transmission, and distribution systems in recent years. Second, I will address intervenor concerns and recommendations regarding the Companies' proposed Advanced Metering Infrastructure deployment. Third, I will address intervenor criticism regarding the Companies' plans to fill vacant and incremental positions on the operational side of the business. I will also describe the operational necessity for enhanced inline gas main inspections subject to testimony from AG-KIUC witness Kollen. Fifth and finally, I will describe why the Companies' proposed outage maintenance expense for the forecast test year is reasonable and more accurate than the method advanced by Mr. Kollen.

II. GENERATION AND TRANSMISSION RELIABILITY

Q. Your direct testimony extensively discusses how the Companies' investments and operations have contributed to reliable service. Did the Companies' systems perform reliably during February's winter storm events?

A. They did. Power generation did not experience any significant disruptions or problems in February due to cold and inclement weather events. The Companies' generation Equivalent Forced Outage Rate ("EFOR") for the month of February was just 0.23 percent, even below recent historical first quartile performance. No customers in the LG&E service territory lost power due to weather-related events on the transmission system during February storm events the first and second weeks of February, and nearly all customers on the LG&E system were restored within 24 hours of outages occurring on the distribution system. LG&E's gas customers experienced no gas supply disruptions as a result of the winter storm in Texas during February of this year. While some KU customers were affected by weather-related outages on KU's transmission and distribution systems during February storms, significant numbers of customer interruptions and outage minutes were avoided by automated switching and Distribution Automation. Furthermore, both Transmission and Distribution operations responded quickly to outages in adverse weather conditions without a single recordable safety incident. John K. Wolfe's rebuttal testimony separately discusses the performance of the distribution system and objective benefits of Distribution Automation seen from these storms events.

Q. Utilities in Texas and elsewhere experienced unprecedented disruptions to generation capabilities during prolonged cold weather events in February. Is that likely to happen to the Companies' electric generating facilities?

A. No, the Companies' power generation operations are very unlikely to experience what happened in Texas in February. Because of geography, the Companies do not maintain any fully outdoor boiler/turbine/generator enclosures. Cold weather events are a normal part of the Companies' business. We anticipate a hard, prolonged freeze every year and as such we have had cold weather operations strategies for decades. We review these annually at each plant in the fall including testing of heat trace and inspection of insulation. When cold weather is expected we implement these strategies, including pre-warming of combustion turbines to ensure startup reliability. After cold weather events plant personnel conduct debriefs and make prudent adjustments as needed. The generation fleet was most rigorously tested for cold weather resilience during the polar vortex events in 2014 and 2015 and no systemic issues were identified.

The performance of the Companies' generation plant during recent severe weather events in February is indicative of the prudence of our generation business processes, including excellent plant maintenance.

Q. Have LG&E's gas storage, transmission and distribution facilities also performed well during severe weather events?

A. Yes, and this performance was demonstrated during February of this year. Unlike gas customers in Texas, LG&E's gas customers here in Kentucky did not experience any gas supply disruptions. The gas supply disruptions in Texas caused gas shortages in the marketplace in large part because natural production and related facilities were not prepared to meet temperatures that were extreme by Texas standards. These kinds of gas supply disruptions are very rare. LG&E's underground gas storage assets in Kentucky played an important role in supplementing deliveries from the interstate natural gas pipelines that provide LG&E with access to gas supplies from a variety of production areas. LG&E's gas transmission and storage system are designed to operate in extreme weather conditions and operated reliably during the February cold weather event. Furthermore, LG&E's investments in gas distribution infrastructure replacement over the past twenty or more years has helped to protect the gas system from water intrusion and freezing in cold temperatures. These investments help LG&E to maintain safe and reliable gas service for its customers during all kinds of weather.

Q. How have investments in the transmission system equipped it to withstand and quickly recover from severe weather events?

A. Much like the Distribution Automation program, the Companies have invested in technology on the transmission system in recent years that helps to minimize storm impacts on customers even when line or equipment events occur. As part of the Transmission System Improvement Plan,[1] the Companies have strategically installed remote controlled, motor operated switches to allow for fast isolation of the impacted sections of transmission line. Remote monitoring of these switches coupled with automated reclosing schemes and line fault indicators improves the time to find the damaged section and restore service to the remaining customers. During the February 7 and 15 storms alone, KU was able to avoid over 750,000 customer outage minutes and over 3,000 customer interruptions due to the placement of these Motor Operated Switches on the transmission system. As with the Companies' generation and distribution systems, transmission performance during adverse conditions is the ongoing product of years of planning and prudent investment in system assets and technology to provide reliable service to customers.

[1] *Application of Kentucky Utilities for an Adjustment of its Electric Rates and for Certificates of Public Convenience and Necessity*, Case No. 2016-00370, Testimony of Paul W. Thompson, Exhibit PWT-2 (Ky. PSC Nov. 23, 2016).

III. ADVANCED METERING INFRASTRUCTURE

Q. Several intervenors filed testimony in which they raised the subject of the Companies' proposal for Advanced Metering Infrastructure. Are you responding to that testimony?

A. I am responding to most of it. To the extent that intervenor testimony addresses the Companies' AMI ratemaking proposal, Mr. Blake responds to that. Ms. Saunders responds to the AMI customer service issues of Green Button functionality, interval energy usage, and measuring DSM impact raised by Walmart and the AG. Mr. Wolfe responds to the AMI distribution issues of Conservation Voltage Reduction ("CVR") and impacts on outage frequency and duration raised by the AG. I will touch on some of those same issues as set forth below, but the main purpose of my rebuttal testimony on AMI is to respond to the suggested "conditions" and recommended reporting requirements in AG Witness Alvarez's testimony and the "conditions" in Joint Intervenors Witness Owen's testimony.

Q. Please provide a summary of Mr. Alvarez's testimony on AMI.

A. Mr. Alvarez defers to Mr. Kollen for AMI ratemaking issues when he says they "are better suited to Mr. Kollen's expertise."[2] Aside from that, Mr. Alvarez provides a lengthy discussion of various AMI issues and concerns he has ranging from the variability of achieving AMI benefits, utility motivation in achieving AMI benefits, benefits "missing" from the Companies' AMI proposal, and his position that the Companies' AMI proposal should result in something better than a "bill neutral" result for customers. All of that discussion can be boiled down to the "conditions" and future

[2] Alvarez testimony at p. 26.

reporting requirements Mr. Alvarez says should be imposed if AMI is approved. I will address those conditions and reporting requirements below.

Q. Before addressing the conditions and reporting requirements, what is your overall reaction to Mr. Alvarez's testimony?

A. Mr. Alvarez's testimony reaches a different conclusion than he did on behalf of the AG in Case No. 2018-00005 in which the Companies sought a CPCN for AMI. In Case No. 2018-00005, Mr. Alvarez and the AG (in the AG's post-hearing brief) were adamant that the requested CPCN for AMI should be rejected. Now, in this case, Mr. Alvarez takes the position that AMI may be approved, albeit with the imposition of certain conditions and reporting requirements and subject to Mr. Kollen's regulatory accounting recommendations.

Q. Why do you think Mr. Alvarez's fundamental conclusion has changed?

A. In short, because the Companies' AMI proposal in these cases is very different than the AMI proposal in Case No. 2018-00005. Those differences have allowed Mr. Alvarez to become comfortable with AMI as long as conditions are imposed.

Q. Have you explained the differences between the AMI proposal in Case No. 2018-00005 versus the AMI proposal in these cases?

A. Yes. In my direct testimony in the current cases, as a result of the concerns and criticisms the Companies received from the Commission and intervenors in Case No. 2018-00005 (including from Mr. Alvarez), the Companies "went back to the drawing board."[3] I described eight distinct criticisms or concerns made in Case No. 2018-00005 and then carefully described how we have addressed all those concerns in the AMI

[3] Bellar direct testimony at pp. 57-61.

proposal in the current cases. Importantly, Mr. Alvarez notes that the AG is "appreciative of these attempts by the Companies to address the Commission's concerns."[4] My impression of the overall tone of the intervenor testimony on AMI in these cases is a recognition of the Companies' efforts to address the concerns made in Case No. 2018-00005, and, because of that, intervenors who have addressed AMI now assess a different and stronger case for AMI's benefits for customers.

Q. Before you get to the specific conditions and reporting requirements Mr. Alvarez proposes, do you have a response to other areas of his testimony?

A. Yes. Before addressing his specific conditions and reporting requirements, he raises a few issues on which I would like to comment because they go to his incorrect claim that the likelihood of a negative business case for AMI is "dramatically greater"[5] than the Companies' sensitivity analysis shows.

Mr. Alvarez testifies that AMI benefits can be variable and are subject to the diligence exercised by the utility deploying AMI. The Companies agree with that and I represent to the Commission that the Companies will exercise the amount of diligence necessary to generate the AMI benefits we have discussed in these cases. In his rebuttal testimony, Mr. Wolfe indicates that the Companies' electric distribution team will take appropriate steps to maximize levels of CVR in a safe and reliable way. The Companies' electric distribution department has an excellent record of maximizing benefits for its programs as most recently demonstrated in the achievements made in the Companies' Distribution Automation program. This is an example of why the

[4] Alvarez testimony at p. 8.
[5] Alvarez testimony at p. 13.

Companies disagree with Mr. Alvarez's concern that utility industry "inertia"[6] will hinder the realization of AMI benefits for the Companies.

Mr. Alvarez criticizes the Companies' expected level of savings from customers actively managing their energy use level through the e-Portal (MyMeter interface) after AMI deployment. His criticism is that the Companies "applied the .35% energy savings rate to 100% of its sales volumes – not just all residential customers, but to all commercial and industrial customers, as well."[7] He then explains why applying that savings rate to commercial and industrial customers is inappropriate and concludes that the Company's overall estimate is "probably overstated by at least 25% or so."[8] The Companies disagree with criticisms in this area in that they are based on an incorrect understanding of how the Companies evaluated e-Portal benefits in their analysis. First, the Companies have explained that their estimate here was intentionally very conservative as it was based on an assumed range of 0% to .7% of savings when their study on this topic determined that 1.4% to 1.7% may be achievable.[9] Second, after that conservative approach was taken, it was applied only to those customers who would be receiving an AMI meter thus industrial customers were not included.[10] For these reasons, the Companies have every confidence in the expected e-Portal savings and disagree with Mr. Alvarez on this point. Regardless, even if those savings do not

[6] Alvarez testimony at p. 11
[7] Alvarez testimony at p. 14.
[8] Alvarez testimony at p. 16.
[9] Mr. Alvarez seems to believe that the Companies' projected savings were calculated by studying only customers who accessed the e-Portal (Alvarez testimony at p. 15). This is not correct. They were calculated for all smart meter opt-in customers, including those who never accessed the e-Portal. See Appendix E of Exhibit LEB-3.
[10] See the Companies' response to AG-KIUC 1-212 and Section 6.6 of Exhibit LEB-3. Also see the Excel file attached to AG-KIUC 2-71 which lists the rate classes to which the energy savings were applied. That listing does not include rate classes for industrial customers.

materialize at all, the Companies' AMI proposal remains the most cost-effective solution for the Companies' long-term meter reading needs.

Mr. Alvarez says that customer education is influential in encouraging customers to take advantage of the benefits AMI can provide.[11] The Companies completely agree on this point which is exactly why we prepared and filed in this case a robust "Advanced Metering Infrastructure Customer Engagement and Communication Plan"[12] that is designed to drive just the type of customer behavior that will maximize AMI benefits. Its phases include customer awareness, customer education, and customer engagement.

Mr. Alvarez also says that it may be the rate case after the first rate case after full AMI deployment before all AMI benefits are fully realized.[13] This is speculation on timing. In the end, it does not matter when an AMI benefit affecting revenues is achieved because that benefit will eventually be realized by customers in the form of a reduced revenue requirement in all rate cases. Although it is theoretically possible that an AMI benefit will be achieved between the first two rate cases after AMI is fully deployed and therefore not realized by customers until the next rate case, that is a fundamental component of ratemaking. It is just as possible that the Companies will see higher expenses between rate cases than reflected in prevailing rates. This is regulatory lag and can happen for any number of utility expenses. The important point is that, as Mr. Blake describes, the Companies have proposed AMI ratemaking recovery in a way that, in Mr. Alvarez's own words, allows for the Companies' AMI proposal

[11] Alvarez testimony at p. 15.
[12] Saunders direct testimony, Exhibit ELS-2.
[13] Alvarez testimony at p. 17.

to be "the most successful of any AMI deployment by a U.S. investor-owned utility to date from a customer perspective."[14]

Finally, Mr. Alvarez discusses several benefits "missing" from the Companies' proposal and recommendations for maximizing those benefits. I address those below.

Q. Please summarize Mr. Alvarez's recommendations and conditions.

A. Mr. Alvarez recommends the following conditions[15] for AMI approval:

1. Implementation of peak-time rebates;
2. Require estimation of reduction of bad debt and unbilled revenues (mainly theft);
3. Development of expected improvements in outage frequency and duration statistics;
4. Require use of AMI data to measure DSM impact;
5. Compliance with Green Button Connect My Data Standard;
6. Acceptance of AG Witness Kollen's AMI ratemaking position; and
7. Prohibition of demand charges and mandatory time-of-use rates for residential and small commercial customers.

As I mentioned above, Mr. Wolfe addresses improvements in outage frequency and duration in his rebuttal testimony. As Ms. Saunders explains in her rebuttal testimony, the Companies have already committed to using AMI data to measure DSM impact and to complying with the Green Button Connect My Data Standard. As for Mr. Kollen's AMI ratemaking positions, Mr. Blake addresses those in his rebuttal based on Mr.

[14] Alvarez testimony at p. 32.
[15] Alvarez testimony at p. 33.

Alvarez's statement that those issues "are better suited to Mr. Kollen's expertise."[16] Thus, I will address peak-time rebates, reduction of bad debt and unbilled revenues, and demand and mandatory time-of-use charges for residential and small commercial customers.

Peak-time rebates are not as simple as one might think or as Mr. Alvarez describes. A peak-time rebate program would require years' worth of data and additional systems and technology at a cost now unknown to even get it started, much less implement in a thoughtful manner. In their data request to Mr. Alvarez, the Companies asked him to describe how the basics of a peak-time rebate program would work, i.e., what would be a "critical event," how could the Companies forecast response to a rebate program, how could generation be avoided, and what would the rate impact be on non-participating customers?[17] Mr. Alvarez's lengthy response is clear in at least one respect; a peak-time rebate program would be extremely complicated and costly to design, fraught with uncertainties of unknown duration, and with no assurance of any cost savings.

And even if it were simple to create, implement, and manage for each of our approximately 1.3 million customers, it is questionable whether they would lead to any "avoided cost" in the way of, for example, retiring generation assets or negating the need to build a new generating asset. Indeed, in his discovery response on this topic, Mr. Alvarez seems to retreat from using peak-time rebates as a resource planning tool when he says he does not recommend reducing system capacity before experience with critical events is gained and he likewise does not recommend using them as a

[16] Alvarez testimony at p. 26.
[17] Joint Responses of the AG and KIUC to the Companies' Data Requests, Item No. 6.

replacement for reserve margins.[18] If the Companies were to retire a generation asset or plan for reserve margins with the hope that customers take advantage of peak-time rebates, what happens if the customers decide not to curtail usage during peak events? The answer is an energy shortfall which, of course, would be disastrous and is not prudent energy resource planning. The Companies have no interest in an energy shortfall and it would be in violation of the Companies' obligations to "furnish adequate service"[19] and "make all reasonable efforts to prevent interruptions of service."[20]

Mr. Alvarez testifies that AMI can reduce bad debt expense (via prepay rates) and reducing unbilled revenue (theft). We agree that prepay rates are likely to reduce bad debt expense and that AMI will help the Companies reduce theft of utility service because of the AMI meters' anti-tampering abilities. But to the extent those improvements have any material effect, the main impact will be on who pays for utility service, not a reduction on what will be paid. For example, customers who do not steal utility service pay for those who do steal. If theft is prevented, the would-be thief will presumably have to pay which will result in honest customers having to pay a little less. The Companies look forward to using AMI to ensure that honest customers pay only their fair share. But there would not be an overall revenue reduction. Thus, we do not see the usefulness or practicality of estimating or reporting on those amounts.

On the issue of demand charges for residential and small commercial customers, Mr. Alvarez testifies as follows:

> Although in the current case the Companies are not seeking permission to implement a residential demand charge, the AG is providing notice that he will vehemently oppose any such effort

[18] Id.
[19] 807 KAR 5:041, Section 2.
[20] 807 KAR 5:041, Section 5(1).

by any Kentucky utility subject to the Commission's jurisdiction.[21]

Mr. Alvarez is correct that the Companies are not seeking a residential demand charge in these cases. Moreover, the Companies have no plans to do so. Thus, although the Companies understand and respect the AG's position on this issue, it is not an issue in these cases. Also, Mr. Alvarez opposes mandatory time-of-use rates.[22] Here again, the Companies are not proposing mandatory time-of-use rates, so this topic is irrelevant and otherwise not ripe for decision.

Q. Please summarize the AMI-related reporting requirements Mr. Alvarez proposes.

A. Mr. Alvarez suggests the Commission require the Companies to submit annual reports for the next 10 years related to AMI deployment. Those reports are loosely aligned with his recommended conditions discussed above. He recommends the following reports:[23]

1. Voltages delivered through circuits before and after AMI deployment to measure voltage reduction efforts;
2. E-portal statistics regarding customer use and access of the Companies' MyMeter interface;
3. Year-end headcounts for meter readers and meter services;
4. In rate cases: (a) reductions in revenue requirements for meter reading and meter services; (b) increases in sales volumes for AMI-related unbilled revenues; and (c) reductions in revenue requirements for AMI-related reduction of bad debt.

[21] Alvarez testimony at p. 29.
[22] Alvarez testimony at p. 33.
[23] Alvarez testimony at p. 34.

5. Peak-time rebate statistics showing number of customers receiving a rebate, rebates issued per event, rebate total amounts, and rebate totals per event;

6. Statistics regarding theft reduction such as number of thefts detected, theft investigation and resolutions;

7. Statistics regarding meters detected with a "bad phase," presumably meaning incidences where a meter with more than one phase for certain customers is not allocating the correct usage to the correct phase;

8. Statistics regarding outages including prevented outages, transformers replaced prospectively, and faster outage detections and restoration.

Q. What is the Companies' position on these suggested reports?

A. If AMI is approved as proposed, the Companies are willing to consider providing data regarding: (1) voltages in circuits before and after full AMI deployment; (2) e-Portal statistics regarding customer use and access of the MyMeter interface;[24] and (3) year-end headcount for meter readers (most of which are contracted out to third-party providers). But providing this data annually for the next 10 years is not necessary and is burdensome. The Companies are willing to consider providing it in rate cases filed during the 10-year period after AMI deployment begins.

As for the data in rate cases (No. 4 above), there is no reason to isolate that data. Like any expense, to the extent it is reduced or there are savings, those savings will be automatically embedded in the revenue requirement in subsequent rate cases. And the same is true for Nos. 6 and 7 above regarding bad debt, theft, and "bad phase" situations; if improvements in those areas impact revenues or cost of service allocation

[24] The Companies agreed to do so in response to AG-KIUC 1-211.

metrics, that impact will be embedded in revenue requirements and cost of service recommendations in future rate cases and there is no need to isolate that impact. In addition to there being no need to isolate the data for these three items, there would be administrative costs and operational challenges in attempting to isolate it. It would be imprudent to incur those costs for benefits that will inure to customers anyway.

For No. 5 above regarding peak-time rebate statistics, as I discussed earlier, the Companies do not believe peak-time rebates should be used. Finally, as for No. 8 above concerning outages, as Mr. Wolfe says in his rebuttal testimony, AMI will positively affect the customer experience from a reliability perspective via reduced and shorter outages, but that specific SAIDI and SAIFI improvement statistics resulting solely from AMI cannot be isolated from the Companies' other ongoing reliability initiatives. In any event, the Companies do not see a need for or the usefulness of isolating those improvements on an AMI level – even if such isolation were possible.

Q. Please provide a summary of Joint Intervenors Witness Owen's testimony on AMI.

A. Mr. Owen's testimony covers a wide range of topics, but he also specifically addresses the Companies' AMI proposal and characterizes it as being reasonable "in part."[25] He says that AMI enables a utility to "improve its service offerings to customers potentially for many years."[26] He also describes how the Companies' AMI proposal differs from an AMI proposal made by another Kentucky utility in a recent case[27] before the

[25] Owen testimony at p. 58.
[26] Owen testimony at p. 65.
[27] *Application of Kentucky Power Company for (1) A General Adjustment of its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Convenience and Necessity; and (5) All Other Required Approvals and Relief,* Case No. 2020-00174.

Commission in which Mr. Owen testified. He discusses what the Companies' witnesses discuss in their respective testimony regarding AMI. The end result of his AMI testimony is to recommend the following to the Commission: (1) the Companies should be required to offer energy efficiency programs and rate designs (beyond just prepay rates); (2) a discontinuation of disconnection and reconnection fees for customers with an AMI meter; and (3) rejection of the "special regulatory account treatment requested by the Companies."[28]

Q. What is your response to Mr. Owen's recommendations?

A. As for his recommendation related to regulatory accounting treatment, Mr. Blake addresses that in his rebuttal testimony. Aside from that, the Companies agree that they should work towards offering cost-effective energy efficiency programs and rate designs facilitated by AMI that provide benefits and options to customers. And the Companies have said so in this case. On the issue of rate offerings, Mr. Conroy committed to offering innovative rate designs including, but not limited to, voluntary prepay rates:[29]

> The Companies are committing that, if the Commission approves the proposed AMI deployment, they will offer innovative rate designs to ensure customers receive benefits from AMI beyond the operational savings that will be reflected in their bills following future rate cases. For example, the Companies commit to offer a voluntary prepay option upon full deployment of AMI. In addition, the Companies commit to expand the availability of time-of-day rates after full AMI deployment. The Companies already have residential time-of-day rates (RTOD-Energy and RTOD-Demand) and are proposing in these proceedings two new General Time-of-Day rate schedules (GTOD-Energy and GTOD-Demand), all of which are optional rates with limited availability. The Companies will use their experience with these rate schedules

[28] Owen testimony at p. 65.
[29] Conroy direct testimony at p. 10.

> and their Advanced Metering Systems Customer Service Offering ("AMS Offering"), as well as data from other utilities' AMI-driven tariff offerings, to create new rate schedules that will help customers maximize the benefits of AMI.

On the topic of energy efficiency programs, the Companies have already described their plans to: (1) leverage AMI data to measure the impact of demand side management programs;[30] (2) provide Green Button Connect My Data technology to AMI customers so they can monitor their usage in a state-of-the-art manner and conserve if they choose;[31] and (3) utilize AMI meters as end-point voltage measurement devices to maximize CVR efforts by which, through no effort by customers, the Companies can adjust distribution voltages down in a safe and reliable way thereby conserving energy.[32]

As for Mr. Owen's recommendation that disconnect and reconnect fees should be discontinued for customers with an AMI meter, the Companies agree that if AMI meters have a remote switching system that allows the disconnection and reconnection of a meter remotely without a field service work order, the cost of a disconnection and reconnection will be greatly reduced. This is precisely why the Companies have proposed the elimination of disconnect and reconnect fees for customers who receive an AMI meter with remote switching capability.[33]

IV. OPERATIONS AND MAINTENANCE EXPENSE

Headcount and Workforce Issues

Q. Please summarize the adjustments Mr. Kollen and Mr. Gorman propose to make related to headcount and corresponding payroll expense.

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[30] Companies' response to AG-KIUC 2-78 and also see Ms. Saunders' rebuttal testimony.
[31] Companies' response to AG-KIUC 1-220 and also see Ms. Saunders' rebuttal testimony.
[32] Bellar direct testimony at p. 61 and Appendix D of Exhibit LEB-3; Wolfe direct testimony at pp. 21-22.
[33] Conroy direct testimony at p. 42.

A. Both witnesses have calculated the change in total headcount between December 31, 2020 and June 30, 2022, the end the forecast test period. Mr. Kollen has calculated this difference as a total of 169 employees across both KU and LG&E, and recommends the Commission "assume the same number of FTEs in the test year as there were at the end of 2020 and reduce the payroll expense in the test year proportionately."[34] Mr. Gorman calculates the difference in headcount as 82 LG&E employees and seeks disallowance for all 82 LG&E positions. He does not seek a disallowance for KU positions.

Q. Have the intervenors provided substantive support for their position that filling vacant positions is not needed to effectively operate the Companies and serve ratepayers?

A. None whatsoever. Without any analysis of the makeup of the positions to be filled or the needs to be served by those positions, both Mr. Kollen and Mr. Gorman merely assert in conclusory fashion that filling vacancies and adding headcount is not needed to maintain the Companies' current operations and service. Specifically, Mr. Kollen asserts that the Companies "rather obviously were able to operate with the lower levels of FTEs and supplemental contractors in 2020" and Mr. Gorman asserts that "there is no evidence that increasing the employee headcount prospectively is necessary to maintain service quality and reliability that have been provided over the last few years."[35] These assertions reflect a lack of understanding of the Companies' workforce cycle (and the inverse relationship between employee staffing levels and overtime), a lack of meaningful assessment of the Companies' workforce needs, and a complete

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[34] Kollen Testimony, at 80.
[35] Kollen Testimony, at 80; Gorman Testimony, at 83.

disregard for the impact of the COVID-19 pandemic on the Companies' operations and workforce development practices. While Mr. Meiman's rebuttal principally addresses the first of these deficiencies, my testimony here addresses the others for operational employees, and Mr. Blake's testimony does the same for corporate employees.

Q. Please provide a breakdown of the positions at issue.

A. 82 of the 169 employees identified in Mr. Kollen's testimony are employed by LG&E. 13 are employed by KU. The remaining 74 are employed by LG&E and KU Services Company, with Mr. Kollen allocating 39 of those positions to KU and 35 to LG&E. 23 of the 169 positions are for corporate departments (more than half of which are intern positions) and Mr. Blake discusses those in his testimony. The other 146 positions are for the operational side of the business. 39 of the operational positions vacant on December 31, 2020 were intern positions. For reasons I address below, those positions are not properly includable in calculating vacancies and incremental headcount to be filled by the end of the forecast test period. The following tables contain a breakdown of the remaining 107 operational positions for the combined Companies:

By Opening Type:	**Positions**	**Percentage of Operational**
Vacancies	77	72%
Incremental	30	28%
Total:	**107**	**100%**

By Line of Business:	**Positions**	**Percentage of Operational**
Generation	32	29.9%
Customer Services	25	23.4%
Gas (LG&E only)	16	15%
Electric Distribution	13	12.2%
Transmission	10	9.4%
Energy Supply and Analysis	6	5.6%
Project Engineering	4	3.7%
Environmental Affairs	1	1%
Total:	**107**	**100%**

A spreadsheet designated as **Rebuttal Exhibit LEB-1** to my rebuttal testimony contains a listing of all 146 operational positions summarized here, including the job title, line of business, opening type, operational justification for the position, and status as of March 31, 2021.

Q. Should interns be excluded from an assessment of the workforce changes between year-end 2020 and the end of the forecast test period?

A. Yes. As Mr. Meiman describes in his testimony, nearly a third of all open positions at year end 2020, used as the basis for Mr. Kollen's and Mr. Gorman's payroll testimony, were intern positions. These positions are by nature cyclical and a relatively high number of vacancies are expected at the end of a calendar year due to semesters ending and academic breaks. There were 39 operational internship positions vacant at year end 2020. As of March 31, 2021, there were 12 operational internship positions vacant.

Q. What is the current status of the non-intern operational openings?

A. Of the 107 non-intern operational positions to be filled between December 31, 2020 and the end for the forecast test period, nearly half have either already been filled with a hire or transfer or the process for filling the position has started. This is indicative of how fluid vacancies can be during the span of just a few months, and also demonstrates the Companies' diligence in executing their workforce strategy to fulfill operational needs.

Q. Why is it operationally necessary to fill open positions in Generation?

A. The 32 open positions for Generation operations are all vacancies. There is no incremental headcount for Generation between December 31, 2020 and the end of the forecast test period. Hiring employees for Generation positions has been a particular challenge during the COVID-19 pandemic. Operators must be trained and on-boarded in person at generating stations in order to be properly prepared to perform their job responsibilities safely and effectively. Social distancing and safety precautions made that very difficult for most of 2020. As a result, the backlog of vacancies in Generation at December 31, 2020 was moderately higher than might otherwise be expected. Furthermore, as shown in Rebuttal Exhibit LEB-1, most of the open Generation positions are highly technical – including unit operators and specialized equipment and electrical technicians. The Companies have experienced challenges filling these positions with qualified candidates. Nevertheless, these positions must be filled to facilitate safe and proper operation of the Companies' generating units. Some operator positions have not been historically backfilled with contractors because of their technical nature and due to the critical nature of the positions. Others, like instrument and mechanical technicians, have been backfilled by a combination of existing employee overtime and auxiliary and supplemental contractors, at a cost to the Companies.

Q. What else is contributing to the increase in Generation labor expense?

A. In addition to filling vacant positions and normal inflation adjustments, a portion of the increase in Generation labor expense in the forecast test year is also attributable to elimination of Environmental Cost Recovery ("ECR") projects previously included in the ECR mechanism. This is not added cost but instead a shifting of ongoing labor costs from the ECR mechanism into base rates. For KU, termination of the ECR mechanism related to landfill and coal combustion residual transport at the Ghent and Brown generating stations results in a corresponding labor increase in excess of $2 million included in base rates. For LG&E, termination of the ECR mechanism for wet flue gas desulphurization projects at Mill Creek results in a labor increase in base rates of $566,000.

Q. Describe the operational importance of filling open positions in Customer Services.

A. There are 25 open Customer Services positions to be filled between December 31, 2020 and the end of the forecast test period. 14 of these positions are vacancies and 11 are incremental. A number of the vacant positions, including meter technicians and a meter electrical engineer, directly support regulatory requirements for gas and electric sample meter programs. Without these employees, the risk of failing to identify malfunctioning meters and therefore violating regulatory requirements increases. Another 4 vacancies are for customer service representatives to work directly with customers, either by phone support or at walk-in offices. At least two of these vacancies are currently being supported by increased overtime of existing employees. 5 of the 11 incremental headcount in Customer Services are positions needed to support AMI if approved by the Commission, and the costs of these positions are included in the AMI cost benefit analysis in Exhibit LEB-3 as presented in these cases. Another 4 of the incremental positions have a direct contractor offset and converting these positions to employees will provide for better continuity for gas meter maintenance (LG&E), meter management (LG&E) and management of repair orders for security equipment (LG&E and KU Services Company).

Q. Why is it important to fill open headcount in LG&E's gas business before the end of the forecast test period?

A. Most of the gas positions to be filled (9 vacant, 7 incremental) are directly tied to supporting pipeline safety, integrity and regulatory compliance. Pipeline specialists, integrity engineers, corrosion control specialists, and industrial maintenance and engineering specialists are needed to support pipeline inspection and maintenance activities. These activities are dictated by federal and state regulations, including integrity, documentation, maintenance, and operational standards imposed by Part 192 of the federal pipeline safety regulations. Of the 7 incremental positions, 4 will directly support regulatory compliance, 1 will support compliance with new industry codes and standards for Pipeline Safety Management Systems supported by the American Gas Association, and the other 2 will provide data analytics used to identify trends, accurately forecast expenses, and track performance metrics to lead to better and more efficient decision-making.

Q. What operational needs will be served by filling headcount in Electric Distribution operations?

A. All but one of the 13 electric distribution positions to be filled before the end of the forecast test period are vacancies, not incremental headcount. Many of the vacancies have already been filled as of March 31, 2021. 4 of the vacant positions support regulatory compliance related to transformer services – work that is currently being performed by contractors at cost to the Companies. Other vacancies include positions supporting substation control and operations, line maintenance and contractor oversight, and support for expanded technology on the grid discussed extensively in Mr. Wolfe's testimony, including technicians needed to manage and maximize the benefit of the Distribution SCADA system. The sole incremental position in electric distribution is for a Protection and Control Substation Trainee, who must build a core skill set in daily operation of systems that must be developed in house and is not readily filled by contractor support. These positions are critical to the continued safe and reliable functioning of the electric distribution system.

Q. How will the filled headcount in Transmission contribute to the Companies' operational success?

A. Transmission headcount to be filled between end of the year 2020 and the end of the forecast test period includes 3 vacancies and 7 incremental positions. Two of the vacancies are for an electric system coordinator and an electrical engineer for system operations who support real-time operation of the transmission system. A third is for a system planning engineer who supports system reliability to meet customer expectations. Of the 7 incremental positions, 3 will offset supplemental contractor labor. The remaining 4 incremental positions will support: (1) compliance with NERC standards pertaining to protection and control systems and physical security; (2) addressing vulnerabilities in Operational Technology cybersecurity systems; (3) energy management system operation, compliance and security; and (4) training of NERC-certified operators. All of these positions are essential to the safety and reliability of the transmission system.

Q. Explain the operational need to fill positions in Energy Supply and Analysis.

A. The Companies plan to fill six total positions in Energy Supply and Analysis before the end of the forecast test period, two of which are vacancies and four of which are incremental. The two vacancies, both of which have already been filled since year-end 2020, are for research on technology trends and administrative support, respectively. The four incremental positions are for data analysts, which are needed to support improved decision-making regarding cost savings measures, improved customer experience, capital decision-making, and operational and reliability improvements. The amount of data now available for these activities has grown exponentially and is expected to increase. These additional analysts are essential to make effective use of the data and support these very important functions.

Q. Are the costs to fill vacancies in Project Engineering included in base rates?

A. No. The costs for all four of the vacancies in Project Engineering are included in the Environmental Cost Recovery ("ECR") mechanism for the Effluent Limitations Guidelines projects and are not included in base rates. The costs associated with these positions are therefore not part of the revenue requirement presented in these cases.

Q. Can the Companies simply continue operating indefinitely without filling vacancies as Mr. Kollen and Mr. Gorman suggest?

A. No, not without sacrificing the long-term safe and reliable operation of the Companies' electric and gas systems. The Companies are adept at planning an optimal workforce to handle the operational needs of the business at reasonable cost, including consideration of which functions should be performed by employees and which can be performed by contractors. In the short-term, such as during the COVID-19 pandemic, the Companies can defer some work and backfill other work typically done by employees with contractors and overtime, as may be appropriate. But deferral of strategically planned work is not a sustainable practice over the long-term. While workforce challenges may persist, so too does the obligation of the Companies to provide safe and reliable service to customers at reasonable cost. This is why attention to the strategic workforce planning process and adherence to the strategy developed in that plan as discussed in Mr. Meiman's rebuttal testimony has become so operationally important to the Companies.

Q. Do you have a recommendation for the Commission?

A. Yes. Mr. Kollen's and Mr. Gorman's proposed adjustments related to workforce expense should be rejected by the Commission. The intervenors' analyses are surface-level and do not at all consider the operational necessity of the positions at issue. As I have summarized here and set forth in detail in Rebuttal Exhibit LEB-1, the vacant and incremental positions to be filled before the end of the forecast test period support critical functions of the Companies – functions that are absolutely essential to the safe and reliable performance of the Companies' operations.

<u>Increase in Account 868 *Maintenance of Mains* Expense</u>

Q. Mr. Kollen proposes deferral and amortization of expenses for in-line inspections of gas mains rather than expensing costs as they are incurred. Do you have a comment?

A. From an operational perspective, the enhanced in-line inspection tools I discussed in my direct testimony are essential to LG&E gaining a sophisticated understanding of the threats to the pipeline and the pipeline's condition. Leveraging this expanded set of in-line inspection tools enables LG&E to achieve a higher overall level of pipeline safety and supports compliance with ongoing reassessment requirements in federal pipeline safety regulation 49 CFR 192 subpart O and the more stringent pipeline safety requirements imposed by Mega Rule Part 1. As such, LG&E anticipates that in most cases the full suite of expanded in-line inspection tools will be used in reassessments on a recurring six-year interval in each pipeline.[36] Assessments are completed every year somewhere on the gas system. Accordingly, the use of the in-line inspection tools will not be a one-time cost, but rather an annual recurring expense.

V. GENERATION OUTAGE EXPENSE

Q. Please summarize the position of the Companies and the Intervenors regarding recovery of generation plant scheduled outage expenses.

A. The Companies seek recovery of generation plant outage expense using average actual outage expense for 2017, 2018, 2019, and 2020 through August, combined with forecasted outage expense for the balance of 2020 through 2024, and to continue the

[36] Under subpart O to 49 CFR 192 reassessments are required every seven years. However, to avoid the need to seek extensions for unanticipated delays, LG&E conducts reassessments on a six-year cycle.

use of deferral accounting for cost recovery of this expense.[37] On behalf of AG-KIUC, Mr. Kollen recommends that generation outage expense be recovered based on an eight-year historical-only average, with inflation adjustment. AG-KIUC and the Companies agree that retired generating plant should be removed from historical expense. Mr. Kollen also proposes that the Commission deny deferral accounting treatment for outage expense. Kroger witness Justin Bieber does not criticize the manner in which the Companies propose to calculate recovery for outage expense, but also recommends that deferral accounting treatment for generation outage expense should be revoked.

Q. Are either Mr. Kollen or Mr. Bieber critical of the need to conduct any of the scheduled outage activities planned for the forecast test period?

A. No. They simply question the manner in which the Companies should be permitted to recover those costs in base rates.

Q. Why is it appropriate to normalize generation outage expense in predicting future outage expense in the test year?

A. Most of the Companies' coal-fired and combustion turbine generating units follow a seven or eight year cycle for major outage maintenance. Boiler overhauls on coal-fired units are performed more often, around every two years. In addition to major turbine overhauls, combustion turbine units are subject to combustor inspections roughly every two years, and hot gas path inspections approximately every four years. Because of the cyclical and varying nature of annual generation outage expenses based on these cycles, normalization provides a reasonable basis for forecasting future expense. Mr.

[37] Bellar direct testimony, pp. 22-23.

Kollen agrees.[38] Indeed, Mr. Kollen acknowledges in his testimony that the Companies' proposed normalization expense as calculated in the Companies' filings very closely approximates the projected expense in the forecast test year.[39] While that will not be true in every year due to the varying nature of the expense, it does demonstrate the reasonableness of the methodology.

Q. Is a strictly historical 8-year average with an inflation adjustment proposed by Mr. Kollen an accurate way to predict future outage maintenance expense in the forecast test period?

A. No. The Companies have gained experience over many years in forecasting scheduled outage maintenance expenses for planning and budgeting purposes. Their forecasts are more likely to reflect actual expenses going forward than historical averages. In other words, the outage work performed on a particular unit seven or eight years ago has far less predictive value than the Companies' current assessment of the unit today and decisions made today about its maintenance needs in the future.

Q. Why is the Companies' proposed methodology more accurate in this instance?

A. There are several major outage expenses to be incurred before the end of 2024 that are not reflected in Mr. Kollen's proposed approach but are reflected in the Companies' approach. For example, Cane Run 7, the Companies' natural gas combined cycle generating unit, will undergo its first major outage inspection in 2024 according to the terms of their contract with Siemens (the manufacturer of the combustion turbines), with O&M expense expected to be approximately $15 million that year. Since this is

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[38] Kollen direct testimony, pp. 83-84.
[39] Kollen direct testimony, p.83.

the first major inspection of this unit, none of this expected cost is accounted for in Mr. Kollen's historical-only approach.

Furthermore, new technology and in particular environmental controls have contributed to increased complexity, cost, and duration of major unit outages, which are not fully captured in average historical outage expense, even with inflation adjustments. Incremental pollution control investments, such as flue gas desulphurization, baghouses, and SO_3 mitigation systems add to the scope of outage maintenance activity and increase costs. The added complexity results not only from the control systems themselves, which require outage maintenance, but also from structures and ductwork installed as part of these systems, which restrict access to areas where inspections and repairs are performed, and require installation of scaffolding where mobile lifts may have been used in the past, all at greater expense. While these challenges are considered and budgeted in the Companies' future maintenance planning, they are not necessarily reflected in past outage maintenance performed even on the same units. Accordingly, the normalization period proposed by the Companies better reflects the costs that will actually be incurred due to increased outage scope.

Q. Do you have a comment on Mr. Kollen's and Mr. Bieber's suggestion that deferral accounting for generation outage expense incentivizes uneconomic behavior?

A. Mr. Garrett addresses this aspect of Mr. Kollen's and Mr. Bieber's testimony in his rebuttal testimony. But from an operational standpoint, I disagree that deferral accounting incentivizes the Companies to overspend on outage maintenance. The maintenance practices followed by the Companies for many years have resulted in sustained excellence in generation reliability, placing the Companies well within first quartile for reliability as measured by industry benchmarking. In light of my earlier testimony about the severe consequences of generation reliability failures in other parts of the country in February, the importance of having readily dispatchable and reliable energy generation cannot be understated. The Companies' outage maintenance practices make that performance possible.

Q. But does that reliability come at cost in excess of its benefits, or in excess of what is needed to properly maintain the units?

A. Absolutely not, and industry data on the Companies' cost containment for generation O&M expense confirms this. In a survey of publicly-filed FERC Form 1 data from 46 benchmarked utilities, the Companies performed in the first quartile (11 out of 46) for lowest average non-fuel O&M expense per net MWh of generation for years 2015 to 2019. These results verify that we do not spend to excess in maintaining the generation fleet. Outage maintenance is performed consistent with manufacturer recommendations, industry best practices, and the Companies' own institutional experience. Finally, as Mr. Garrett explains, the Companies have no incentive to spend imprudently on outage maintenance as they are only provided recovery for their actual costs.

Q. In light of your testimony, what is your recommendation to the Commission regarding AG-KIUC's and Kroger's proposed scheduled outage normalization adjustments?

A. The Commission should reject these adjustments and approve recovery for outage maintenance expense as proposed by the Companies, using a hybrid of historical and forecasted expense and treatment of these expenses through deferral accounting.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is Chief Operating Officer for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Lonnie Bellar

Lonnie E. Bellar

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 7th day of April 2021.

Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 11, 2022

Rebuttal Exhibit LEB-1 is being provided in a separate file in Excel format.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	**)**	**CASE NO. 2020-00349**

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	**)**	**CASE NO. 2020-00350**

REBUTTAL TESTIMONY OF
JOHN K. WOLFE
VICE PRESIDENT, ELECTRIC DISTRIBUTION
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

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I. BACKGROUND

Q. Please state your name, position and business address.

A. My name is John K. Wolfe. I am Vice President of Electric Distribution for Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, the "Companies"), and an employee of LG&E and KU Services Company, which provides services to the Companies. My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. What is the purpose of your testimony?

A. First, I will describe the performance of the electric distribution system during the winter storm events in February of this year, including a discussion of reliability and resiliency benefits achieved from recent distribution investments. Second, I will discuss three discrete points made by AG Witness Alvarez regarding Advanced Metering Infrastructure ("AMI") specific to Conservation Voltage Reduction and the objective reliability benefits of AMI. Third, I will discuss criticisms made by LFUCG and Louisville Metro Witness Bunch regarding streetlighting service, including the Companies' plans to transition the lighting fleet to LEDs and current operational performance in lighting outage detection and restoration. Fourth and finally, I will address one area of proposed disallowance by AG-KIUC Witness Kollen pertaining to miscellaneous distribution expense charged to a single FERC account.

II. PERFORMANCE OF ELECTRIC DISTRIBUTION SYSTEM

Q. Your direct testimony extensively discusses how the Companies' investments and operations have contributed to reliable service. Has the Companies' distribution system been put to the test recently?

A. Yes. Multiple ice and snow events across the Commonwealth during February 2021 presented a difficult challenge to the resiliency of Kentucky's electric distribution infrastructure. The severity of the weather events, particularly ice accumulation on trees and lines, and the close proximity of several winter weather events in the short span of a week strained the state's utility resources. This was particularly true in the southern and southeastern portions of the state, where greater ice accumulation and difficult terrain created unique challenges for electric utilities operating in Kentucky.

Q. How did the distribution system perform through the February winter storm events?

A. Overall, it performed quite well. While pockets of outages of course did occur, the Companies' customers were not subject to widespread and prolonged outages seen in other parts of the state.

Q. To what do you attribute this performance in response to difficult weather events?

A. I must first reemphasize that the Companies' service territory was not hit with the severity of ice accumulation seen in other parts of the state, and that certainly contributed to our system's ability to withstand the winter storm events. But to be sure, the Companies' investments in replacing aging distribution assets, adherence to prudent vegetation management practices, and investments in grid modernization programs like Distribution Automation ("DA") also greatly contributed to the resilience and reliability of the distribution system during these winter storm events.

Q. How do you know that those investments contributed to the reliability of the distribution system?

A. DA provides a good example because the reliability returns from this investment can be objectively measured. As summarized in my direct testimony, full implementation of DA provides for intelligent control over the electric distribution system using a combination of electronic reclosers with supervisory control and data acquisition ("SCADA") capability and implementation of software and networked systems that allow for communication, monitoring, and intelligent control over those reclosers.[1] The circuit segmentation capability made possible by DA is highly effective at limiting the impact of outages both in terms of duration and the number of customers affected when they occur. The following table shows the reliability benefits achieved by DA across the Companies' service territory during four major winter storm days in February:

DA Benefits		
Dates	Outage Minutes Avoided	Customer Interruptions Avoided
10-Feb	261,083	861
11-Feb	549,696	2,606
15-Feb	87,631	503
16-Feb	116,962	727
Total	**898,410**	**3,970**

As this table shows, nearly 900,000 customer outage minutes and almost 4,000 customer interruptions were avoided by DA on just four severe weather days in February. The reliability returns of the DA program will continue to increase as full implementation of Fault Locating, Isolation and Restoration ("FLISR") functionality is achieved this year.

[1] Wolfe Direct Testimony, at pp. 6-7.

Q. How did the Companies perform in responding to outages caused by the February winter storm events?

A. When outages did occur due to severe weather events in February, the Companies responded swiftly and safely to restore power to customers. By the early morning hours of February 11, there were nearly 20,000 of the Companies' customers without power due to severe overnight weather. Power was restored to 99 percent of LG&E customers and 95 percent of KU customers within 24 hours of that peak, even as adverse weather conditions continued. Within 48 hours, 100 percent of LG&E customers were restored and 99 percent of KU customers were restored. In the storms that followed just three days later, beginning on February 14, a peak of under 8,000 total customers were without power. Within 24 hours 100 percent of LG&E customers were restored and 95 percent of KU customers were restored. Within 48 hours, 100% of all the Companies' customers were restored.

For these combined events over a six-day period (February 10 to February 16), the Companies responded to nearly 4,000 cases of trouble (outage and non-outage) and over 1,400 reports of downed equipment. The Companies achieved this without any reportable safety incidents among its employees or contractors.

Q. To what do you attribute the Companies' robust response to outages caused by the February storms?

A. The response is a testament not only to the integrity of the distribution system, but also to the effectiveness and efficiency of the Companies' staffing, safety, training, emergency preparedness and planning, and operations practices. During and after severe weather events the Companies are called upon to rapidly scale and provide immense resources through its workforce and operational expertise to restore power and minimize customer disruptions. These resources must be carefully planned to meet periods of high demand, but also to operate efficiently during period of average or low demand. Through its many years honing its workforce and business planning practices, the Companies have become very adept at deploying their resources in a way that best serves their customers.

III. ADVANCED METERING INFRASTRUCTURE

Q. What does AG Witness Alvarez say about AMI as it relates to your areas of AMI responsibility?

A. He makes three basic points related to my area of responsibility which is the Companies' electric distribution operations. First, he says that the level of savings created by Conservation Voltage Reduction ("CVR") and made possible by AMI can vary widely and that "human error" and lack of diligence can diminish those savings. Second, he says the Companies' expected range of energy reduction from CVR of 1.4 to 2.61 percent is too narrow and that a more accurate range is 0 to 3 percent. Third, he says that the Companies should quantify the expected reliability benefits I described in my direct testimony in improved SAIFI (outage frequency) and SAIDI (outage duration) metrics.

Q. In general, what is your response to his points regarding AMI and the Companies' distribution system?

A. First, I agree that the Companies' actions and diligence towards maximizing CVR savings are important, but I assure the Commission and the AG that the Companies will diligently maximize CVR in a safe and reliable manner and our performance record proves that. Second, the Companies stand by their CVR range of energy savings of

1.4% to 2.61% based on the study submitted in this case supporting that range. That study, which is attached as Appendix D to Exhibit LEB-3 of Mr. Bellar's direct testimony, provides strong evidence-based support of the projected range. Third, all else being equal, the Companies do expect AMI will improve SAIFI and SAIDI statistics. But by their very nature, outages involve externalities beyond the Companies' control and we know of no way to isolate and quantify the exact effects AMI will have on outage frequency or duration. Having said that, it is clear that the reliability improvements and outage prevention that AMI will generate will help reduce outage frequency and duration and provide an improved customer experience.

Q. What assurances can you give the Commission that the Companies will diligently pursue CVR in a safe and reliable manner?

A. I represent to the Commission that the Companies will do so and our recent performance in implementing our DA program should give the Commission the assurance it needs that our distribution operations team functions at a very high and diligent level. As I explained in my direct testimony, the Companies have made tremendous strides in implementing the DA program since the Commission approved it in 2017.[2] Through our strategic installation of reclosers, as of February 2021, we have avoided 33,933,143 outage minutes and 207,040 outage interruptions. And we have surpassed the reliability improvement goals we had in place when the Commission granted the Certificate of Public Convenience and Necessity for the DA program as indicated by the table below:

[2] Wolfe Direct Testimony, pp. 6-8.

Metric	2017	2018	2019	2020	2021	2022	Total
SAIDI Reduction – CPCN Target	0.40%	1.20%	6.70%	1.50%	1.10%	1.00%	11.90%
SAIDI Reduction - Actual	0.00%	2.20%	4.50%	7.10%	4.60%	TBD	18.40%
SAIFI Reduction – CPCN Target	1.00%	1.90%	10.70%	2.20%	1.40%	1.40%	18.60%
SAIFI Reduction - Actual	0.00%	2.50%	6.00%	8.60%	3.00%	TBD	20.10%

We are proud of the DA success because, as acutely demonstrated earlier in my testimony, it translates to immediate reliability benefits to customers while being within budget. We will pursue AMI-enabled CVR with the same care and diligence demonstrated in our DA effort. This includes staying updated on the optimal locations of voltage regulators and capacitors and turning CVR "back on" after it has been turned off while repairs are performed on a CVR-enabled circuit. While we respect that Mr. Alvarez may have observed a lack of diligence from other utilities in these areas, we disagree that will be a problem for the Companies.

Q. Do you have confidence in the Companies' CVR range of energy savings of 1.4 to 2.61 percent?

A. Yes, and I disagree with Mr. Alvarez who thinks the Companies' range is too narrow. Without any empirical support, he suggests "a much wider range of 0% to 3% to be more appropriate."[3] It is possible that individual circuits may have savings in the range he suggests, but the overall distribution system should see a range of 1.4% to 2.61%. Additionally, the high end of his range is only slightly higher than the high end of the Companies range (2.61 vs. 3.0). Of course, to the extent the Companies can exceed 2.61 percent, we certainly will.

The Companies' range is evidence-driven and supported by the study that was attached to Mr. Bellar's Direct Testimony as Appendix D of Exhibit LEB-3. That study

[3] Alvarez Testimony, p. 13.

carefully selected circuits in the Companies' distribution system based on criteria including circuit length, number of customers served, availability of communication, and voltage control equipment such as capacitors, regulators, and load tap changers.[4] The study then used existing data from current smart meter opt-in customers to establish a range of potential CVR energy savings. The resulting range was 1.4 to 2.61 percent. The study acknowledges that CVR savings between 1 and 4 percent are commonly reported in the industry,[5] but we also believe it is prudent to be intentionally conservative when estimating the high end of the range. Thus, as explained in that study, a range of 1.4 to 2.61 percent was established with a mid-scenario of 1.99 percent.

Q. How does CVR work in conjunction with Volt/VAR management and optimization?

A. Volt/VAR management and optimization of electric distribution systems are long standing objectives of electric utilities which vary from utility to utility based on their operating strategies, system capabilities, technology advancement, and load characteristics. Typical objectives of coordinated Volt/VAR management and optimization programs include maintenance of grid stability, delivery of electricity within accepted voltage ranges, minimization of system-wide losses, reduction in maintenance costs, reduction or deferment of capital expenditures, optimization of power factor, reduction of peak shaving, and energy efficiency.

To achieve Volt/VAR management, utilities have long deployed voltage monitoring and control equipment in substations and on distribution lines, such as load

[4] Exhibit LEB-3, Appendix D, p. 4.
[5] Exhibit LEB-3, Appendix D, p. 2.

tap changers, voltage regulators, and capacitors. Also, complex engineering analysis and detailed system modeling tools have been used by utilities to select alternatives for achieving Volt/VAR operations objectives and to establish equipment settings under various static operating conditions.

More recently, the evolution and convergence of software, hardware, communications, and controls technologies is enabling utilities to further optimize Volt/VAR. Advances in technologies are being driven by actual and forecasted growth in distributed generation, storage, electrification of end use devices (including transportation) and the electric industry's recognition that the electric grid is becoming increasingly more complex to manage and operate within required operating parameters.

As part of its overall strategy to increase grid intelligence and flexibility to accommodate greater growth in distributed generation and electrification, LG&E and KU initiated planning and execution of actions during 2019 to increase the robustness of its existing Volt/VAR capabilities through prudently enhancing system controls on existing and incremental line equipment moving forward, and planning acquisition and deployment of a Volt/VAR software solution during 2022. The Volt/VAR software will serve as the engineering engine needed to dynamically analyze distribution system state, and voltages at the point of delivery, to calculate voltage device settings needed to optimize Volt/VAR, on the distribution system. Using AMI meters as voltage data "end points," we will be able know the precise voltage levels at a customer's premise. This will allow the software to perform optimally. The software system will supplement the Companies' recently deployed Distribution Management System platform ("DMS"), which includes system modeling capabilities required of a dynamic Volt/VAR solution and will make use of the Distribution SCADA system also deployed as part of the Companies' DA program.

CVR is a separate program, similar to Volt/VAR, that reduces voltage on circuits resulting in energy reductions and cost savings for customers. CVR is typically implemented after Volt/VAR since it relies on the same voltage control equipment to manage voltage. Where Volt/VAR optimizes voltage loss on a circuit through management of reactive power flows and power factors, CVR achieves the "last mile" of voltage reduction by monitoring service voltage through AMI meters. In effect, CVR performs the fine tuning to lower voltage once the voltage and losses have been optimized.

Q. Do you agree with Mr. Alvarez's concern that the Companies have not budgeted enough money to implement Volt/Var?

A. Although Mr. Alvarez is concerned that the Companies have not budgeted enough money to implement Volt/VAR ($5.6 million),[6] I do not share that concern. As stated above, LG&E and KU have long practiced Volt/VAR management and have deployed countless substation and line devices to support associated objectives. More recently, the Companies deployed a DMS and Distribution SCADA, both of which support the objectives of Volt/VAR optimization. None of these investments are included in the $5.6 million total Mr. Alvarez references. The $5.6 million Mr. Alvarez refers to is the incremental spend included in the Companies' 2021-2025 business plan for advancing Volt/VAR optimization capabilities. Additional investments of approximately $22.4

[6] See my Direct Testimony, Exhibit JKW-1, pages 27-28 for the Companies' Volt/VAR plans and projected expense.

million are planned between 2025 and 2030 to meet future Volt/VAR management and optimization strategic objectives.

Q. Are you able to reliably estimate precise SAIDI and SAIFI improvements that AMI will provide?

A. No. It is not possible to isolate reliability improvements resulting solely from AMI from our other continuous efforts to improve reliability through our DA program and general distribution management system upgrades. Additionally, as mentioned above, the very nature of outages, their unpredictability, and the externalities associated with them that are beyond the Companies' control prohibit the type of precise outage performance statistics Mr. Alvarez seeks. However, we know that AMI, in conjunction with our DA program and distribution management system upgrades, will improve outage performance for all the reasons discussed in my direct testimony and in the Electric Power Research Institute study attached to my direct testimony as Exhibit JWK-2. I will not repeat all of that testimony here, but, in summary, we know that AMI will have a beneficial effect on the following outage circumstances which will lead to a better overall customer experience:

- Faster identification of an outage event and the outage area without relying on customers to report an outage (this means outages can be restored in some cases without the customer ever being aware of the outage if they are sleeping or away from home);[7]

[7] Wolfe Direct Testimony, p. 22.

- Distinguishing between a momentary and a sustained outage which can improve our ability to take steps to prevent a momentary outage from becoming a sustained outage;[8]
- Increased efficiency is restoring "nested" and "tail" outages by providing better information regarding the location of those types of outages after a major outage event;[9] and
- Reduction of "ok on arrival" events that occur when a customer reports an outage but then a Companies' employee determines everything on the Companies' side of the meter is "ok" and that the actual reason for the service disruption is on the customer's side of the meter (for example, a tripped circuit breaker).[10]

IV. STREET LIGHTING

Q. Please summarize the Companies' role in maintaining and servicing street lighting.

A. The combined companies maintain over 270,000 street lights throughout their service territory. Street lighting is provided under several different tariff rates by each company, depending on the service and type of light offered. The direct testimony of Mr. Seelye describes the different street lighting rates offered by the Companies as well as the changes the Companies propose to make to those tariffed rates in these proceedings.[11] For street lights covered under Rates LS and RLS, the Companies maintain and replace lighting equipment as it fails. Failures are identified either through reports of street light outages from the customer or the public or through the

[8] Wolfe Direct Testimony, pp. 22-23.
[9] Wolfe Direct Testimony, pp. 23-24.
[10] Wolfe Direct Testimony, p. 24.
[11] Seelye Direct Testimony, pp. 34-39.

Companies' proactive inspection patrols. The terms upon which replacements are made are governed by the Companies' tariffs.

Q. Please describe the Companies' plans for replacing legacy street lights with more efficient LED technology.

A. The Companies have a plan in place to phase out non-LED street lights as they fail. Non-LED lights will continue to be maintained by the Companies, but all new or replacement lights are now and will continue to be LEDs as soon as existing inventory of non-LED lighting fixtures is exhausted. Customers can also choose to replace existing functional non-LED street lights for a conversion fee, which KU proposes to lower from $6.03 per fixture per month over five years to $5.01 per month for the same term, and which LG&E proposes to lower from $7.37 to $7.08 per fixture per month. The proposed tariffs would allow street lighting customers to pay conversion fees up front with a present value discount rate applied. Mr. Seelye's direct testimony describes the tariff changes in detail.

Q. What are the criticisms asserted by intervenors regarding the Companies' street lighting programs and tariffs?

A. Intervenors LFUCG and Louisville Metro have proffered a witness, Richard Bunch, a Michigan clean energy consultant, to offer testimony exclusively on street lighting issues. His criticisms are many, but have been subdivided into three broad categories: (1) criticisms of the rates of return on lighting tariffs; (2) criticisms surrounding the Companies' planned conversions to LED lighting; and (3) criticisms of the way the Companies currently run their street lighting operations. Mr. Seelye will address the first category in his rebuttal testimony as well as arguments regarding cost causation for LED conversions. I address here the remaining topics covered by Mr. Bunch's testimony.

LED Conversions

Q. How do you respond to Mr. Bunch's assertions that the Companies are exceeding manufacturer suggested wattages when installing new LEDs?

A. The Companies rely on both customer and vendor input when selecting suitable LED replacements for existing HID fixtures. For new LED offerings, the Companies thoroughly evaluate LED lighting products from several different vendors and seek input on lighting reliability, lumen output, surge protection, and other factors. By the terms of the LS and RLS tariffs, the customer may choose its lighting options from the Companies' current offerings. The Companies have also responded positively to customer requests for new LED offerings. In 2017 LFUCG raised concerns about a suitable LED replacement for the 70w HPS Cobra fixture, which is most utilized by LFUCG. That led to the introduction of a 22w LED Cobra fixture in the Companies' 2018 rate cases. To KU's knowledge, LFUCG has not raised concerns about the suitability of any other LED replacement until Mr. Bunch's testimony. If customers raise concerns about the appropriateness of LED replacements for a given application, with respect to wattage, lumens, or location, the Companies will be responsive to those concerns and work collaboratively with their customers to resolve them. While the Companies do not currently offer an exact lumen-match LED replacement for all 17 different COBRA HID fixtures under Rate RLS, each replacement offers at least as much light as the existing fixture and, if more, the lumen output is within an acceptable range. In addition to input from the customer, the Companies also seek guidance from lighting manufacturers on lumens for replacement fixtures, "which may vary based upon mounting height, pole spacing, design criteria, etc…"[12] Each of the Companies' LED offerings provide well suited comparable replacements for existing HID fixtures that are within manufacturer recommendations.

Q. Mr. Bunch suggests the Companies should not maintain non-LED fixtures in any way and should not install replacement HID fixtures. Do you agree?

A. No. Mr. Bunch's proposal would create stranded assets in the millions of dollars. As Mr. Seelye summarizes in his direct testimony and Exhibit WSS-5 thereto, the remaining net book value of KU's existing lighting fixtures exceeds $34 million and the value of LG&E's lighting fixtures is nearly $25 million. The Companies propose to replace HID fixtures with only LED fixtures once existing inventory is exhausted. For LFUCG, KU has already exhausted its inventory of Rate RLS fixtures and thus all replacements will be LEDs.[13] For Louisville Metro, LG&E has exhausted its inventory of Rate RLS fixtures with the exception of Acorn and Colonial fixtures which are being used for spot replacements.[14] Exclusive LED conversions in other areas of the service territory will be made as soon as supplies of appropriate HID fixtures are exhausted. When photoelectric controls or lamps fail, the Companies continue to maintain those lights if they have a working HID fixture. Other than making generalized assertions, Mr. Bunch has not demonstrated that this practice is less cost-effective than treating every maintenance issue as an LED conversion as he proposes.

Q. Please describe the Companies' study of relative labor costs of a proactive LED conversion plan versus the current maintenance replacement plan.

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[12] GE Cobra LED Specification Sheet, Attachment to LFUCG 1-5, at p. 3 of 89.
[13] KU Response to LFUCG 1-9.
[14] LG&E Response to Metro 1-9.

A. In order to gain a better understanding of the cost of a proactive LED conversion plan compared to a maintenance replacement plan, the Companies conducted limited proactive LED replacements for Louisville Metro and LFUCG during 2020. A total of 1,347 conversions were made as part of the project. The conversion projects were conducted in Jefferson County and Fayette County, respectively, and targeted a mix of major thoroughfares, urban corridors, and residential neighborhoods. The Companies used a variety of LED fixtures on different types of poles to simulate actual conditions expected in a broader conversion project. Conversions were performed by two-person crews in a bucket truck and pickup truck, the latter used to carry additional fixtures and to assist with traffic control. The Companies found that for KU, labor cost for proactive conversions was $102.20 per light compared to an average contractor unit cost of $92.10 for a maintenance replacement (failed fixture), making labor costs for proactive conversions about $10 more per light than maintenance replacements. For LG&E, labor cost for proactive conversions was $112.36 per light compared to an average contractor unit cost of $94.33 for a maintenance replacement (failed fixture), making labor costs for proactive conversions in LG&E's territory about $18 more per light than maintenance replacements.

Q. How do you respond to Mr. Bunch's criticisms regarding the conversion labor cost study?

A. The criticisms are unfounded. Mr. Bunch finds fault with the Companies' comparison of negotiated costs for maintenance replacements versus actual costs for proactive replacements. But the Companies' negotiated unit rates approximate actual costs and it is reasonable to compare them against actual costs. Unit rates are used in place of actual costs for high volume, repetitive work to aide in tracking and invoicing. Unit rates ensure productivity matches expectations – expectations formed from performing test studies like this one. Unit rates are not used to undercut actual costs. Based on the referenced study, the Companies expect a unit rate for a proactive conversion to be close to the actual average costs per fixture incurred.

Mr. Bunch is also critical of the Companies' use of two-person crews to perform the proactive conversion study. As explained in KU's response to LFUCG Data Request 1-7(a), proactive conversions require a two-man crew to carry additional conversion materials and aide in traffic control. A bucket truck can carry only about 3 to 5 LED fixtures. It is impractical and time consuming to have the bucket truck return to staging area or warehouse every few installations to pick up more materials for proactive conversions. During a proactive conversion the bucket truck is obstructing traffic for a much longer time frame, so the second crew member and pickup truck aide in traffic control. A one-person crew is required for maintenance conversions, which is the practice that is employed today. In this scenario, traffic control is required in rare circumstances where the bucket truck may be obstructed from view of oncoming traffic by a curve in the road or other visual obstruction.

Q. Did the Companies' labor cost analysis for conversions consider only direct labor and not planning or administrative costs, as Mr. Bunch suggests?

A. Yes, but that is true for the both the conversion labor cost and maintenance replacement cost, which results in an "apples to apples" comparison. Mr. Bunch without support asserts that it is "intuitively plausible" that indirect costs to administer planned conversions would be lower than maintenance replacements. This statement has no factual support and would be very difficult to test unless conversion replacements were performed at full scale. Even if group conversions were undertaken, this does not eliminate the need to continue to perform maintenance replacements on street lights that have not been converted, on LEDs that have failed, or on damage to equipment other than the fixture itself. It is equally plausible that maintenance replacements *plus* proactive conversion would be more expensive to administer, not less.

Q. Are the Companies continuing to explore methods for proactively converting non-LED fixtures to LEDs?

A. Yes, while our current practices are efficient, safe and practical, the Companies are planning another labor cost study for proactive LED conversions to be performed this year. Through execution of repeated studies using different work practices, the Companies can better identify the most efficient labor practices for widespread LED conversions and put those practices into place when LED conversions are requested by customers.

Q. Please describe the Companies' net present value analysis for proactive conversions versus maintenance replacement.

A. In addition to the labor cost analysis described above, the Companies also performed a preliminary net present value (NPV) analysis comparing a six-year proactive replacement approach with a 25-year maintenance conversion approach.[15] The analysis utilized a discounted cash flow methodology and considered the capital cost of the investment and impacts on fuel savings and capital maintenance savings. The analysis did not consider the cost to replace any LEDs over a 25-year lifespan. The Companies

[15] Attachment to KU Response to LFUCG 1-5, Page 75 of 89.

noted in the analysis that it "provides a favorable view of LEDs and that putting this into practice would reveal an even greater NPV cost of an LED conversion."[16]

Q. What were the results of the analysis?

A. It concluded that a 6-year LED conversion approach would have a NPV cost of $1.004 million and a 25-year LED maintenance conversion approach would have a NPV cost of $2.65 million, the difference in the NPV analysis being approximately $1.6 million greater in favor of LED 6-year conversion.

Q. Is Mr. Bunch critical of the NPV analysis?

A. No, he is critical only that what the Companies have proposed in these cases is not supported strictly by the NPV analysis.

Q. Why have the Companies proposed to stay with a 25-year maintenance replacement plan if the NPV analysis shows it is slightly less favorable than a six-year conversion plan?

A. The $1.6 million difference in NPV between the two options is not significant in light of the total impacts of the projects measured over 50 years. Furthermore, as the Companies explained in the analysis itself and in responding to discovery, the preliminary NPV analysis does not consider a host of factors that would make actual implementation of a 6-year conversion plan more expensive and less favorable from a NPV standpoint. Those factors include assumptions of perfect recovery by the Companies, consistent cost of capital, and assumption of no failures with any LEDs for a 25-year lifespan. Nor does the analysis consider the stranded asset costs from

[16] Attachment to KU Response to LFUCG 1-5, Page 75 of 89.

removing over 250,000 working non-LED fixtures from service before the end of their useful lives.[17]

Aside from NPV issues, the Companies also had to consider that the conversion plan option required a capital outlay of nearly $120 million over six years, which would come at the expense of other capital projects needed to continue providing safe and reliable service to the Companies' customers. Given how close the NPV analysis was, that it does not reflect the full cost of the 6-year conversion plan, and that the plan would require a significantly greater upfront capital investment at the expense of other needed capital projects, the Companies decided it was not justified at this time.

Q. Has Mr. Bunch demonstrated that the Companies are paying too much for LED fixtures?

A. No. He has asserted "based on my knowledge of LED luminaire costs paid by peer utilities, gained from access to confidential case discovery data in recent Consumers Energy and DTE Electric (both Michigan) rate cases, the Companies are currently paying somewhat higher prices for LED luminaires than peer utilities."[18] His assertion based on confidential information that is not provided to the Companies or the Commission in these cases can be afforded no weight. There is no way for the Companies or the Commission to test Mr. Bunch's personal knowledge or his opinion without access to this information. Further, there can be no comparison performed based on fixture quality, reliability, fixture type, wattage, lumen output, warranty, or surge protection, which are all considered by the Companies in procurement decisions.

[17] KU Response to LFUCG 2-7(c).
[18] Bunch Testimony, at 27.

Notwithstanding that, the Companies are confident that they pay competitive prices for LED fixtures. The Companies purchase fixtures made by two of the top manufacturers in the lighting industry, GE and Cooper. The Companies procure these fixtures from their electrical supplier, Brownstown Electric Supply Company. Brownstown uses the part numbers supplied by the Companies and will either bid out or periodically review pricing to ensure market pricing. Additionally, these purchasing partnerships are built on years of trust, long-term product performance, lengthy warranties, compatibility, aesthetics, and proven reliability. The Companies work to ensure not only that they acquire quality products for customers but that they also do so at reasonable market prices.

Q. What are your recommendations with respect to LED street light conversions?

A. All of Mr. Bunch's recommendations with respect to LED conversions should be rejected by the Commission. The Companies have demonstrated that they have acted reasonably and prudently in assessing the costs and benefits of different LED conversion plans, and in current practices for procurement and deployment of LED fixtures to replace non-LED fixtures.

Street Lighting Operations

Q. Mr. Bunch asserts that street lighting customers are "dissatisfied." Do you have any comment on that statement?

A. The Companies take their obligations under the lighting tariffs seriously, and they apply the operational excellence demonstrated in other areas of the Companies to the service of streetlights and street lighting customers. The Companies also take their relationships with their customers seriously, and they make every reasonable effort to communicate with those customers. If particular issues are raised, the Companies respond promptly and professionally to those issues. The Companies' customer service ethic is demonstrated by consistently high customer satisfaction scores across all operational areas.[19]

Q. What are Mr. Bunch's criticisms of the Companies' current street lighting operations and practices?

A. Mr. Bunch testifies that the Companies' street lighting outage and restoration data compares favorably to one other utility – namely – DTE Energy in Michigan. But he is skeptical of the credibility of the data reported by the Companies. He also testifies that the Companies' tariffs should include more standards for the speed of restoration and bill credits for street light outages. Finally, Mr. Bunch proposes methods for the Companies to minimize street light outages. His criticisms of the Companies' street lighting operations are not well founded.

Q. Mr. Bunch makes a foundational assumption to attack the accuracy of the Companies' reported street light outage data. Please comment.

A. Witness Bunch takes issue with the accuracy of the Companies' reported street light outage data, surmising that the Companies are underreporting outages based on the predictable burnout rates of HPS lamps used in HID fixtures.[20] The number that Mr. Bunch is using for light outages is actually the number of repair orders for street light maintenance issues, not the number of actual repairs.[21] Mr. Bunch assumes that there is a 1:1 relationship between repair orders and repairs, and that assumption is

[19] As Ms. Saunders notes in her direct testimony in these cases, the Companies regularly receive customer experience scores from their customers of 9.0 on 10.0 point scale, and have been consistently recognized by J.D. Power as leaders in the Midwest region for overall customer satisfaction among both residential and business customers. Saunders Direct Testimony, pp. 4-6.
[20] Bunch Testimony, at 30-32.
[21] KU Response to LFUCG 1-17; LG&E Response to Metro 1-17.

inaccurate. The repair order figures are not for individual light outages and repair orders often represent light outages for one to many fixtures. While the Companies do not currently track the number of light outages on each repair order for any given time period, they do track the number of HPS lamps that they deploy on an annual basis. That average is 41,859, which is much closer to the average number of expected outages set forth in Mr. Bunch's testimony.[22]

Q. What other assumptions has Mr. Bunch made in his analysis that are inconsistent with the Companies' practices and experience?

A. Mr. Bunch further makes a series of assumptions about the number of "expected" outage repairs that the Companies should be performing every year. To do so, he applies an 8-year and 6-year burnout rate to the total number of expected HID street lights in the fleet. Then he increases this number by 50 percent "to represent the usual ratio of other outage causes to lamp burnouts."[23] He also assumes that there are no mercury vapor lamps remaining in the fleet.

At least two of these assumptions are wrong. In the Companies' experience with street lighting, that ratio of maintenance issues that are unrelated to lamp failures is significantly lower than the 1:2 ratio used by Mr. Bunch. Furthermore, the Companies still have over 19,000 mercury vapor fixtures in their fleet. While these fixtures have a similar expected life to HPS lamps, Mr. Bunch acknowledges that they can be harder to detect for outages since they dim gradually instead of burning out.

Q. What does Mr. Bunch's testimony tell you about the quality of the Companies' reported outage rate data for street lights?

[22] Bunch Testimony, at 30-34.
[23] Bunch Testimony, at 33.

A. Nothing. The testimony is based primarily on incorrect or incomplete assumptions. The Companies are confident that their data tracking for street light outages is accurate and reflects a high degree of operational success in addressing outages. The comparisons of the Companies' street lighting systems and operations to those operated by DTE Energy are not useful. Mr. Bunch acknowledges that DTE is evaluated as "peer" utility "only because they have similar fleet sizes."[24] Without a more meaningful comparison of these companies' systems, operation, footprint, management practices, and tariffs, surface level comparisons do not provide meaningful insight on reliability or the reasonableness of the Companies' practices.

Q. Please respond further to Mr. Bunch's criticisms regarding the accuracy of the Companies' restoration data.

A. Mr. Bunch asserts that the Companies' restoration times for street light outages are misleading, and that their tracking data should be more sophisticated. Some of this criticism is based on the absence of data that was not provided because it was not requested. For example, Mr. Bunch is critical that the Companies do not track and report restoration times for outages that involve more than an "easy fix" repair.[25] But the Companies do track the length of time it takes to address outage reports. For LG&E during 2020, 82% of repair orders were completed within 2 days of receiving the light outage report. 83% of those repairs that took longer than 2 days to repair were restored on day 3, and an additional 13% were restored on day 4. For KU during 2020, 89.9% of repair orders were completed within 2 days of receiving the light outage report. 92% of those repair orders that took longer than 2 days to repair, were restored

[24] Bunch Testimony, at 32.
[25] Bunch Testimony, at 37.

within 10 days. These figures include orders that could not be completed due to issues outside of the Companies' control such as customer delays, access or permitting. The metrics demonstrate that the Companies are diligent in responding to reported street light outages, and the vast majority of outages are not just investigated but actually resolved within the first 2 days after reports are received.

Q. Please respond to Mr. Bunch's assessment that streetlight outage restoration data fails to account for outage time prior to the outage being reported or discovered by the Companies' inspections.

A. That statement is true on its face, but it is also misleading. The Companies cannot measure the duration of outages or restoration time if they do not know when the outage commenced. To address this issue, Mr. Bunch suggests investment in fully networked lighting controls or in his words "bells and whistles" that can measure the amount of energy a specific streetlight is using at regular intervals. The Companies have had informal discussions with Louisville Metro regarding networked lighting solutions for its streetlights. However, these systems are expensive to purchase and implement. Furthermore, networked lighting controls offer limited reliability enhancements today, as they are only compatible with the Companies' LED fixtures. The feedback that the Companies most often receive from Louisville Metro and LFUCG is that they want lower cost lighting offerings, not "bells and whistles." The Companies are willing to continue discussions with Louisville Metro, LFUCG, or any other lighting customers about networked lighting controls, with the understanding that such controls add significant cost that would have to be shared among street lighting customers as part of the tariffed rates.

Q. How do you respond to Mr. Bunch's suggestion that bill credits should be given to street lighting customers as a result of sample audits?

A. The Companies' existing and proposed lighting tariffs, outage reporting mechanisms, and their regular inspection patrols provide adequate controls against prolonged or widespread streetlight outages. The Companies' operational performance in efficiently addressing lighting outage restoration as reported in objective metrics cited herein speaks for itself. Mr. Bunch suggests that by not offering bill credits to street lighting customers, the Companies are "out of step with common practice among peer utilities and need to be revised."[26] By his own admission in discovery, Mr. Bunch cannot substantiate this assertion with reference to other utilities, and his suggestion for sample audits are impractical and would impose additional cost on street lighting customers.

Q. What support does Mr. Bunch offer for his suggestion that the Companies should give bill credits for unreported street light outages?

A. None whatsoever. The Companies are not aware that any of their peer utilities follow such a practice. Nor has Mr. Bunch identified or provided utility surveys or other industry publications noting that such practices are widespread. When asked about this assertion by the Commission in discovery, LFUCG and Louisville Metro cited only to an unmetered lighting tariff for Consumers Energy in Michigan, which provides for bill credits to the customer only in the event an outage is reported but not addressed within a full billing cycle – 30 days.[27] As I indicated above, the Companies' restoration data demonstrates that virtually all reported street light outages within the Companies' control are resolved within 10 days, eliminating the need for such a tariff provision.

[26] Bunch Testimony, at p.39.
[27] See LFUCG Response to PSC 1-6.

Notably, Mr. Bunch did not identify any tariff from any utility nationwide that contemplates bill credits where there is not a reported street light outage, nor did he identify any utility tariff in the country that requires bill credits to be issued as a result of sampling audits.

Q. Does Mr. Bunch suggest the Companies should emulate the Consumers Energy tariff for bill credits?

A. No, to the contrary, he suggests that he "does not offer the Consumers tariff language is [sic] an example for KU/LG&E to emulate."[28] But then in response to the Commission's Data Request No. 8, which asks for sample tariff language to support Mr. Bunch's recommendation to the Commission that it should "establish meaningful enforceable tariff provisions that create accountability for KU/LG&E to deliver reliable street lighting service…," Mr. Bunch paradoxically refers to the very same Consumers Energy tariff which he indicates is not a good example for the Companies to follow.

Q. Are there practical problems imposed by Mr. Bunch's recommended sample audits?

A. Yes, and these are highlighted in LFUCG's and Louisville Metro's responses to the Commission's data requests. There, Mr. Bunch concedes that variations in street lighting reliability could lead to inconsistency in sampling audit results.[29] Furthermore, Mr. Bunch's proposal assumes without empirical support that rate of street light outages will remain constant and representative of system-wide outages on any given day when audits are conducted.[30] For the purpose of calculating proposing bill credits,

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[28] LFUCG Response to PSC 1-6.
[29] LFUCG Response to PSC 1-7(a).
[30] LFUCG Response to PSC 1-7(b).

Mr. Bunch's proposal ignores the actual amount of time a given street light has been out, and treats a street light that has been out for 12 hours the same as a street light that has been out for 12 days, or 12 months. In short, Mr. Bunch has neither provided a workable framework for issuing credits for street light outages nor identified any utility in the country that has one.

Q. Would street lighting audits and bill credits impose additional costs on street lighting customers?

A. Yes, outage audits and administration and issuance of credits comes at a cost – cost that must be borne by the customers served by those activities. Mr. Bunch appears to acknowledge that bill credit systems that rely on labor-intensive practices and hard-to-obtain data do not have a good benefit-cost outcome. But he has not acknowledged that audits and bill credits also have a cost, and that cost is not currently reflected in the Companies' lighting tariffs. Mr. Seelye's rebuttal testimony further addresses this point as it relates to cost allocation.

Q. Are the Companies' street lighting offerings and practices reasonable and prudent?

A. Yes, they are. The Companies' plans for converting non-LED street lighting fixtures to LEDs is both reasonable and the most cost-effective for its customers. Employing proactive LED conversions as described by Mr. Bunch would come at a high initial cost and yield negligible improvements to reliability, and yet the Companies continue to evaluate labor cost savings that may be achieved in performing bulk LED conversions. Existing maintenance and restoration practices provide a high level of reliability and a quick turnaround once an outage is reported. The Companies are investigating better light outage reporting technology and will work with its customers to continue to improve reporting opportunities, including evaluation of mobile reporting applications. The Companies are also willing to evaluate whether maintenance tracking by reporting source, asset type, and diagnosed problem is cost-effective and provides value to street lighting customers.

Q. Do you have a recommendation for the Commission?

A. Yes, the Companies' lighting tariffs should be approved by the Commission as proposed by the Companies in these proceedings. Mr. Bunch's recommendations for increased reporting obligations and tariff changes should be rejected. These recommendations are not based on industry practice, do not provide a workable model, and will increase operating costs with no demonstrated or sustainable benefit for lighting customers.

V. ELECTRIC DISTRIBUTION MISCELLANEOUS EXPENSE

Q. Are the intervenors critical of any operations and maintenance expenses for Distribution Operations?

A. Just for one category. AG-KIUC Witness Kollen has recommended that the Commission disallow cost increases charged to FERC Account 588 *Miscellaneous Expense* for distribution training expense and IT maintenance and contract expenses. Mr. Kollen asserts that the Companies provided an explanation for attribution of the expense but not justification for its increase in the test year compared to the base year.[31] The disallowance recommended is $0.667 million for KU and $0.429 million for LG&E after gross-up for bad debt and Commission fees.

[31] Kollen Rebuttal Testimony, at pp. 97-98.

Q. Has KU provided a reasonable explanation for its cost increases in Account 588?

Yes, KU provided a detailed explanation for its increases in response to AG-KIUC 2-30. Approximately half of the $1.49 million increase in account 588 is attributable to IT OT security costs, for which Mr. Kollen does not seek disallowance. Another roughly $0.5 million of the KU increase is allocated to operational and Health & Safety training expenses which will increase from lower than normal levels in 2020. As Mr. Meiman explains in his rebuttal testimony, training programs were slowed significantly by the COVID-19 pandemic, making cost increases in the forecast test year look higher than might otherwise be expected. Further, as the Companies explained in discovery, training costs in the test year are based on a five-year historical average plus an approximate 2 to 3 percent escalation, which accounts for increased cost associated for biennial CPR and forklift safety and operations training, as well as new training programs. Approximately $0.187 million is allocated for new IT maintenance projects and expected escalations on existing contracts. Increased hardware and software expenses are budgeted to support new projects, including a mobile work management system, automated personnel callouts during storm and non-storm off hour events, and added mobile technology support for vegetation management. Despite attaching this response to his testimony, Mr. Kollen does not explain why it is inadequate or why the increases are not operationally justified.

Q. Has LG&E provided a reasonable explanation for its cost increases in Account 588?

A. Yes, LG&E provided a thorough explanation for its $1.123 million cost increase for FERC Account 588 in response to AG-KIUC 2-26. Most of the increase ($0.75

million) is attributable to IT OT security costs, which Mr. Kollen does not contest. Another $0.267 million increase is for Louisville operations training increases, for reasons similar to those discussed above and in Mr. Meiman's rebuttal testimony – namely – occurrence of biennial training programs and training for new hires due to turnover. $0.210 million of the increase is for higher facilities maintenance and upkeep costs, in part attributable to additional square footage at the Auburndale facility, the new South Service Center Engineering facility and contract increases for light duty maintenance, janitorial services, and office services. Approximately $0.160 million is allocated for new IT maintenance projects and expected escalations on existing contracts, as explained above for KU. Contrary to Mr. Kollen's assertions, LG&E indicated in discovery that these cost increases are partially offset by minor variances in other areas.

Q. Do you have a recommendation for the Commission?

A. Yes, the challenged operations expenses for Account 588 for both KU and LG&E should be fully allowed because these costs are needed to maintain a highly skilled and trained distribution workforce, maintain technology systems that can be effectively deployed across distribution operations, and to adequately maintain LG&E's operational facilities.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **John K. Wolfe**, being duly sworn, deposes and says that he is Vice President, Electric Distribution for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

John K. Wolfe

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 12th day of April 2021.

Notary Public

Notary Public ID No. **603967**

My Commission Expires:

July 11, 2022

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00349**

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00350**

REBUTTAL TESTIMONY OF
EILEEN L. SAUNDERS
VICE PRESIDENT - CUSTOMER SERVICES
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: April 12, 2021

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I. BACKGROUND

Q. Please state your name, position and business address.

A. My name is Eileen L. Saunders. I am Vice President – Customer Services for Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, the "Companies"), and an employee of LG&E and KU Services Company, which provides services to the Companies. My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address testimony from Attorney General ("AG") Witness Alvarez and Walmart Witness Teague regarding certain aspects of the Advanced Metering Infrastructure ("AMI") as they relate to the Companies' customer services operations. Specifically, I will discuss the Companies' plans for using AMI along with Green Button functionality and for measuring energy use impacts. I will also address Walmart's requests regarding the availability of interval usage data. I will briefly respond to public comment received regarding customer disconnects by clarifying that the Companies have strictly complied with the Commission's post-moratorium orders regarding payment plans, and have not yet disconnected any residential customers for non-payment since the moratorium was lifted. Finally, I will address testimony from Witness James Owen, testifying on behalf of joint intervenors Mountain Association, Kentuckians for the Commonwealth, the Kentucky Solar Energy Society and Metropolitan Housing Coalition ("Joint Intervenors"), regarding the Companies' current Demand Side Management and Energy Efficiency ("DSM-EE") portfolio of programs and current barriers to implementation of a Pay as You Save ("PAYS") tariff on-bill financing program.

II. ADVANCED METERING INFRASTRUCTURE

Q. What does AG Witness Alvarez say about AMI as it relates to your areas of AMI responsibility?

A. He makes two points related to my areas of AMI responsibility. First, he says that AMI data should be used to improve the Companies' ability to measure the impact of Demand Side Management ("DSM") programs.[1] Second, he says the Companies should comport with the Green Button Connect My Data Standard.[2]

Q. Do you agree with Mr. Alvarez?

A. Yes, and the Companies have already said so in discovery. For using AMI to improve the measurement of the impact of DSM programs, the Companies indicated that they contract for the evaluation, measurement, and valuation of DSM programs and they plan to provide AMI data to those contractors to assist them in measuring the impact of DSM programs.[3] For example, the Companies contracted with TetraTech to provide estimated energy savings derived from customers who are already using AMI to monitor their energy use (see the study provided as Appendix E to Exhibit LEB-3). That same approach can be used to leverage AMI data in measuring DSM impact.

The Companies have also said they plan to implement Green Button Connect My Data and will comply with Green Button's Connect My Data Standard.[4] That standard allows for easy access to and streamlined sharing of energy use between customers and third parties to facilitate conservation and savings. The Companies plan

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[1] Alvarez Testimony, p. 25.
[2] Alvarez Testimony, p. 25.
[3] Companies' response to AG-KIUC 2-78.
[4] Companies' response to AG-KIUC 1-220 and Walmart 2-1.

to comply with that standard upon full AMI deployment and sooner than that if possible.

Q. What position does Walmart Witness Teague take on the Companies' AMI proposal?

A. He says that Walmart does not oppose AMI and that the Companies should take steps to make interval usage data available to Walmart.

Q. Is interval usage data available to Walmart today?

A. Yes, but not in the manner Walmart requests. The Companies' offer interval consumption data for about two-thirds of Walmart's meters through MV-90 Web which is an online tool by which customers can access usage data. The data from MV-90 Web is on an individual meter basis, is not consolidated, requires manual download, and does not have Green Button Connect My Data capability. The Companies understand that Walmart seeks better functionality of its usage data.

Q. What are the specifics of Mr. Teague's request?

A. Mr. Teague requests: (1) the ability for Walmart to obtain all of its interval usage data for all its locations available through a single download; (2) the option to allow a third-party vendor to access Walmart's usage data directly from the Companies without Walmart involvement; and (3) Green Button functionality should be made available to the Companies' commercial and industrial customers.

Q. Are the Companies willing to accommodate Walmart's requests?

A. We are very willing to work with Walmart towards fulfilling those requests. If approved AMI will bring new capabilities and these capabilities have not been fully explored to provide a specific solution to satisfy Walmart's request. The Companies will commit to working with Walmart to provide consumption data to them in the manner they have requested in this rate case. We look forward to working with Walmart towards this goal.

III. RESIDENTIAL CUSTOMER DISCONNECTS

Q. Have the Companies disconnected service for any residential customers for non-payment since the Commission's moratorium was imposed in March 2020?

A. No, they have not. The Companies have strictly abided by the Commission's moratorium and post-moratorium orders, including suspension of disconnects for non-payment for residential customers through the moratorium and creation of payment plans for customers in arrears after the moratorium was lifted. While the Companies now have residential customers eligible for disconnection under the Commission's Order lifting the moratorium because those customers have defaulted on post-moratorium payment plans, the Companies have elected not to make those disconnections to date. We continue to evaluate appropriate strategies for disconnecting residential customers who have defaulted on payment plans.

Q. Explain the difference between a disconnection notice and a disconnection.

A. The Companies have received public comment alleging that 160,000 customers have been disconnected since the moratorium was lifted. This is not true. In response to the Commission's discovery in these proceedings, LG&E and KU each indicated that they had sent roughly 163,000 past-due notices, or "brown bills" between the end of the moratorium and January 10, 2021.[5] These figures include both residential and non-residential customers. The Companies sent these notices to residential customers in

[5] KU Response to PSC 2-41; LG&E Response to PSC 2-46.

part because often customers must present recent past due notices from utilities in order to qualify for assistance programs. A brown bill is not the same thing as a disconnection. As the Companies indicated in discovery, customers with arrearages incurred during the moratorium must be placed in a payment plan before becoming eligible for disconnection.

Q. Please describe the Companies' efforts to communicate with past-due customers about the availability of payment plans and other resources after the moratorium was lifted.

A. Shortly after the Commission's moratorium on residential disconnects for non-payment was lifted, the Companies sent letters to customers clearly explaining payment options and consequences of nonpayment or of defaulting on payment plans, all consistent with the Commission's instructions and guidance in its moratorium-related Orders. Samples of letters KU and LG&E sent to customers in arrears in early November 2020 are attached collectively to my rebuttal testimony as Rebuttal Exhibit ELS-1. These letters informed customers of payment plan options, offered customer service support, and informed customers of the availability of assistance programs for eligible customers. Similar information was posted to the KU and LG&E websites, conspicuously linked from the homepage and on social media accounts. Customers who did not select a repayment plan were subsequently notified in writing of being assigned to the default 12-month repayment plan.

IV. DSM PROGRAMS AND PAYS

Q. Please briefly summarize the Companies' current DSM and Energy Efficiency program offerings.

A. The Companies currently offer five DSM-EE programs to various customer classes, all of which have been reviewed, vetted, and approved by the Commission in separate DSM proceedings.[6] The Companies offer a low-income weatherization ("WeCare") program, an education and weatherization program designed to reduce energy consumption and provide cost savings to low-income customers. Demand conservation programs for residential and small and large non-residential customers are also available to reduce demand for electricity during peak times. The Companies also offer a rebates program which provides incentives for non-residential customers, including industrial customers, to install energy efficient equipment both for retrofit applications and new construction. Finally, the Companies offer enhanced data reporting and functionality to existing advanced metering customers through the MyMeter portal, which allows customers to make energy consumption decisions based on more robust and timely consumption information.

Q. Is Mr. Owen correct that the Companies did not mention existing DSM programs in testimony?

A. No. Mr. Owen infers that the "absence of any testimony in the Companies' rate case suggest [sic] these [DSM] programs have next to no impact on their operations . . . ."[7] Neither the factual statement nor the conclusion stated here is accurate. In fact, I discussed the WeCare program and possible enhancements to that program as a means to assist low-income customers in detail my direct testimony.[8] As demonstrated by that

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[6] *Electronic Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Review, Modification, and Continuation of Certain Exiting Demand-Side Management and Energy Efficiency Programs*, Case No. 2017-00441, (Ky. P.S.C. Order Oct. 5, 2018).
[7] Direct Testimony of James Owen on behalf of Joint Intervenors, at p.44.
[8] Saunders Direct Testimony, at pp. 12-14.

testimony, the Companies are affirmatively seeking to promote the availability of existing energy efficiency programs to more low-income customers and to make more impact with improvements, within the parameters set forth by the Commission.

Q. Does Mr. Owen have any specific criticisms of the Companies' DSM programs?

A. No. He asserts only that there are not enough of them and that the Companies are not doing enough to lower operational cost. He provides no support for his assertion.

Q. Does the Commission regularly review and approve the Companies' DSM offerings?

A. Yes, as Mr. Owen concedes in his testimony, the Companies' DSM-EE portfolio is subject to review in separate regulatory proceedings. Nevertheless, he proceeds to criticize the Companies for not proposing DSM programs in these rate cases.

Since 1995 the Companies have offered various DSM programs subject to the Commission's oversight and approval. In 2016, the Commission began to more closely evaluate the cost-effectiveness of utility DSM programs. Reflecting this close evaluation,[9] by Order entered October 5, 2018,, the Commission approved the Companies' current DSM-EE program plans, with certain modifications, finding that five of the six proposed programs "are reasonable and should be approved through 2025 unless subsequently modified by the Commission upon finding good cause."[10]

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[9] *Electronic 2018 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company*, Case No. 2018-00348, Staff Report at 20 (Ky. P.S.C. Jul. 20, 2020), citing Case No. 2017-00427 *Electronic Annual Cost Recovery Filing for Demand Side Management by Duke Energy Kentucky, Inc.* and Case No. 2017-00097 *Electronic Investigation of the Reasonableness of the Demand Side Management Programs and Rates of Kentucky Power Company* (Jan. 18, 2018).

[10] *Electronic Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Review, Modification, and Continuation of Certain Exiting Demand-Side Management and Energy Efficiency Programs,* Case No. 2017-00441, Order at 34 (Ky. P.S.C. Oct. 5, 2018).

More recently, in a Staff Report approved by the Commission as final action in the Companies' Integrated Resource Plan ("IRP") filing, Commission Staff further noted that it was satisfied that the Companies had taken steps to address Staff's recommendations for DSM-EE program analysis from the previous IRP filing. Specifically, Staff was satisfied that the Companies, pursuant to Commission direction, made efforts to expand nonresidential DSM program offerings to industrial customers and "pursued [procedures to evaluate, measure and verify] to a greater level in the latest DSM application by applying the California tests to the their DSM-EE portfolio as a whole, and determining whether the DSM-EE portfolio was cost effective."[11]

Q. Has Mr. Owen presented the Commission with good cause to modify the Companies' DSM-EE portfolio of programs?

A. No. Even if the Commission were to consider the Companies' DSM-EE portfolio in these rate cases, Mr. Owen's testimony has not given it sufficient evidence or support to make any program modifications or additions. Mr. Owen presents only vague and generalized criticism that the Companies' current DSM-EE programs "are minimal efforts to reduce load and help reduce demand from customers" and "the Companies need to do a lot more in the field of energy efficiency and DSM."[12] He has not presented supporting evidence that any proposed program meets the statutory requirements of reasonableness or cost-effectiveness for DSM programs under KRS Chapter 278. Nor has he presented any benefit-cost analysis or criticism of the Companies' justification for existing programs.

[11] Case No. 2018-00348, Staff Report at 21.
[12] Direct Testimony of James Owen on behalf of Joint Intervenors, at 44.

Q. How does Mr. Owen propose that the Companies modify their DSM-EE portfolio?

A. He suggests that the Commission should order the Companies to develop a tariff on-bill financing program such as the "Pay-as-you-save" or "PAYS" program.

Q. What is PAYS or tariff on-bill financing?

A. The Companies do not have specific experience with PAYS but are generally aware of on-bill financing programs for energy efficiency upgrades. Under such programs, a utility pays for the cost of energy efficient upgrades for customers after an energy audit is performed. The cost of the upgrades is then billed to the customer on the utility bill, with the goal that the monthly charge for the upgrades is met or exceeded by the energy savings generated from the upgrades. Both the costs and the benefits of the program typically "stay with the meter," meaning they transfer to subsequent purchasers of the improved property.

Q. Have the Companies assessed the cost effectiveness of an on-bill financing program like PAYS?

A. In conjunction with a review requested by Mountain Association, which is involved in operation and administration of tariff on-bill financing (How$martKy) for electric cooperatives in Eastern Kentucky, the Companies performed a preliminary benefit-cost analysis of on bill-financing in summer 2020. The results of the preliminary analysis were presented to Mountain Association in a virtual meeting on August 24, 2020, and are set forth in the short report produced in response to Question 1-34 of the Joint Intervenors' First Set of Data Requests for Information dated January 8, 2021. The preliminary analysis assumed a single efficiency investment of $7,000, financed over 7 years at 3 percent interest, an audit fee of $575, and no other administrative costs.

While the program scored well on the utility and participant aspects of the California tests, it performed poorly on the Total Resource Cost ("TRC") test with a score of 0.26, indicating that the total costs of the program as formulated outweighed the total benefits by roughly a 4 to 1 ratio.

Q. Has the Commission looked favorably on DSM-EE programs that score in this range on the TRC test?

A. Not in recent times, no. In the Companies' 2017 DSM-EE filing, they proposed a two-year extension of the School Energy Management Program ("SEMP") in order to fulfill their commitment in the 2016 rate cases that they would seek continuation funding for SEMP at current levels.[13] The Commission rejected this portion of the Companies' proposed DSM-EE portfolio, stating that "based on the SEMP having a TRC score of 0.30, the Commission finds that its costs as a utility resource exceed its benefits and it should be terminated."[14] The TRC score of a hypothetical tariff on-bill financing program like PAYS was lower than that of the SEMP program discontinued by Commission Order in Case No. 2017-00441.

Q. What are other barriers to the Companies' implementation of a tariff on-bill financing program like PAYS?

A. Tariff on-bill financing is significantly different than DSM-EE programs like WeCare in the sense that the Companies do not seek to directly recoup the cost of energy efficient upgrades from the participant through the WeCare program, and therefore avoid the administrative and legal complexities and business risks associated with that

[13] Case No. 2017-00441, Order at 11 (Ky. P.S.C. Oct. 5, 2018).
[14] Case No. 2017-00441, Order at 31.

task. Recoupment of utility costs for improvements financed through a loan program like PAYS has numerous risks, challenges, and potential costs, including: (1) the risk that incurred costs are not offset by energy savings and thus participating customers pay more; (2) challenges in fully recouping costs within the planning lifecycle of a DSM program, which is typically seven years or less; (3) risk that the participating property is vacant or abandoned and therefore does not generate any cost recovery; (4) risk that subsequent purchasers refuse to assume improvement obligations; (5) risk that customer behavior, particularly for subsequent inhabitants of a residence where an energy efficiency investment was made, does not reinforce the effectiveness of efficiency upgrades and therefore lessens energy savings; (6) risk of damage to or destruction to energy efficiency improvements which impair their effectiveness at lowering usage; and (7) risk that the cost to administer the program, separate from the energy audit costs, far exceeds program benefits, among others.

Q. Is Mr. Owen correct that other utilities have found ways to address these challenges in implementing tariff on-bill financing programs?

A. A handful of electric cooperatives in Kentucky have a Kentucky Energy Retrofit ("KER") rider, also known as the How$martKy program, in their tariffs which implement a form of tariff on-bill financing. Mr. Owen also alludes to the implementation of PAYS within the past year by larger utilities in his home state of Missouri. The Missouri programs appear to be in their infancy and were approved under the Missouri Energy Efficiency Investment Act ("MEEIA"), which has no analogous counterpart in Kentucky law.

Q. How successful have the cooperatives been in implementing the How$martKy program?

A. That is not clear. According to Mr. Owen's testimony, the six electric cooperatives in Kentucky that have an approved KER Rider in their tariffs have facilitated around 320 total energy efficiency retrofits since full program tariffs were approved beginning in 2013. Recent status reports filed with the Commission by Jackson Energy Cooperative state that it completed 142 retrofits since program inception but none since calendar year 2017.[15] A status report filed by Fleming-Mason Energy Cooperative in 2019 indicated that it had performed a total of 70 retrofits under the KER Rider since program inception but only 3 in calendar year 2018.[16] Likewise, a status report filed by Big Sandy Electric Cooperative in May 2016 indicated that it had performed a total of 27 retrofits since program inception but only 5 in 2014.[17] Thus, based on these reports, it appears very few projects have been completed under the KER Rider in the past three to four years. When researching PAYS-type programs last year, the Companies reached out to one of the cooperatives with an approved KER Rider and learned that the program was more difficult to set up than expected and was not widely adopted.[18] Furthermore, it does not appear that any of the six electric cooperatives with current KER Riders actively market the rider or the How$martKy program to customers in the "energy efficiency" section of their respective websites.

Q. How would the challenges to the Companies in implementing tariff on-bill financing differ from the co-ops?

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[15] https://psc.ky.gov/Case/ViewCaseFilings/2013-00398/Post
[16] Fleming-Mason Status Report, attached to my rebuttal testimony as Rebuttal Exhibit ELS-2.
[17] Big Sandy Status Report, attached to my rebuttal testimony as Rebuttal Exhibit ELS-3.
[18] KU Response to Joint Intervenors' Data Request 2-35(a).

A. There are several circumstances unique to the How$martKy program and its implementation by Eastern Kentucky cooperatives that simply do not translate to the Companies' consideration of an on-bill financing program like PAYS. First, Mountain Association's fully integrated role in the How$martKy program as administrator, capital provider, agent, and insurer cannot be feasibly replicated for a similar program by the Companies. Second, in order to be economically viable for customers, the repayment term for improvements would have to extend far beyond the Companies' DSM program planning lifecycle and would increase program risk. Third, the risk mitigation approach to insure against default by How$martKy program participants would be very difficult to implement at a much larger scale for a similar program by the Companies. For these reasons, implementation challenges of such a program for the Companies are much different than those faced by the cooperatives.

Q. How does Mountain Association's involvement with How$martKy make the KER Rider offering unique to the cooperatives?

A. As the champion of the KER Rider tariff and How$martKy on-bill financing program, Mountain Association's role with the cooperatives who offer the rider is fully integrated. Specifically, Mountain Association does the following for one or more of the cooperatives that offer the KER Rider:

(1) provides the capital for the retrofit projects through grants from federal agencies and private foundations;

(2) provides the common data infrastructure and administrative support to assess whether energy efficiency improvements are cost effective, and monitors the improvements for actual savings;

(3) monitors the financial aspects of each improvement project;

(4) acts or offers to act as "agent" for the utility in providing energy assessment protocols, providing educational materials to customers on energy savings and review new offerings, approving retrofit contractors, conducting the energy efficiency assessments, preparing the customer purchase agreement and financing statements for the improvements, resolving customer complaints regarding retrofits, and other activities.

(5) provides the initial grant for the Risk Mitigation Fund ("RMF") and assists with administering the fund.[19]

Mountain Association performs and pays for so much of the costs of the How$martKy program that the participating utilities have estimated that their costs to administer the program will be "negligible."[20]

Q. Would the same be true for the Companies?

A. Not likely. The Companies would be required to scale implementation of an on-bill financing program to hundreds of thousands of customers throughout their service territory, at dramatically higher total capital costs for improvements and costs of administration. None of the administrative costs were considered in the Companies' preliminary benefit-cost analysis, which had an unfavorable TRC test outcome even without such costs. Nowhere in Mr. Owen's testimony does he substantiate that a

[19] *See Joint Application of Big Sandy Rural Electric Cooperative Corp., Fleming-Mason Energy Cooperative, Inc., and Grayson Rural Electric Cooperative Corp. for an Order Approving KY Energy Retrofit Rider Permanent Tariff*, Case No. 2012-00484, Order at 4-6 (Ky. P.S.C. Aug. 26, 2013); *Application of Farmers Rural Electric Cooperative Corporation for an Order Approving Kentucky Energy Retrofit Rider Permanent Tariff*, Case No. 2014-00281, Order (Ky. P.S.C. Jan. 5, 2015). A copy of Farmer RECC's application in that case, with a proposed Memorandum of Agreement between the utility and Mountain Association is attached as Rebuttal Exhibit ELS-4 to my testimony.

[20] Farmers RECC Application, Rebuttal Exhibit ELS-4, ¶ 12.

program partner could offer millions or tens of millions of dollars in capital and administrative costs to support a PAYS-type program on the scale required by the Companies. A significant level of investment would be required to make the program economically feasible without passing along program costs to ratepayers. Even if such funds were available, the Companies believe they would be better spent on programs like WeCare that are fully developed, targeted toward low-income customers, and do not impose repayment obligations on participating customers or extended program risks on the Companies.

Q. What difficulties are imposed by the length of a possible on-bill financing program?

A. The Companies' DSM program planning cycle is 7 years. Under the KER Rider, the repayment term for energy efficiency improvements is 75 percent of the estimated life of the improvements or 15 years, whichever is less.[21] For more extensive and costlier improvements, the repayment term would very likely exceed 10 years in order for the monthly customer retrofit charge to be fully offset by energy savings. Even at a 10-year repayment term, a $7,500 total retrofit (including the audit fee and program finance fees) would result in monthly payments by the customer of $62.50. Lengthy repayment terms would extend the life of the program far beyond the Companies' current 7-year life cycle for DSM program planning, to as long as 20 years or more, and would increase the risk that the repayment charge exceeds energy savings in the future. Extended repayment terms also add to total program administration costs.

[21] *See* Farmers RECC Kentucky Energy Retrofit Rider, attached as Rebuttal Exhibit ELS-5.

Q. Why would the Risk Mitigation Fund concept be more difficult for the Companies to implement than it is for the cooperatives?

A. In short, scale and funding size. As I indicated above, the RMF for the How$martKy program was initially funded by Mountain Association through a $50,000 grant. Four percent of each retrofit amount financed is then contributed to the RMF to cover uncollectible costs, as approved by an oversight committee. A risk mitigation fund for hundreds of thousands of customers would need to be funded by a much larger initial contribution and consistent program fees. Mr. Owen has not proposed any specific solutions for funding such a program that would not impose additional costs on customers.

Q. Could a PAYS or other on-bill financing concept simply be added on to an existing DSM-EE program?

A. Not easily, and not without significantly added cost and risk. None of the Companies' current offerings include an on-bill financing component, which is the fundamental concept behind PAYS and the part of the program that imposes nearly all of the risks I summarized earlier in my testimony. Addition of a PAYS component to an existing program like WeCare might nominally create efficiencies in the energy audit process, but those efficiencies would be far outweighed by the increase in administrative costs and business risks that accompany on-bill financing. Furthermore, WeCare is targeted to income-qualified customers so that they can benefit from energy efficiency improvements without bearing the associated cost. Addition of on-bill financing would be unfavorable to WeCare program participants because it could impose long-term financial obligations for costlier improvements upon those least able to afford it. The entire structure and focus of the WeCare program, which is built around low-income energy assistance, would have to be changed in order to accommodate on-bill financing. Accordingly, the Companies do not believe that adding PAYS or on-bill financing as proposed by Mr. Owen to an existing DSM-EE program is prudent or cost-effective.

Q. In light of your testimony above, do you have a recommendation to the Commission?

A. Yes. Given the currently unfavorable benefit-cost analysis for a tariff on-bill financing program and other barriers to implementation of such a program, the Commission should not require the Companies to develop a tariff for such a program.

Q. Are there other more cost-effective ways that the Companies can encourage customers to invest in energy efficiency?

A. Yes, there are other available programs that do not require the Companies to finance home energy efficiency improvements for individual customers and incur costs to recoup those funds. Specifically, the WeCare program discussed in my direct testimony and above provides similar energy efficiency benefits targeted to low-income customers, without many of the challenges imposed by on-bill financing programs. As described in my testimony and responses to data requests herein, the Companies are seeking ways to expand the WeCare program to benefit more customers with higher value improvements, and will seek grant financing again next year to support expansion. Ratepayers who do not qualify for WeCare assistance may have options to seek private financing, including home equity lines of credit, from lenders for home energy efficiency projects. Owners of multi-family commercial properties may explore Property Assessed Clean Energy ("PACE") financing to pay for energy efficiency improvements for their tenants. Under PACE financing, capital is obtained from approved lenders at a fixed interest rate with no down payments, and repaid through a special assessment on the participant's property tax bill. The Companies continue to evaluate programs and opportunities to help customers meet their energy efficiency goals, and will notify customers of beneficial opportunities as they arise.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Eileen L. Saunders**, being duly sworn, deposes and says she is the Vice President, Customer Services for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

Eileen L. Saunders
Eileen L. Saunders

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 8 day of April 2021.

Jennifer Starr Martinez
Notary Public

Notary Public ID No. 588576

My Commission Expires:

October 12, 2021

<Address>

Kentucky Utilities Company
Customer Service
One Quality Street
Lexington, Ky. 40507-1462
www.lge-ku.com

T 800-891-0600
customer.service@lge-ku.com

<Date>

Dear <Customer Name>:

This has been a challenging year for many in our community and KU is here to help. We remain committed to offering convenient payment options, self-service tools, information about assistance programs and, now, new extended payment arrangements to assist you during this unprecedented time. In addition, late payment charges will remain suspended for residential customers through December 31, 2020.

If you are behind on payments, new COVID-19 **payment arrangements are available to avoid disconnection.** Signing up is simple:

- Select a payment arrangement that best fits your situation by extending your due date a few more days or spread your past-due amount evenly over 6- or 12-month installments. Once you receive a disconnect notice, visit my.lge-ku.com (MyAccount) or use our automated phone system and press 1-2-2-1 at any time.
- If you do not select a payment arrangement, your past-due balance will be automatically rolled into a 12-month payment plan **one time** and you will be sent a separate letter outlining the terms of that plan.
- If you need to speak by phone to a Customer Service Representative, we are ready to help Monday – Friday, 7 a.m. – 7 p.m. ET.

While on a payment plan, **you must pay the current balance and the payment arrangement monthly installment amount** by the due date to avoid disconnection. KU offers a variety of touchless ways to conduct business with us. Please visit "Billing" at lge-ku.com to learn more. If your payment plan and monthly bill are not paid on time, and you receive a disconnection notice that states "**DISCONNECTS RESUMING,**" you will have until the final payment date listed on the notice to contact us before your service will be disconnected.

Assistance programs such as Team Kentucky Fund and LIHEAP Low-Income Assistance may also be available to eligible customers. For more information on assistance programs or to find your local Community Action Kentucky office, visit our website at lge-ku.com/assistance-programs. Please continue to stay safe and be well.

KU Customer Service

<Address>

Louisville Gas and Electric Company
Customer Service
820 West Broadway
Louisville, Ky. 40202-2218
www.lge-ku.com

T 502-589-1444
800-331-7370
customer.service@lge-ku.com

<Date>

Dear <CUSTOMER NAME>:

This has been a challenging year for many in our community and LG&E is here to help. We remain committed to offering convenient payment options, self-service tools, information about assistance programs and, now, new extended payment arrangements to assist you during this unprecedented time. In addition, late payment charges will remain suspended for residential customers through December 31, 2020.

If you are behind on payments, new COVID-19 **payment arrangements are available to avoid disconnection**. Signing up is simple:

- Select a payment arrangement that best fits your situation by extending your due date a few more days or spread your past-due amount evenly over 6- or 12-month installments. Once you receive a disconnect notice, visit my.lge-ku.com (MyAccount) or use our automated phone system and press 1-2-2-1 at any time.
- If you do not select a payment arrangement, your past-due balance will be automatically rolled into a 12-month payment plan **one time** and you will be sent a separate letter outlining the terms of that plan.
- If you need to speak by phone to a Customer Service Representative, we are ready to help Monday – Friday, 7 a.m. – 7 p.m. ET.

While on a payment plan, **you must pay the current balance and the payment arrangement monthly installment amount** by the due date to avoid disconnection. LG&E offers a variety of touchless ways to conduct business with us. Please visit "Billing" at lge-ku.com to learn more. If your payment plan and monthly bill are not paid on time, and you receive a disconnection notice that states "**DISCONNECTS RESUMING,**" you will have until the final payment date listed on the notice to contact us before your service will be disconnected.

Assistance programs such as Team Kentucky Fund and LIHEAP Low-Income Assistance may also be available to eligible customers. For more information on assistance programs or to find your local Community Action Kentucky office, visit our website at lge-ku.com/assistance-programs. Please continue to stay safe and be well.

LG&E Customer Service

Fleming-Mason Energy

A Touchstone Energy® Cooperative

April 12, 2019

Mr. Jeff D. Cline
Annual Report Branch Manager
Kentucky Public Service Commission
PO Box 615
Frankfort, KY 40602

Dear Mr. Cline:

Please use the enclosed pages to replace the supplemental information for Case No. 2012-00484 in Fleming-Mason Energy Cooperative, Inc.'s 2018 Annual Report. One number was reported in error, and this has the corrected amount.

If you have any questions, please contact me at 606-845-2661.

Sincerely,

Jennifer L. McRoberts

Jennifer L. McRoberts
Office Manager

Enclosures

2018 Annual Report Supplement
Data Report per Case No. 2012-00484
Fleming-Mason Energy Cooperative, Inc.

1. **Number of homes that have completed an energy assessment during the preceding calendar year and for the retrofit program to date:**

   2018: 6

   Retrofit Program to Date: 148

2. **Number of homes that have completed a retrofit during the calendar year and for the program to date:**

   2018: 3

   Retrofit Program to Date: 70

3. **Number of new participants during the preceding calendar year and for the program to date:**

   2018: 3

   Retrofit Program to Date: 70

4. **Average monthly payment during the preceding calendar year and for the program to date:**

   2018: $51.90

   Retrofit Program to Date: $41.83

5. **Average monthly estimated savings in dollars during the preceding calendar year and for the program to date:**

   2018: $68.12

   Retrofit Program to Date: $58.55

6. **To the extent available for each project during the preceding calendar year, the actual monthly savings in kWh usage compared to the estimated monthly savings:**

Location ID	Projected Electric Savings (kWh)	Actual Electric Savings (kWh) Non Normalized
260866087	506	213
200878015	768	(134)
260648117	583	319

7. **A list of each account that became inactive during the preceding calendar year, including:**
   a. **The reason the account became inactive (non-payment, residence destroyed, etc.);**
   b. **The amount of the unpaid liability; and**

2018 Annual Report Supplement
Data Report per Case No. 2012-00484
Fleming-Mason Energy Cooperative, Inc.

c. **Whether the account became active again during the preceding calendar year, and if so when it became active.**

There were no inactive accounts in 2018.

8. **If applicable, documentation of any and all issues or complaints by participating on-bill financing customers during the preceding calendar year and how each issue was resolved:**

We are not aware of any issues.

9. **A list of independent contractors qualified to participate in the program:**

MATT SMITH, KENTUCKY CLIMATE
DARRELL SAUNDERS CONTRACTING, INC.
JEFFERSON HEATING & AIR, INC.
SMITH INSULATION, INC.
MATT JONES HEATING & AIR
ADAMS REFRIGERATION
DOYLE MOBILE HOMES, INC.
J & K MECHANICAL
PEOPLE'S SELF-HELP, INC.
RICK MARSHALL HEATING & AIR
THOROUGHBRED INSULATION
TOTAL COMFORT SOLUTIONS
MAYSVILLE HEATING SERVICE

10. **A schedule of fees charged by MACED for the services provided under the KER program:**

Location ID	How$martKY Service Fee
260866087	$575.00
200878015	$575.00
260648117	$575.00

The fees above were paid by Fleming-Mason Energy. MACED is currently charging a $425 data collection and management fee to each new program participant from FME as well; it's most often added to the principal amount financed on the conservation plan.

11. **The balance remaining in the Risk Mitigation Fund as of December 31 of the preceding calendar year:**

$78,059

Big Sandy Rural Electric
Cooperative Corporation
504 11th Street
Paintsville, Kentucky 41240-1422
(606) 789-4095 • Fax (606) 789-5454
Toll Free (888) 789-RECC (7322)

RECEIVED
MAY 02 2016
PUBLIC SERVICE
COMMISSION

April 29, 2016

Mrs. Linda Faulkner
Kentucky Public Service Commission
211 Sower Blvd.
Frankfort, KY 40602

RE: Case No. 2012-00484

Mrs. Faulkner:

Please find enclosed our response to the appendix for the KY Energy Retrofit Rider ("KER Rider") for 2014 and 2015.

We apologize for the oversight of these filings.

If there are any questions, please feel free to contact us at (606) 789-4095 ext. 219

Sincerely,
Robin Slone
Robin Slone
Big Sandy RECC

Cc:enclosures

2014 Annual Report Supplement

Data Report per Case No. 2012-00484

Big Sandy Rural Electric Cooperative Corporation

1. Number of homes that have completed an energy assessment during the preceding calendar year and for the retrofit program to date:

2014:	6
Retrofit Program to Date:	60

2. Number of homes that have completed a retrofit during the preceding calendar year and for the program to date.

2014:	5
Retrofit Program to Date:	27

3. Number of new participants during the preceding calendar year and for the program to date.

2014:	5
Retrofit Program to Date:	27

4. Average monthly payment during the preceding calendar year and for the program to date.

2014:	$33.11
Retrofit Program to Date:	$35.89

5. Average monthly estimated savings in dollars during the preceding calendar year and for the program to date.

2014:	$47.78
Retrofit Program to Date:	$47.83

6. To the extent available for each project during the preceding calendar year, the actual monthly savings in kWh usage compared to the estimated monthly savings.

Location ID	Projected Electric Savings (kWh)	Actual Electric Savings (kWH) Non Normalized
826033	476	609
147094	221	279
517014	795	740
526118	258	136
294010	421	595

7. A list of each account that became inactive during the preceding calendar year, including:
   a. The reason the account became inactive (non-payment, residence destroyed, etc.);
   b. The amount of the unpaid liability; and
   c. Whether the account became active again during the preceding calendar year, and if so when it became active.

None

8. If applicable, documentation of any and all issues or complaints reported by participating on-bill financing customers during the preceding calendar year and how each issue was resolved.

None

9. A list of independent contractors qualified to participate in the program.

Yoder's Heating & Air Conditioning LLC

Smith Insulation

Ky Wide Heating & Cooling

Reed's Sprayfoam Insulation Inc.

Big Sandy Heating & Cooling

10. A schedule of all fees charged by MACED for the services provided under the KER program.

No fees were charged in 2014.

The balance remaining in the Risk Mitigation Fund as of December 31 of the preceding calendar year.

$57099

RICHARDSON GARDNER & ALEXANDER

ATTORNEYS-AT-LAW
117 EAST WASHINGTON STREET
GLASGOW, KENTUCKY 42141-2696
writer's e-mail: wlg@rgba-law.com

Case No. 2014-00281

BOBBY H. RICHARDSON
WOODFORD L. GARDNER, JR.
T. RICHARD ALEXANDER II

(270) 651-8884
(270) 651-2116
FAX (270) 651-3662

August 4, 2014

Mr. Jeff Derouen
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601

Re: Application of Farmers Rural Electric Cooperative Corporation for Approval of a Kentucky Energy Retrofit Rider Permanent Tariff

Dear Mr. Derouen:

We enclose for filing the original and 10 copies of the application pertaining to the above. Please notify the undersigned of the case number when it has been assigned.

Thank you for your assistance in this mater.

Very truly yours,

Woodford L. Gardner, Jr.
Attorney for Applicant

Enclosures

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

APPLICATION OF FARMERS RURALELECTRIC COOPERATIVE	**)**
CORPORATION FOR AN ORDER APPROVING KENTUCKY ENERGY	**)**
RETROFIT RIDER PERMANENT TARIFF	**)**

APPLICATION

Farmers Rural Electric Cooperative Corporation ("Farmers") hereby petitions the Commission by application to issue an Order approving a permanent on-bill financing program based upon the tariff sheets and other supporting documentation attached to this application. This program will be titled "Kentucky Energy Retrofit Rider" ("KER Rider"), and Farmers will partner with the Mountain Association for Community Economic Development ("MACED") to operate the program.

Farmers requests that Case Nos. 2010-00089, 2012-00484, and 2013-00398, as well as the periodic reports on those cases that have been submitted semi-annually, be incorporated into the record of this case by reference.

In support of this application, Farmers states:

1. Farmers is a nonprofit electric cooperative organized under KRS Chapter 278.010(3)(a) and is engaged in the business of distributing retail electric power to members in the Kentucky counties of Barren, Metcalfe, Hart, Green, Adair, Grayson, Larue, and Edmonson. As of June 30, 2014, Farmers serves 24,850 active services for members and has miles of 3,618.69 distribution lines in its eight county service territory. East Kentucky Power Cooperative, Inc. ("EKPC") is the wholesale power provider for FARMERS.[1]

2. Farmers' post office address is 504 South Broadway, P.O. Box 1298, Glasgow, Kentucky 42142-1298.

3. The Articles of Incorporation and all amendments thereto for Farmers are filed in Case No. 2008-00030.

[1] EKPC assisted in the KERR Pilot by facilitating discussions and coordinating the circulation of draft documents in conjunction with the proposed program. However, as no changes are required to its tariffs as a result of the proposed program, EKPC is not an applicant in this proceeding.

4. There are no applicable statutes, regulation, or Commission Orders that require Farmers to publish or file notice of this application prior to, or contemporaneously with, the filing hereof. In particular, the provisions of 807 KAR 5:011 do not require publication of filing of notice.

5. MACED was founded in 1976 as a private, non-profit corporation organized to provide comprehensive community development to support Appalachian communities by enhancing employment and living conditions in the area. MACED's major programs consist of business development, sustainable forestry, energy efficiency, and public policy research and education. MACED is a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code as a non-profit organization other than a private foundation. MACED serves Kentucky and Central Appalachia, with a focus on the 54 Appalachian counties of Kentucky as designated by the Appalachian Regional Commission.[2]

PROPOSED PROGRAM

6. The KER Rider will be a voluntary program available to qualifying residential members of Farmers. Members pay for energy-efficiency retrofits from the savings produced by the retrofits on the member's electric bill. Retrofit costs will be capped at 90 percent of the estimated savings so that members' bills will be smaller, on average, than they were before making the efficiency improvements. The retrofit program charge will appear as a separate line item on the bills of members participating in the program.

7. Farmers and/or its agent will (1) market and administer the program; (2) prequalify eligible locations; (3) perform energy audits to produce conservation plans; (4) certify and maintain a list of contractors, and arrange for a certified contractor to install retrofit measures; (5) act as the member's representative in verifying suitability of proposed retrofits, estimated savings, satisfactory installation of retrofit measures, and evaluating ongoing performance or need for repair of measures; (6) file Uniform Commercial Code ("UCC") disclosures with the country clerk for each location and provide copies to the member; and (7) disclose pre-

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[2] The counties are Adair, Bath, Bell, Boyd, Breathitt, Carter, Casey, Clark, Clay, Clinton, Cumberland, Edmonson, Elliott, Estill, Fleming, Floyd, Garrard, Green, Greenup, Harlan, Hart, Jackson, Johnson, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Lincoln, McCreary, Madison, Magoffin, Martin, Menifee, Metcalfe, Monroe, Montgomery, Morgan, Nicholas, Owsley, Perry, Pike, Powell, Pulaski, Robertson, Rockcastle, Rowan, Russell, Wayne, Whitley and Wolfe.

existing retrofit investment benefits and costs to new members. The Proposed Tariff is attached as Exhibit A.

8. The proposed KER Rider requires the development of a "Conservation Plan" for each retrofit option proposed for a member. The Conservation Plan is a detailed analysis of the expected savings and costs for each proposed option, with a full disclosure of the financing of the option. Copies of Conservation Plans developed during the Pilot Program (as described below) were submitted with each semi-annual report as required by the Commission.

9. Participating residential members will be able to select from among general groups of measures, including but not limited to: (1) insulation improvements; (2) air sealing; and (3) improvements in HVAC equipment.

10. The funding for the program administration, including data infrastructure, administration and implementation, will come from a combination of program revenues, existing funds, and proposals pending with private foundations and public funding sources. Farmers and MACED will review existing funding sources, including philanthropic grants, regularly and make adjustments to the revenue structure of the program as appropriate to ensure the long-term financial sustainability of the program. MACED has developed a schedule of services provided under the program to ensure the long term sustainability of the program. The fee for these services is negotiated with each cooperative depending on the level of service needed. That agreement is documented in a Kentucky Energy Retrofit Program Memorandum of Agreement, which is attached as Exhibit C.

11. The capital for the investments will continue to come from funding MACED has on hand from private foundations and the U.S. Department of Treasury Community Development Finance Institution ("CDFI") Fund, other federal sources, and MACED's net assets. MACED is a certified CDFI.

12. MACED will continue to support a common data infrastructure to pool program data and measurements of key variables to streamline program evaluation and highlight opportunities for design improvement. Key evaluation questions include (a) are energy retrofits cost effective for utility members; (b) are energy savings realized; and (c) how accurate are cost and energy savings estimates? Working with Farmers, MACED will continue to collect and analyze the data to answer these questions on an ongoing basis during the operation of the program.Based upon the

experience of cooperatives in the Pilot Program, it is estimated that Farmers' administrative costs will be negligible.

13. The KER Rider has been designed to reduce financial risks at all stages of development. Farmerswill join the existing pooled Risk Mitigation Fund established for participating EKPC cooperatives whereby a portion of the project fee-- currently assessed as five percent of the capitalized cost of projects – will be allocated to a shared fund in case of a total loss.FARMERS will notify the Commission if the balance of the fund falls below the amount designated in existing tariffs.

PILOT AND PERMANENT PROGRAMS BY OTHER KENTUCKY UTILITES

14. Big Sandy Rural Electric Cooperative Corporation ("Big Sandy"), Fleming-Mason Energy Cooperative, Inc. ("Fleming-Mason"), Grayson Rural Electric Cooperative Corporation ("Grayson"), and Jackson Energy Cooperative Corporation ("Jackson") received permission from the Commission by order dated December 16, 2010 in Case No. 2010-00089 to establish a Pilot Program for the KER Rider ("Pilot Program"). Big Sandy, Fleming-Mason, and Grayson received permission from the Commission by order dated August 26, 2013 in Case No. 2012-00484 to implement a permanent KER Rider. Jackson subsequently filed an application for permission for a permanent KER Rider in Case No. 2013-00398. The Commission granted Jackson permission to enact the program under the proposed tariff by order dated April 7, 2014.

15. During the Pilot Project, MACED along with Big Sandy, Fleming-Mason, Grayson and Jackson completed 107 projects, and 192 Energy Assessments were completed. Only three locations became inactive, with two resulting from foreclosure and one temporarily inactive due to a natural disaster. A total of $773,763.00was invested in retrofits, with $557,773.00 in capital deployed. The average monthly charge to members was $38, with an average projected monthly savings of $50 and an average annual savings of $600. MACED has estimated that the projected annual kWh savings from projects completed during the Pilot Project is 530999 kWh, with a carbon dioxide offset of 366.39 metric tons. The projects created or saved 6 jobs. The average payback period for the completed projects wascalculated to be 14.5 years. Big Sandy, Fleming-Mason, Grayson and Jackson have received no complaints from members, and required no additional staff and incurred no substantive administrative costs.

ATTACHMENTS

16. Attached to this application are the following documents associated with the KER Rider and the on-bill financing program:
    a. Exhibit A – Proposed KER Rider
    b. Exhibit B – Prepared Testimony from Farmers and MACED
    c. Exhibit C–Kentucky Energy Retrofit Program Memorandum of Agreement

Respectfully submitted,

Woodford L. Gardner, Jr.
Richardson, Gardner & Alexander
Attorney for Applicant
117 East Washington Street
Glasgow, Kentucky 42141
Phone: (270) 651-8884
Fax: (270) 651-3662
E-Mail: wlg@rgba-law.com

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

APPLICATION OF FARMERS RURAL ELECTRIC COOPERATIVE	**)**
CORPORATION FOR AN ORDER APPROVING KENTUCKY ENERGY	**)**
RETROFIT RIDER PERMANENT TARIFF	**)**

VERIFICATION

The undersigned, Bill Blair, being first duly sworn states that he is the How$martKY Program Coordinator; and that he has personal knowledge of the matters set forth in the foregoing application; and that the statements contained therein are true and correct to the best of his knowledge, information, and belief.

Bill Blair
How$martKY Program Coordinator

COMMONWEATLH OF KENTUCKY	)
	)
COUNTY OF BARREN	)

Subscribed and sworn to before me by Bill Blair, How$martKY Program Coordinator, this 4th day of AUG, 2014.

Notary Public
ID: 466934

My Commission Expires: 6/18/16

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

**APPLICATION OF FARMERS RURAL ELECTRIC COOPERATIVE)
CORPORATION FOR AN ORDER APPROVING KENTUCKY ENERGY)
RETROFIT RIDER PERMANENT TARIFF)**

VERIFICATION

The undersigned, Jerry Carter, being first duly sworn states that he is the Vice President, Member & Corporate Services of Farmers Rural Electric Cooperative Corporation; and that he has personal knowledge of the matters set forth in the foregoing application; and that the statements contained therein are true and correct to the best of his knowledge, information, and belief.

Jerry Carter
Vice President, Member & Corporate Services
Farmers Rural Electric Cooperative Corporation

COMMONWEATLH OF KENTUCKY)
)
COUNTY OF BARREN)

Subscribed and sworn to before me by Jerry Carter, Vice President, Member & Corporate Services of Farmers Rural Electric Cooperative Corporation this 4th day of August, 2014.

Notary Public
ID: 466934

My Commission Expires: 6/18/14

Kentucky Energy Retrofit Program

Memorandum of Agreement

This Memorandum of Agreement (herein the "Agreement") is made this ________day of ________________, 20____(herein the "Agreement Date"), by and between ____located at ____(herein the "Utility"), and **Mountain Association for Community Economic Development, Inc. (MACED)**, located at 433 Chestnut Street, Berea, KY40403 (herein "MACED", the "Data Management Contractor", the "Contractor", the "Capital Provider", and/or the "Agent"); each of the above being a "Party", and collectively the "Parties", to this Agreement.

Whereas the Parties seek to provide the Utility's customers with access to the Kentucky Energy Retrofit (a/k/a How$martKY™ and herein "KER") Rider for the purchase and installation of cost-effective, energy efficient products, the Parties agree to the responsibilities as assigned and described below.

MACED will serve as a partner with the Utility in conducting the How$martKY™ program. In relation to the roles set forth in this Agreement, MACED will serve as the "Data Management Contractor" and the "Capital Provider". MACED will also serve as the "Agent" (as defined in the KER Rider) for the Utility to the extent that such duties are identified in Attachment 1. In the role of Data Management Contractor MACED will be a "Contractor" as defined in the KER Rider.

1. DATA MANAGEMENT CONTRACTOR RESPONSIBILITIES (MACED)

1.1 The Data Management Contractor will provide the services described in this section for each retrofit. These contractual services, as an essential component of the retrofit, will be included along with other Contractors' services that are included in the total project cost which is used to develop the Retrofit Project Charge as provided in the KER Rider. Fee for this contractual service is detailed in Attachment 1.

1.2 The Data Management Contractor will provide energy assessment protocols, and "best practice" recommendations to the Utility. In addition, the Data Management Contractor will assist the Utility with any data requests from the Kentucky Public Service Commission (herein "KY PSC") or other regulatory body, and will provide technical assistance and troubleshooting where needed.

The Data Management Contractor will work with the Utility to create processes that encourage excellence and accuracy.

1.3 The Data Management Contractor will track and coordinate with the Utility to store and make data available to the Utility regarding utility usage, building characteristics, and financial information for each location.

1.4 The Data Management Contractor will analyze data to evaluate the accuracy of financial and energy estimated savings and the effectiveness of installed measures in improving energy efficiency for at least one year following the completion of the retrofit. The Data Management Contractor will identify locations which vary significantly from projected usage, and will track overall success in predicting energy usage. The Data Management Contractor will identify locations for follow-up by the Utility when usage varies greatly from the savings that were predicted.

1.5 The Data Management Contractor will track data and pursue analysis to identify consistent variation of technology, contractor, or energy assessor performance from predicted values. The Data Management Contractor will also work with the Utility to develop educational tools to encourage program customers to save more by properly operating their home or building. The Data Management Contractor will also identify new technologies as they become cost effective for the program based on cost reductions or increases in the cost of the Utility's service.

2. PROGRAM OPERATION RESPONSIBILITIES (UTILITY & MACED)

2.1 The Utility or its Agent will be responsible for approving contractors to install energy efficiency measures under this program. The Utility or its Agent will maintain a list of approved contractors who have signed the Participating Contractor Master Agreement and will be responsible for ensuring that approved contractors adhere to the provisions of that agreement. The Utility or its Agent will make this list available to the Utility's customers to elicit customer preference and, where possible will arrange for the preferred contractor to bid and perform program upgrades at that Customer's location. Referral will not constitute any additional assumption of liability by the Utility or its Agent for a contractor's performance.

2.2 The Utility or its Agent will perform an energy assessment utilizing How$martKY™ program guidelines. At time of assessment, the Utility or its Agent will provide customer with a list of recommended measures and projection of energy savings that could be realized from such measures.

2.3 The Utility or its Agent will act as the customer's representative for the installation of efficiency measures after an approved contractor and a customer sign a Purchase Agreement (and landlord, if customer does not own the premises where efficiency measures are to be installed). As the customer's representative, the Utility or its Agent will verify that any changes in work scope on efficiency measures proposed for installation by an approved contractor are suitable for the customer's end uses and are estimated to result in sufficient savings in energy usage, demand or other savings to qualify as efficiency measures (i.e., ninety percent of all estimated savings over three quarters of the product's estimated useful life will cover all costs associated with the installation). In order to facilitate disclosure of tariff obligations to successor customers at this location, the Utility or its Agent will complete and record with the County Clerk the following documents:

A. UCC Financing Statement form (Attachment 2); and

B. a copy of the completed Purchase Agreement; and

C. a copy of the Kentucky Energy Retrofit Rider

2.4 Upon notification by the contractor or customer that work is complete, the Utility or its Agent will verify with the customer and the contractor that the customer is satisfied with the installation and that the contractor has properly installed the correct efficiency measures and has instructed the customer on their proper use, operation and maintenance. The Utility or its Agent will inspect retrofit installations to verify that the correct measure(s) have been installed as per manufacturers recommendations and are operating as designed and to verify the accuracy of contractor reports. Nevertheless, contractors will be solely responsible for determining the materials needed, the means and methods of installation, and for complying with all local, state, and federal codes, manufacturers' specifications, and accepted installation practices.

2.5 The Utility will arrange for payment to the contractor once the work is completed and accepted by the Utility and initiate a charge to the customer for the estimated retrofit payment. If the Utility or its Agent determines the work is complete and acceptable without customer agreement, such determination must follow an on-site inspection of the installation.

2.6 Notwithstanding the Utility or its Agent's verification per 2.2, 2.3 and 2.4 above, any inspection per this section, or the authorization that the Utility initiate billing to the customer under the tariff per 2.5 above, the provisions of this section in no way limit either the installing contractor's or product manufacturer's liability per 2.4 above, the contractor's agreement with the Utility or its Agent, or state and federal law.

2.7 The Utility will be responsible for making monthly payments to the Capital Provider within thirty (30) days of the Utility's receipt of payments from the customer, or within sixty (60) days of receipt of disbursement from the Capital Provider, whichever is sooner.

2.8 In the event of any dispute between the Utility's customer and an approved contractor, where the Utility or its Agent is acting as the customer's representative, the Utility or its Agent will work on the customer's behalf to obtain a mutually satisfactory resolution. The Utility or its Agent will participate in any complaint resolution process described in its contracts with other parties, including binding arbitration.

2.9 The Utility or its Agent will evaluate any customer report of a failed efficiency measure(s), and at its option will cause the product to be repaired or replaced. If the failed product is under warranty, the Utility or its Agent will use any warranty funds to pay for repair or replacement costs, including seeking recovery under a contractor's bond, if necessary. If an efficiency measure is repaired or replaced and any of these costs are not covered by warranty and the failure is not assignable to the approved contractor, and the customer chooses not to or cannot pay for the repair or replacement, the Utility or its Agent may increase the number of payments as required to recover all repair or replacement costs including the Utility or its Agent's administrative costs, but in no case should the Utility or its Agent authorize repairs that require the payment term to extend beyond the estimated useful life of the measure(s). If failed efficiency measures are not repaired or replaced, unless they were damaged by the customer or building owner, if different from the customer, the Utility will terminate charges attributable to the failed measure under the tariff. Additionally, the Utility or its Agent may treat maintenance costs required to keep the system operating similar to repair costs as described above.

2. 10 MACED will perform duties of the "Agent" in this section to the extent that such duties are included in Attachment 1 of this Agreement, and in accordance with the fee schedule in said Attachment.

3. CUSTOMER SERVICE & ADMINISTRATION RESPONSIBILITIES (UTILITY)

3.1 The Utility will bill the monthly portion of the Retrofit Project Charge (as defined in the KER Rider) to a How$martKY™ participating customer and collect payment for that amount as it does with all other tariffed charges following its customary and KY PSC-approved collection procedures including disconnection when necessary.

3.2 The Utility will make monthly payments to the Capital Provider in the amount of the total payments it is obligated to collect for that month (in accordance with the procedure in Item 4.3 below).

3.3 In the case of an inactive location, the Utility will continue to pay interest and the Capital Provider will waive the payment of principal for up to 24 months or until the location is active, whichever is sooner, requiring interest payments only on the outstanding principal balance in the interim. If at the end of 24 months, a location remains inactive and payments have not resumed, the Utility will pay, in whole, to the Capital Provider any and all outstanding principal and any interest due linked to the inactive location. If at a later date, the location becomes active, the Utility retains the right to recover for its own fund balance any bad debt previously written off through additional charges to that meter's location. The Utility may apply to recover payments it has made on inactive locations, both principle and interest, from a Risk Mitigation Fund to be established and administered by the participating utilities and the Capital Provider as described in Attachment 3.

3.4 The Utility staff will answer customers' questions about energy efficiency measures and payment obligations, including questions about the measures installed, estimated savings, payment amount, estimated term of payments, disclosure obligations and customers' rights and responsibilities as per the tariff and agreements.

3.5 The Utility will be responsible for notifying new customers at locations at which efficiency measures have been installed of the benefits associated with the efficiency measures, the customer's responsibility for the payment of the remaining charges, and other rights and obligations and will send these customers the Transfer Customer Retrofit Disclosure Form (Attachment 4), which enumerates these rights and responsibilities, within 15 business days of their application for service.

3.6 The Utility will inform customers as to how they can purchase efficiency measures in accordance with the tariff, for example, by scheduling an appointment with Energy Assessors or providing them with a sample KY Retrofit Purchase Agreement or list of approved contractors working with the program.

3.7 The Utility will not be liable for any decisions or actions taken by retrofit installation contractors, including but not limited to savings estimates, selection of measures, quality of workmanship, damage to customers' homes, or injury to customers, contractors' workers, or passersby. The Utility will not be liable for any failure by the previous occupant, building owner, or landlord to disclose a customer's payment obligation. The responsibility for disclosure rests with the building owner. However, the Utility agrees to initiate charges to a new customer for any existing payment obligations only after it has duly notified the customer using the Transfer Customer Retrofit Disclosure Form per 3.5 above.

3.8 The Utility will provide the Data Management Contractor with all available data about electricity use and structural characteristics for participating locations before, during, and after customer participation in the program.

3.9 The Utility will provide the Capital Provider with documentation of repayment calculations, itemized installation estimates and expenditures, and record of repayment transaction, indexed by unique location identifier.

4. CAPITAL PROVIDER RESPONSIBLITIES (MACED)

4.1 The Capital Provider will provide funds according to the Note and Loan Agreement with the Utility, and will transfer such funds as requested by the Utility within ten (10) business days of request. These funds will be used by the Utility to pay contractors for retrofits (including the Data Management Contractor); the Utility's administrative fee as provided in the KER Rider; and, subsequent non-warranty repairs to such retrofits.

4.2 The Capital Provider may limit the number of retrofits or capital available to the Utility to conform to the limitations of funds.

4.3 The Capital Provider will bill on a monthly basis for the previous month and provide a break down of the payments for each unique location. When the Utility informs the Capital Provider of an inactive location, the Capital Provider will adjust the monthly bill to reflect interest-only payments for that location. The Capital Provider will also provide pay off estimates for individual locations on request by the Utility. Attachment 5 further delineates the details of the agreement regarding inactive locations and is included in this Agreement by reference.

5. DISPUTES

5.1 In the event of any dispute arising during the Program between the Utility and MACED, each will work with the other to obtain a mutually satisfactory resolution.

5.2 In the event a satisfactory resolution cannot be reached, the dispute will be submitted to a three-member arbitration committee with one arbiter of the Utility's choice, a second arbiter of MACED's choice, and a third arbiter to be chosen by the first two arbiters. Cost of arbitration will be shared by MACED and the Utility. Decision by a majority of the arbitration committee will be binding on both parties.

5.3 Prior to submission of any dispute to the arbitration committee, the parties agree to attend at least one (1) conciliation conference to be held at either party's request and at no additional charge to either party.

5.4 The provisions for arbitration of disputes in this section do not take precedence over the terms of the Note and Loan Agreement between MACED and the Utility.

6. INDEMNIFICATION

6.1 Both Parties will defend, indemnify and hold harmless each other, their respective officers, employees, contractors and servants from and against all liability or loss and against all claims or actions based upon or arising out of damage or injury (including death) to persons or property caused by or sustained in connection with the purchase of a efficiency product or actions related to a approved contractor or by conditions created thereby, or based upon any violation of any statute, ordinance, building code or regulation and the defense of any such claims or actions.

6.2 In addition to the indemnification set forth in 6.1 above, both Parties will defend, indemnify and hold harmless each other, their respective officers, employees, and contract employees from and against any costs or damages resulting from enforcement or nuisance actions brought by any governmental entity or third party arising from the handling, removal and/or disposal of hazardous materials related to the purchase or installation of a efficiency measure, such costs to include but not be limited to costs of remediation, fines, penalties, and legal costs incurred in the defense of such actions either in a court of law or an administrative proceeding including reasonable fees and disbursements of attorneys and consultants, property damage, personal injury and third party claims.

7. TERMINATION

7.1 The Utility will send notice to MACED ninety five (95) days in advance when requesting termination of the program.

7.2 Termination per 7.1 will not, however, limit the rights and responsibilities for either the Data Management Contractor, the Utility or its Agent or the Capital Provider for efficiency measures that have already been completely or partially installed or administration and collection of repayments outstanding.

7.3 In the event of termination, the Utility remains responsible for repayment of all funds furnished by the Capital Provider, including interest, per the terms of this Agreement and the Note and Loan Agreement with the Capital Provider.

8. MISCELLANEOUS PROVISIONS

8.1 All Parties to this Agreement will provide the KY PSC with any requested records, work products, communications, or other relevant information to enable it to evaluate and ensure the integrity of the program for the Utility's customers.

8.2 No waiver, alteration, or modification of any of the provisions of this Agreement shall be binding unless in writing and signed by a duly authorized representative of all Parties to this Agreement.

8.3 This Agreement may not be assigned nor any of the rights and duties hereunder without the prior written consent of the other Parties. Notwithstanding this prohibition on assignment, successors to the Parties shall acquire all of that Party's rights and duties under this Agreement and shall have all right and power to enforce the terms of this Agreement as if they were the original Party

8.4 Notice from one Party to the other under this Agreement shall be deemed to have been properly delivered if forwarded by United States Postal Service, First Class Mail, to the addresses noted above.

8.5 If any of this Agreement shall be held invalid or ineffective in whole or in part, such determination shall not be deemed to invalidate any of the remaining portions of this Agreement. This agreement is governed by Kentucky State law.

8.6 This Agreement is contingent upon successful approval of the Utility by the KY PSC to carry out activities in accordance with the KER Rider.

9. DISCLOSURE OF INFORMATION

9.1 MACED shall not disclose or appropriate to its own use, or to the use of any third party, at any time during or subsequent to the term of this agreement, any secret or confidential information of the Utility.

9.2 MACED shall not disclose or appropriate for its own use the personal and identifying data of the Utility customers of which MACED has been or hereafter becomes informed, including, but not limited to, processes, prices, profits, contract terms or operating procedures, except as required in connection with MACED's performance of this Agreement, or as required by a governmental authority, or with approval by both the Utility and the customer.

10. ACCEPTANCE

Hereby accepted as of the Agreement Date.

FOR THE UTILITY: ______________________________

Name: ______________________________

Title: ______________________________

FOR MACED: ______________________________

Name: ______________________________

Title: ______________________________

Attachment 1

How$martKY™ Services and Fees

MACED services as Data Management Contractor

Track and analyze data for the retrofit.
Upload "Before Retrofit" (BR) usage file into How$marKY™ system.
Review How$martKY™ retrofit packet and requisition.
Set up retrofit in data collection systems.

Data Management Contractor fee: $250.00 per retrofit to be included in the retrofit project cost and included in calculating the monthly payment by the customer, along with all other contractor costs, per Section 1 of the Memorandum of Agreement.

MACED services as Agent of the Utility

MACED will perform the services initialed by both parties below per Section 2 of the Memorandum of Agreement.

MACED's fees for these services is $__________per retrofit.

If available, third-party funds or grant-funded subsidies may be applied to some or all of this cost.

From the date of signing through __________________, 201__, MACED will furnish a grant-funded subsidy of $ _________per retrofit for up to _________retrofits per year subject to availability of funds.

The Utility agrees to pay MACED for any portion of these services not covered by subsidies.

MACED	Utility	
		Contact customer to schedule appointment
		Perform energy assessment
		Create conservation plan & purchase agreement
		Present customer with initial conservation plan and purchase agreement
		Contact contractors and request bids using Conservation Plan specifications
		_Verify all paperwork is complete and signed including How$martKY application form, initial conservation plan, purchase agreement, copy of deed, UCC
		Contact contractors to arrange for job start up
		_Perform quality assurance during installation & test out at retrofit completion
		Create final conservation plan and purchase agreement
		Present final conservation plan and purchase agreement to customer
		Create retrofit packet (contains all paperwork for the job)
		Submit requisition
		File UCC Financing Statements (up to 3 filings per retrofit)

Annual fee review: MACED's fee structure will be reviewed on a yearly contract basis with our utility partners. Fees or services to be performed are subject to change upon mutual agreement

Attachment 2

Exhibit C
Page 11 of 18

[redacted]

UCC FINANCING STATEMENT

FOLLOW INSTRUCTIONS (front and back) CAREFULLY

A. NAME & PHONE OF CONTACT AT FILER [optional]

B. SEND ACKNOWLEDGMENT TO: (Name and Address)

THE ABOVE SPACE IS FOR FILING OFFICE USE ONLY

1. DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (1a or 1b) - do not abbreviate or combine names

1a. ORGANIZATION'S NAME					
OR 1b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME		SUFFIX	
1c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY	
1d. SEE INSTRUCTIONS / ADD'L INFO RE ORGANIZATION DEBTOR	1e. TYPE OF ORGANIZATION	1f. JURISDICTION OF ORGANIZATION	1g. ORGANIZATIONAL ID #, if any		NONE

2. ADDITIONAL DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (2a or 2b) - do not abbreviate or combine names

2a. ORGANIZATION'S NAME					
OR 2b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME		SUFFIX	
2c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY	
2d. SEE INSTRUCTIONS / ADD'L INFO RE ORGANIZATION DEBTOR	2e. TYPE OF ORGANIZATION	2f. JURISDICTION OF ORGANIZATION	2g. ORGANIZATIONAL ID #, if any		NONE

3. SECURED PARTY'S NAME (or NAME of TOTAL ASSIGNEE of ASSIGNOR S/P) - insert only one secured party name (3a or 3b)

3a. ORGANIZATION'S NAME				
OR 3b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME		SUFFIX
3c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY

4. This FINANCING STATEMENT covers the following collateral:

ATTENTION: Attached to this form and included by reference to this document are the following;

A. a copy of the current HowSmart™ Purchase Agreement; and

B. a copy of the Kentucky Energy Retrofit Rider

5. ALTERNATIVE DESIGNATION [if applicable]:	LESSEE/LESSOR	CONSIGNEE/CONSIGNOR	BAILEE/BAILOR	SELLER/BUYER	AG. LIEN	NON-UCC FILING

6. This FINANCING STATEMENT is to be filed [for record] (or recorded) in the REAL ESTATE RECORDS. Attach Addendum [if applicable]	7. Check to REQUEST SEARCH REPORT(S) on Debtor(s) [ADDITIONAL FEE] [optional]	All Debtors	Debtor 1	Debtor 2

8. OPTIONAL FILER REFERENCE DATA

Instructions for UCC Financing Statement (Form UCC1)

Please type or laser-print this form. Be sure it is completely legible. Read all Instructions, especially Instruction 1; correct Debtor name is crucial. Follow Instructions completely.

Fill in form very carefully; mistakes may have important legal consequences. If you have questions, consult your attorney. Filing office cannot give legal advice.

Do not insert anything in the open space in the upper portion of this form; it is reserved for filing office use.

When properly completed, send Filing Office Copy, with required fee, to filing office. If you want an acknowledgment, complete item B and, if filing in a filing office that returns an acknowledgment copy furnished by filer, you may also send Acknowledgment Copy; otherwise detach. If you want to make a search request, complete item 7 (after reading Instruction 7 below) and send Search Report Copy, otherwise detach. Always detach Debtor and Secured Party Copies.

If you need to use attachments, you are encouraged to use either Addendum (Form UCC1Ad) or Additional Party (Form UCC1AP).

A. To assist filing offices that might wish to communicate with filer, filer may provide information in item A. This item is optional.

B. Complete item B if you want an acknowledgment sent to you. If filing in a filing office that returns an acknowledgment copy furnished by filer, present simultaneously with this form a carbon or other copy of this form for use as an acknowledgment copy.

1. **Debtor name:** Enter only one Debtor name in item 1, an organization s name (1a) or an individual's name (1b). Enter Debtor's exact full legal name. Don't abbreviate.

1a. Organization Debtor. "Organization" means an entity having a legal identity separate from its owner. A partnership is an organization; a sole proprietorship is not an organization, even if it does business under a trade name. If Debtor is a partnership, enter exact full legal name of partnership; you need not enter names of partners as additional Debtors. If Debtor is a registered organization (e.g., corporation, limited partnership, limited liability company), it is advisable to examine Debtor's current filed charter documents to determine Debtor s correct name, organization type, and jurisdiction of organization.

1b. Individual Debtor. "Individual" means a natural person; this includes a sole proprietorship, whether or not operating under a trade name. Don't use prefixes (Mr., Mrs., Ms.). Use suffix box only for titles of lineage (Jr., Sr., III) and not for other suffixes or titles (e.g., M.D.). Use married woman's personal name (Mary Smith, not Mrs. John Smith). Enter individual Debtor's family name (surname) in Last Name box, first given name in First Name box, and all additional given names in Middle Name box.

For both organization and individual Debtors: Don't use Debtor's trade name, DBA, AKA, FKA, Division name, etc. in place of or combined with Debtor's legal name; you may add such other names as additional Debtors if you wish (but this is neither required nor recommended).

1c. An address is always required for the Debtor named in 1a or 1b.

1d. Reserved for Financing Statements to be filed in North Dakota or South Dakota only. If this Financing Statement is to be filed in North Dakota or South Dakota, the Debtor's taxpayer identification number (tax ID#) — social security number or employer identification number must be placed in this box.

1e,f,g. "Additional information re organization Debtor" is always required. Type of organization and jurisdiction of organization as well as Debtor's exact legal name can be determined from Debtor's current filed charter document. Organizational ID #, if any, is assigned by the agency where the charter document was filed; this is different from tax ID #; this should be entered preceded by the 2-character U.S. Postal identification of state of organization if one of the United States (e.g., CA12345, for a California corporation whose organizational ID # is 12345); if agency does not assign organizational ID #, check box in item 1g indicating "none."

Note: If Debtor is a trust or a trustee acting with respect to property held in trust, enter Debtor s name in item 1 and attach Addendum (Form UCC1Ad) and check appropriate box in item 17. If Debtor is a decedent s estate, enter name of deceased individual in item 1b and attach Addendum (Form UCC1Ad) and check appropriate box in item 17. If Debtor is a transmitting utility or this Financing Statement is filed in connection with a Manufactured-Home Transaction or a Public-Finance Transaction as defined in applicable Commercial Code, attach Addendum (Form UCC1Ad) and check appropriate box in item 18.

2. If an additional Debtor is included, complete item 2, determined and formatted per Instruction 1. To include further additional Debtors, attach either Addendum (Form UCC1Ad) or Additional Party (Form UCC1AP) and follow Instruction 1 for determining and formatting additional names.

3. Enter information for Secured Party or Total Assignee, determined and formatted per Instruction 1. To include further additional Secured Parties, attach either Addendum (Form UCC1Ad) or Additional Party (Form UCC1AP) and follow Instruction 1 for determining and formatting additional names. If there has been a total assignment of the Secured Party's interest prior to filing this form, you may either (1) enter Assignor SIP s name and address in item 3 and file an Amendment (Form UCC3) [see item 5 of that form]; or (2) enter Total Assignee's name and address in item 3 and, if you wish, also attaching Addendum (Form UCC1Ad) giving Assignor SIP's name and address in item 12.

4. Use item 4 to indicate the collateral covered by this Financing Statement. If space in item 4 is insufficient, put the entire collateral description or continuation of the collateral description on either Addendum (Form UCC1Ad) or other attached additional page(s).

5. If filer desires (at filer s option) to use titles of lessee and lessor, or consignee and consignor, or seller and buyer (in the case of accounts or chattel paper), or bailee and bailor instead of Debtor and Secured Party, check the appropriate box in item 5. If this is an agricultural lien (as defined in applicable Commercial Code) filing or is otherwise not a UCC security interest filing (e.g., a tax lien, judgment lien, etc.), check the appropriate box in item 5, complete items 1-7 as applicable and attach any other items required under other law.

6. If this Financing Statement is filed as a fixture filing or if the collateral consists of timber to be cut or as-extracted collateral, complete items 1-5, check the box in item 6, and complete the required information (items 13, 14 andlor 15) on Addendum (Form UCC1Ad).

7. This item is optional. Check appropriate box in item 7 to request Search Report(s) on all or some of the Debtors named in this Financing Statement. The Report will list all Financing Statements on file against the designated Debtor on the date of the Report, including this Financing Statement. There is an additional fee for each Report. If you have checked a box in item 7, file Search Report Copy together with Filing Officer Copy (and Acknowledgment Copy). Note: Not all states do searches and not all states will honor a search request made via this form; some states require a separate request form.

8. This item is optional and is for filer s use only. For filer s convenience of reference, filer may enter in item 8 any identifying information (e.g., Secured Party s loan number, law firm file number, Debtor s name or other identification, state in which form is being filed, etc.) that filer may find useful.

Kentucky Energy Retrofit Program

Risk Mitigation Fund Operational Procedures

1. RISK MITIGATION FUND (RMF) COMMITTEE

1.1 The fund will be overseen by a committee consisting of the CFO (or CFO's designee) from each participating utility and the president of MACED (or president's designee).

2. ELIGIBLE COSTS

2.1 **The following costs may be eligible for recapture from the Risk Mitigation Fund, subject to the further conditions outlined below:**

A. Interest paid on a location when it is inactive
B. Outstanding interest and principal balance on the retrofit if it is deemed to be uncollectable.
C. Payments made by a utility as invoiced by MACED if the utility is unable to subsequently collect the corresponding utility bills due on the location.

3. RECAPTURE OF LOSS

3.1 **A participating utility may submit losses for eligible costs to the Risk Mitigation Fund committee.** The committee will allocate funds from the Risk Mitigation Fund to pay the outstanding balance and interest costs paid by the utility during the inactive period if the committee determines that:

A. a cost is eligible; and that
B. the retrofit was carried out in accordance with the How$martKY™ guidelines that were in effect at the time of the retrofit; and that
C. the utility has exhausted all other appropriate avenues for collecting the loss..

3.2 If the committee determines that the conditions above have not been met, the committee will decide whether to approve recapture, approve partial recapture, or deny recapture.

3.3 For any uncollectable balance that is not approved for recapture by the committee, the utility remains liable to MACED for full repayment of the outstanding principal and interest per the terms of the Loan Agreement.

4. DECISION MAKING

4.1 Committee decisions will be made by simple majority of the members. Members may participate in meetings or be polled by phone, email or other means if not present. In any action of the committee involving one of the utility partners, that partner will abstain from voting. In the event of a tie, the president of MACED (or president's designee) will cast the deciding vote.

5. RISK MITIGATION FUND BALANCE

5.1 If the committee determines that the balance of the Risk Mitigation Fund is too low, the committee may increase the percentage allotment from each new retrofit. If the committee determines that non-compliance with program guidelines on the part of one or more utilities is materially responsible for a significant share of the losses, the committee may adjust the percentage paid by one or more utilities separately.

5.2 Initially, payment into the Risk Mitigation Fund will be 4% of each retrofit amount financed. This payment will be drawn from the 5% fee that the utilities are allowed to add to the cost of the retrofit by the KER Rider.

5.3 If the Risk Mitigation Fund balance exceeds $100,000 and also exceeds 5% of the total outstanding retrofit balances, the committee may reduce the percentage paid in for each retrofit.

5.4 If the fund is determined by unanimous vote of the committee to no longer be needed and after all obligation of funds from the Risk Mitigation Fund have been met, any balance of grant funds used to initiate the Risk Mitigation Fund will be distributed according to the grant agreements through which those funds were secured. Remaining funds will be distributed for a purpose consistent with the goals of the How$martKY™ program (below) in a manner to be determined by the committee.

6. APPEAL AND ARBITRATION

6.1 A utility may appeal any decision of the committee for reconsideration. Such reconsideration will include all the committee members and the president of MACED (or president's designee). The purpose of such reconsideration will be to reach a mutually agreeable solution. If an agreement cannot be reached upon reconsideration, all parties agree to the same arbitration measures outlined in the How$martKY™ Memorandum of Agreement (MOA) that governs the relationship between the utilities and MACED.

The goals of the How$martKY™ Program are to:

- *Help utility customers save energy and money through implementing retrofits to increase the energy efficiency of their homes;*
- *Provide a financing model that reduces or eliminates the barrier of up-front costs for these retrofits;*
- *Develop information, expertise and technical assistance resources for customers, contractors and utilities;*
- *Extend the reach and capacity of utilities to promote and facilitate energy savings by their customers.*

Energy Efficiency Retrofit Project Charge
Notification and Transfer of Obligation

Energy retrofit measures were installed at this location to save on utility costs. A Retrofit Project Charge will appear on your monthly utility bill. The cost savings from the retrofit measures are estimated to be greater than the charges.

Read below to understand what this means.

Property Address: __ ____Unit #: ______

Location ID: ______________________________

Cost saving energy Retrofit measures have been installed at these premises through an on-bill financing program. These measures were installed to lower the utility bills. Your utility bills will include a monthly charge to pay for these energy Retrofit measures. The cost savings from reduced electricity consumption are estimated to be greater than the monthly charges.

Whoever pays the utility bills at this location will be required to make monthly payments to [Insert Utility Name Here] to pay for the cost-saving energy Retrofit measures installed here. Monthly charges will continue until the remaining balance has been paid. A UCC Financing Statement has been filed at the County Clerk's office to ensure a prospective purchaser is aware of this obligation. Either the buyer or seller may eliminate this obligation by paying off the remaining balance.

Utility usage data at this location may be shared with subsequent owners of the property to demonstrate the effectiveness of the Retrofit measures.

If you want more information, you can call [Insert Utility Name Here] ([Insert Utility Phone Number Here]) to learn about the:

- Specific Retrofit measures installed
- Monthly payment amount (Retrofit Project Charge)
- Number of payments remaining and outstanding balance
- Estimated cost savings

When you request utility service, a signed copy of this form must be submitted to [Insert Utility Name Here]. [Insert Utility Name Here] will provide a copy of the Purchase Agreement which outlines customer responsibilities, including:

- Making monthly payments
- If you rent, promptly reporting to your landlord if a Retrofit measure stops working
- If you own the property, maintaining the Retrofit measures in good working condition as long as payments are due

My signature below indicates that I have read or have had this form read to me. I understand my obligation to make monthly payments for the Retrofit measures installed at this location.

(Purchaser/Renter) Signature______________________________Date ___________

Kentucky Energy Retrofit Program

Location Status and Payments

1. ACTIVE AND INACTIVE STATUS

1.1 A location will be considered "active" unless service has been disconnected. When service is disconnected, the utility will notify MACED.

2. INVOICING

2.1 Payments due on all locations will be detailed on each monthly invoice from MACED to the utility. For active locations, interest and principal will be invoiced. For inactive locations, only interest will be invoiced.

3. INTEREST

3.1 Interest on an inactive location will be paid by the utility to MACED until it becomes active again or it has been determined that the remaining balance is unrecoverable.

3.2 Interest paid by the utility for an inactive location may be reimbursed from the Risk Mitigation Fund (RMF) subject to the Risk Mitigation Fund Operational Procedures document.

4. UNRECOVERABLE INVESTMENT

4.1 If a location remains inactive for twenty-four months, it will be determined to be unrecoverable.

4.2 The remaining principal and interest due on an unrecoverable investment are paid by the utility. The utility may then seek to be reimbursed from the RMF subject to the RMF operational procedures.

5. UNPAID UTILILTY BILLS

5.1 If a location is active but the utility bill is late or unpaid, it will be still be considered active until service is disconnected. Payment due will be sought by the utility from the customer at that location. The utility will pay the full amount invoiced by MACED (principal and interest) for all active locations.

5.2 If a location becomes inactive after the invoice is sent but before it is due, MACED will adjust the invoice amount upon notification of the change to inactive status.

5.3 If a utility makes payment of the invoiced amount from MACED for a location from which the corresponding bill remains uncollected from the customer, the utility may seek reimbursement from the RMF subject to the RMF operational procedures.

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**FARMERS RURAL ELECTRIC
COOPERATIVE CORPORATION**

KENTUCKY ENERGY RETROFIT RIDER

APPLICABLE: In all territory served by the Cooperative.

AVAILABILITY:

The Kentucky Energy Retrofit Rider (Rider) is a voluntary tariff available to residential members for the purpose of improving resource efficiency and reducing energy consumption and net member bills. The Rider is only available to qualifying members taking service under the Cooperative's residential tariffs.

Definitions:

Agent – The party acting on behalf of the Cooperative as defined under Kentucky law.

Cooperative – The utility implementing the tariff.

Contractor – The individual or company installing a Retrofit.

Member – The purchaser of utility services at a property that includes a Retrofit or who is applying for a Retrofit. May be an owner or a tenant.

Owner/Landlord – The owner of the property where the retrofit is being installed. May also be the Member of the Cooperative, or just the landlord.

Retrofit – the energy efficiency improvement being funded as part of utility service, including efficiency improvements to new construction.

Retrofit Project Charge- The monthly payment from the Member to the Cooperative covering the Retrofit service/amortization.

Terms and Conditions – Any and all regulations, guidelines, and agreements under which the Cooperative provides service to the Members.

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ISSUED BY William T. Prather

TITLE: President & Chief Executive Officer

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KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
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Original SHEET NO. 111.002

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

RETROFIT INVESTMENT AND REPAYMENT TERMS:

1. No up-front investment is required by Members. The initial cost of approved efficiency measures will be paid by the Cooperative or its Agent.
2. The Retrofit repayment obligation shall be assigned to the premises and will survive changes in ownership and/or tenancy.
3. Retrofit program costs shall be recovered through a monthly line item Retrofit Project Charge on the utility bill.
4. The Retrofit Project Charge shall be part of the Cooperative's charges for basis utility service. Failure to make payment may result in disconnection in accordance with the Cooperative's approved Terms and Conditions.
5. The Retrofit Project Charge must be less than ninety (90) percent of the estimated average savings associated with the investment.
6. Cooperative or its Agent will be responsible for estimating resource savings and developing a Conservation Plan upon which the Retrofit Project Charge will be based.
7. Although the Cooperative and its Agent(s) expect that all Members will receive lower monthly utility bills, there is no guarantee of savings.
8. If a Retrofit measure is reported to be faulty, the Cooperative or its Agent will assess (verify the failure), suspend Retrofit Project Charges to the degree that savings are compromised, initiate and verify repairs, assign cost to responsible party and reinstitute Retrofit Project Charges.
9. When an account is closed, the outstanding balance of the Retrofit obligation remains with the meter/facility until the account is reopened, combined with another account/service or it meter/facility is transferred to a new Member, at which time Retrofit repayments will resume as part of service to that meter/facility until paid in full.

CONSERVATION PLAN:

The Conservation Plan will be developed by the Cooperative or its Agent and specify measures recommended by the Cooperative to the prospective Retrofit Member. The Conservation Plan includes:

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

- Plan Scope – The Conservation Plan will include a detailed description of each retrofit option proposed. The estimated and maximum amounts of financing the Cooperative/its Agent would pay/invest towards each retrofit would be identified. If energy savings are not completely justified on a cost basis, the Conservation Plan will include the amount the Member would pay or invest to 'buy down' the remaining project balance to what can be amortized by energy savings/on-bill repayment. There will also be a financial summary of the cumulative projected on-bill repayments including: amount of cumulative program fees repaid; amount of cumulative interest repaid; amount of cumulative principle repaid; and total amount to be repaid over the life of the investment.

- Estimated Resource Savings – The modeled change(s) in cost of resources consumed at the premises attributable to the efficiency measure(s) recommended. The Cooperative or its Agent will be solely responsible for savings estimates and will use generally accepted modeling software and techniques.

- Retrofit Project Charge – The charge to be included on the Member's utility bill based on the cost of the proposed measure(s) and the resulting savings. The Cooperative will be solely responsible for calculating the Retrofit Project Charge utilizing its standard economic model of discounted cash flows. To the extent available, the Cooperative will incorporate grants and low-interest funds into calculation of Retrofit Project Charge for the benefit of Members who meet qualifying guidelines of such funding sources. In calculating the Project Charge, the Company may add five (5) percent of the capitalized cost of proposed projects as bid by contractors or vendors to offset Retrofit program costs. The annual interest rate used to calculate the Retrofit Project Charge shall be no more than the cost of the capital used by the capital provider to finance the project.

- Audit Fee – A Member or Landlord may be charged a $200.00 Audit Fee for complete Conservation Plans. The Charge will be waived for program participants or when the Conservation Plan yields less than $1,000.00 in improvements that can be paid for by the Cooperative through the program. The charge will be assessed no sooner than (90) days after the Conservation Plan has been provided to the Member.

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

- Number of payments – The number of periods for which Retrofit Project Charge will apply at the premises. In no case shall the duration of the Retrofit Project Charge exceed seventy-five (75) percent of the estimated life of the measure or fifteen (15) years, whichever is less.

- In the event that multiple measures are being completed as part of a Conservation Plan, the Project Charge will not appear on the Member's bill until all measures have been completed.

A Member's and Landlord's signature on the Retrofit Agreement shall indicate acceptance of the Conservation Plan.

"BUY DOWN" ALTERNATIVE:

A Member or Landlord may elect to "buy down" the cost of implementing an efficiency measure so that the Retrofit Project Charge will be less than the average estimated monthly savings. In this way, measures that might not otherwise yield sufficient economic savings to pay for themselves may still be approved. Prior to Cooperative approval of a Conservation Plan that includes one or more uneconomic measures, the Member or Landlord or a third party must agree to pay the amount required to buy down said measure(s) such that the Retrofit charge is no greater than ninety (90) percent of the estimated savings.

NEW STRUCTURES:

A Member or Owner may utilize this Rider to install high efficiency equipment or measures in new structures. The tariff may cover only the incremental cost between the lowest allowable or "standard" efficiency equipment or measure required in the structure and the higher efficiency equipment or measures chosen by the Contractor, Member or Owner. Under any circumstances, the Retrofit Project Charge to appear on the participant's bill must be less than the average estimated cost of resources saved by purchase of the higher efficiency equipment or measures.

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

RESPONSIBILITES:

Responsibilities, understandings and authorizations of the Member, Cooperative, landlord (if applicable) and Contractor shall be evidenced by this Rider and written agreements, notifications and disclosures/consents, the form of which are incorporated into the Rider by reference.

The Cooperative/its Agent(s) will:

1. Market and administer the program;
2. Prequalify eligible locations;
3. Perform energy audits to produce Conservation Plans;
4. Certify and maintain a list of Contractors, and arrange for a certified Contractor to install retrofit measures.
5. Act as Member's representative in verifying suitability of proposed retrofits, estimated savings, satisfactory installation of retrofit measures, and evaluating ongoing performance or need for repair of measures.
6. File UCC disclosures with County Clerk for each location;
7. Disclose pre-existing retrofit investment benefits and costs to new Members.

The Cooperative will not be liable for any decisions or actions taken by its Agent, including but not limited to selection of measures, saving estimates, decisions on repairs or extending payment terms to collect missed payments and repair costs, or injury or damage to homes related to installation or use of retrofit measures.

The Cooperative will not be liable for any failure by the previous occupant, building owner or landlord to disclose a Member's payment obligation.

Cooperative will not be liable for Contractor's work. Any verification by the Cooperative or its Agent and request that the Cooperative initiate Retrofit charges in no way limits installing Contractor's and product manufacturer's liability as per contractual agreement with the Cooperative/its Agent and under State law.

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

The written agreements include:

- KY Retrofit Purchase Agreement – Establishes permission and terms for program participation, clarifies charges involved in the program, roles and responsibilities of each party, and notification requirements. Member responsibilities include signing agreement to participate, providing access to the Cooperative, its Agent and retrofit Contractor(s) for audit, retrofit, inspection and repairs, payment of retrofit charges included in utility bills, becoming informed about routine operation of retrofits, informing the Cooperative is an installed retrofit measures fails or malfunctions, being responsible for all costs associated with Member damage or neglect and accepting cost for out-of-warranty repairs. Owner responsibilities include agreeing to have retrofit installed, maintaining retrofits, written notification to prospective tenants or purchasers of the property so new occupants sign that they are informed of the energy investment burden on the meter, and fulfillment of Member responsibilities any time metered location is in the Owner's name. Residential locations will have repayment terms of up to 15 years.

- Master Contractor Agreement – Establishes that the contractor agrees to do the work as specified in the Conservation Plan. If the contractor needs to deviate from the Conservation Plan, the contractor will secure written authorization from the Cooperative in advance. The Contractor is responsible for all aspects of his/her work, energy savings if provided, and all permits, insurance coverage, warranties, bonding and representation. The contractor will not charge more than the final approved estimate for the work performed. The Agreement states that the Cooperative is not responsible for the contractor's work, but the Cooperative does act as an intermediary in attempting to resolve any disputes.

TRANSITION IN ROLES:

Unless otherwise specifically set forth in a standard Retrofit purchase agreement made part of this Rider, responsibility for outstanding Retrofit obligations falls on the successor party when the roles of the Member, Owner or tenant change, provided the required disclosure is made and consent to assume the obligation is obtained. For example: If a tenant purchases an apartment complex, that individual assumes the obligations of Owner if disclosure is made and consent is obtained.

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

FAILURE TO MAKE REPAYMENT:

The Member or Landlord is obligated to pay for overall utility service which includes both the electric service provided and the repayment of the energy efficient investment as presented on the monthly bill. In the event no payment is made and the total monthly bill become past due, then delinquency will be handled in accordance with the Cooperative's approved Terms and Conditions.

OTHER:

1. This Rider applies to retrofit measures permanently installed as fixtures at the premises. The Cooperative will solely determine which measures or products may be included in the Retrofit Program.

2. Measures will be owned by the capital provider for tax or carbon credit purposes until Retrofits have been fully paid off, however if tax credits can be applied for by Member, then Member shall retain eligibility.

3. The Cooperative or its Agent will determine the eligibility of a Member based upon the Member's bill payment history with the Cooperative, projected energy savings and program capacity. At its soles discretion, the Cooperative may determine a property is not eligible for the program and does not qualifies for this Rider if:

   a. The structure has an expected life shorter than the payback period, or

   b. The structure does not meet applicable public safety or health codes.

4. At its sole discretion, the Cooperative will determine the maximum Retrofit program investment in any year.

5. The initial term of the Retrofit Purchase Agreement may be extended by the Cooperative or its Agent to recover its costs for out-of-warranty repairs or missed payments.

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

6. If a location is dormant for more than one year, or the underlying facility has been destroyed, any outstanding retrofit balance net of insurance reimbursement may be charged as loss in accordance with the Cooperative's approved Terms and Conditions.

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Original SHEET NO. 111.009

CANCELLING P.S.C. KY. NO. ____

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

RATES AND CHARGES

Kentucky Retrofit Rider Conservation Plan

ver. 06/16/2013

FARMERS RECC
A Touchstone Energy Cooperative

Location ID:	
Name	Example
OwnerName	
Phone	Conservation Plan
Assessor	
Date	

How Your Home Uses Energy

model baseline	Elec	Gas	Propane	Wood/Coal
Heating	8,380 kWh	0 kBTU	23769 kBTU	0 kBTU
Cooling	2850 kWh	0 kBTU	0 kBTU	
Base	11900 kWh	0 kBTU	0 kBTU	
Total (yr)	23,130 kWh	0 kBTU	23,769 kBTU	0 kBTU
	22400 kWh	0 kBTU	23769 kBTU	0 kBTU

Your home uses energy for heating, cooling, and base load (which is everything that is not heating or cooling).

How Your Home Could Save Energy.

- Install Moisture barrier 6 mil plastic lap up on wall 12 and seal.
- Spray 1.5" of closed cell on Rim Joist
- Install R-19 insulation in floor where missing or damaged.
- Spray 1.5" of closed cell on crawl wall
- Spray 1" of closed on Cathedral End Walls
- Remove old blow in. Spray 1.5" closed cell foam and put back blown and add to 15"
- Replace HVAC Heating with New HVAC Heating System.
- Replace HVAC Cooling with New HVAC Cooling System.
- Reduce air leakage to BAS or 70% below that number.

Savings from Baseline:	Savings from Actuals:	Conversions to Fuel	Current Rates	Projected Savings (yr)
7354 kWh (Elec)	6,624 kWh (Elec)	6,624 kWh	0.12 /kWh	$795
0 kBTU (Gas)	0 kBTU (Gas)	0 therms	2.00 /Therm	$0
23769 kBTU (Propane)	23,769 kBTU (Propane)	256 Gal	2.88 /Gal	$736

Based on savings from insulation and air seal only due to calibration.

Projected Avg Energy Savings (mo) $128
before monthly How$mart Charge

Financing

$12,067.00 Cost of Improvements (est):

$10,067.00 Utility Contribution

$15,452 Not to Exceed Amount (90% of Savings)

$2,000.00 Kentucky Home Performance

@ 3%
over 15 years

$75 Monthly Charge
59% of projected savings

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ISSUED BY William T. Patton
TITLE: President & Chief Executive Officer

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FOR ALL TERRITORY SERVED
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P.S.C. KY. NO. 10

Original SHEET NO. 111.010

CANCELLING P.S.C. KY. NO.

SHEET NO.

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

RATES AND CHARGES

Next Steps

1. Sign Purchase Agreement
2. Select contractor and schedule the job
3. Energy Specialist returns to inspect completed work
4. Savings begin and installments charge appears on utility bill.

If, after operation, any of the upgrades fail, the Utility will reevaluate the work.

Acceptance:

I understand that:

Values on previous page are estimates only and are not a guarantee of savings. Energy savings are a best-effort estimation calculated using a computer model. The model takes into account previous usage and characteristics of the house to determine usage and potential savings. Actual savings will vary depending on behavior, weather events, maintenance of the efficiency improvements, and future utility rates.

The Utility has explained what I can do to reduce my energy consumption including, but no limited to: thermostat and other equipment settings, the impact of lighting changes, and additional appliance or home investments not covered under How$martKY™.

Value of the improvements (cost of work) is an estimate and will be verified with the selected contractor. Final monthly charge will be determined at the time of contractor selection. If final project cost is more than the "not to exceed" amount, then customer may opt out of the installation.
Non-payment of the charge will be treated like non-payment of the utility bill potentially resulting in disconnection of service.

The Kentucky Energy Retrofit Rider (marketed as How$martKY™) is a voluntary utility tariff that amortizes the cost of the efficiency improvement over the course of fifteen years or 75% of the expected life of the improvement (whichever is less) at a fixed interest rate. The expected cumulative cost to the customer over the course of the payback period of the improvements is as follows:

		Estimate	Estimated Monthly Savings		Estimated Net Monthly Savings
Fixed Monthly Charge		$75	$128		$53
Capital Investment		$10,067	Payback Period (years)	15	
Data Management Contract Fee		$250	Cost of Capital	3%	
Project Fee(s)	5.00%	$516			
Total Interest over life of payback		$2,883			
Total Cost over life of payback		$13,466			

Account Holder: ______________________
print name

Date: ______________________

Owner: ______________________
print name

Date: ______________________

How$martKY
Energy Efficiency for Everyone

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FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO. ______

______ SHEET NO. ______

RATES AND CHARGES

Kentucky Retrofit Rider Conservation Plan

GENERAL

Sample
Purchase Agreement

Location Number
Date of Assessment
Utility Farmers RECC

Account #

Owner Information

CUSTOMER INFORMATION

Sample
Purchase Agreement

15	Financing Term (Years)
6624	Projected Savings (kWh)
$74.81	Calculated Monthly Payment
$12,067.00	Value of Measures*
$2,000.00	Kentucky Home Performance

1. RETROFIT MEASURES

$10,067.00	Amount paid by Utility
$250.00	Data Management Contract Fee
$515.85	Project Fee
$10,832.85	Total Cost of Retrofit

2. INFORMATION ACCURACY

Customer and owner have made every effort to provide Company/its Agent with accurate information about the structure and its use to enable the Company to assess the energy efficiency of Customer's premises and equipment. Customer and owner acknowledge that the accuracy of the savings estimates above depend on the accuracy of information provided to the Company.

Customer's Initials ______ Owner's Initials ______

3. PURPOSE OF THIS AGREEMENT

This Agreement permits the Retrofit Measure(s) noted above to be installed on behalf of the Customer, in the Owners' building at the above property address with the above Location ID and obligates the Owner to disclose any payment requirement to future tenants and to any purchaser of these premises as described in Section 6.2 below. The agreement also describes the responsibilities, understandings and authorizations of Customers and Owners in implementing, maintaining, disclosing and paying for the above mentioned Retrofit measures.

4. CUSTOMER RESPONSIBILITIES AND UNDERSTANDING

4.1 Customer will provide access to premises to the Company/its agent, Contractor and their respective employees or subcontractors to install, inspect and/or repair Retrofit measures.

4.2 Customer shall make consecutive monthly payments specified above to the Company as part of the utility bill until all payments have been made or Customer no longer has an account with the Company. For portable Retrofit measures, all remaining payments will be due with the final bill.

4.3 Maintain the installed Retrofit measure(s) in place for at least as long as there are payments due under this Agreement unless otherwise agreed to by Company/its Agent. Customers will be responsible for all required maintenance and out of warrantee repairs.

4.4 Customer shall notify the Company if any of the above Retrofit measures stop working. The Company/its Agent will verify Retrofit failure, assess repair need/cause and authorize the repair. The Company/its agent may suspend Customer's Retrofit Project charges while repairs are being made, to the degree that energy savings are compromised. Contractors and warrantees will cover costs of repairs due to defects in workmanship or equipment per contract and warrantees. Customers will cover costs for customer damage, out of warrantee repairs and any remaining repair costs. The Company/its Agent may increase the number of remaining Retrofit payments to recover repair costs not reimbursed, including administration.

Alternatively, Customer may repair Retrofit measures at Customer's expense and, if applicable, will be entitled to any reimbursement from existing warranties.

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather
TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.012

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO.

SHEET NO.

RATES AND CHARGES

The Company/its Agent may repair a measure that is not working and seek compensation from Customer or owner as appropriate or recover any costs that were not reimbursed after warranty payments are applied by increasing the number of Retrofit payments at this location. The Company/its Agent may likewise be reimbursed for maintenance costs required to keep systems operating as described above.

4.5 Capital Provider will own the installed Retrofit measures during the duration of payments by occupant. Customer will not apply for or claim tax or other credits which will be claimed by and belong to the Capital Provider.

4.6 In some cases (where the portable equipment replaced belonged to the meter holder) Customers may relocate portable retrofit measures to another meter/account location also served by Company upon obtaining Company prior agreement in writing and transferring all outstanding balances for the relocated Retrofit measures to their new account.

4.7 Customer will make a good faith effort to participate in Retrofit program follow-up surveys for the purpose of evaluating the effectiveness of the Retrofit system and to provide information requested by the Public Service Commission and state Energy Office.

4.8 The Customer understands that an Independent Contractor-Customer relationship has been created by virtue of the Contractor Master Agreement between Company/its Agent and Contractor. Contractor is not an employee or agent of Company/its Agent. Company/its Agent will not be liable for personal injury, property damage or illegal activity caused by Contractor or Contractor's agents or employees. Company is not a guarantor of products and this Agreement does not limit Customer's rights regarding manufacturers, vendors and contractors.

4.9 Customer understands that this Agreement does not constitute a loan nor create any obligations under Kentucky law pertaining to consumer credit or mortgage financing. Early repayment of Retrofit obligations shall not result in any prepayment discounts nor refunds.

5. CUSTOMER AUTHORIZES COMPANY/ITS AGENT TO:

5.1 Assign the Retrofit Tariff to this location which shall remain in full force until the final Retrofit obligation has been paid in full

5.2 Be its representative to coordinate and facilitate the installation of the Retrofit measure(s) listed above and related work including arranging for repair or replacement if any of the Retrofit measures fail prior to the Customer making the final payment.

5.3 Enter into the Contractor Installation Agreement with the Contractor on Customer's behalf for the purpose of installing Retrofit measure(s) and related work.

5.4 Enter into change orders with Contractor on behalf of the Customer so long as the change orders do not increase the Customer's monthly payment amount under the terms of this Agreement. Customer understands that any change order that increases Customer's monthly payment amount under this Agreement must be agreed to in writing by Customer, the Owner, the Company/its Agent and the Contractor.

6. CUSTOMER AUTHORIZES COMPANY/ITS AGENT TO:

6.1 Owner agrees to assume all the above mentioned Customer Responsibilities, Understandings and Authorizations, including Retrofit repayment whenever utility service to the above reference service location is in the Owners' name.

6.2 Owner shall make all remaining Retrofit payments upon closing their utility account or upon sale of the property or disclose the Retrofit monthly payment obligation to the next customer. Owners renting out the above premises shall disclose monthly Retrofit payment obligation to all subsequent tenants until the obligation has been repaid. Failure to disclose will constitute permission by the Owner for the next customer to break a lease or purchase agreement for the premises within thirty (30) business days of applying for utility service. A signed copy of the New Customer Disclosure form will constitute proof of disclosure.

6.3 Owner will maintain installed Retrofit measures in place for at least as long as there are payments due under this Agreement and responsible for any required maintenance and for costs incurred from failure to properly maintain the Retrofit measure(s).

6.4 Owner will be responsible for cost associated with owner damage.

6.5 Owner will obtain and maintain property insurance for casualty losses on the premises sufficient to ensure replacement of any measure installed under this program, or repayment of any outstanding Retrofit obligation if building/measures are not restored. Customer and owner agree to use any insurance claims payments to pay for replacement or repair of damaged measures with comparable products approved by Company/its Agent or to pay off any balance owed to the Company for Retrofit products installed in the premises.

6.6 Owner understands that this Agreement does not constitute a loan nor create any obligations under Kentucky law pertaining to consumer credit or mortgage financing. Early repayment of Retrofit obligations shall not result in any prepayment discounts nor refunds.

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather

TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
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FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.013

CANCELLING P.S.C. KY. NO.

SHEET NO.

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

RATES AND CHARGES

6.7 Owner warrantees that (s)he is the sole owner or represents all owners of these premises and is authorized to sign below. If this is not the case, signee agrees to assume all responsibility for costs associated with the installation of Retrofit measures including but not limited to their installation, removal, premises repairs, and program costs.

7. OWNER AUTHORIZES COMPANY/ITS AGENT TO:

7.1 Arrange for installation of the Retrofit measures listed above and detailed in the Conservation Plan.

7.2. Assign the Retrofit Tariff to this premise. Owner understands repayment obligations will continue until such time Company has been fully reimbursed for costs itemized above. Owner has no repayment obligations at any time utility service is in the name of his/her current tenant or future tenants with this exception: Owner will assume the payment obligation any time a Retrofit measure is removed by Owner.

7.3 Owner may indicate a preferred Contractor among those qualified by the Company/its agent to install Retrofit measures. Owner authorizes the Company/its Agent to arrange for a qualified Contractor to install Retrofit measures. Owner understands that when an independent contractor installs Retrofit measures, an independent relationship has been created by virtue of the Contractor Master Agreement between Company/its Agent and Contractor. Contractor is not an employee or agent of the Company. Company/its Agent will not be liable for personal injury or property damage caused by Owner, Contractor or Contractor's agents or employees. Company is not a guarantor of products, materials, or work performed by contractor. This Agreement does not limit or increase Owner's rights regarding manufacturers, vendors and contractors.

7.4 Manage change orders consistent with the Conservation Plan. Any change that deviates from the approved Conservation Plan must be agreed to in writing by Customer, Owner, Company/its Agent, and the Contractor.

7.5 Issue payment for Retrofit products, materials and/or work when an independent contractor or vendor is used. (Labor or installation charges will not be reimbursed for self-installed measures). Payment made by Company does not guarantee the work performed by the Contractor. The Contractor is solely responsible for the installation of the Retrofit measure(s).

7.6 Obtain insurance (e.g., fire) or authorize its agent to obtain insurance at its cost on the premises sufficient to ensure Company or its financing agent recovers all costs associated with measure installation. Any insurance costs to be charged back to Customer are included in the Retrofit measure costs noted above.

7.7 Record the attached UCC-1 Fixture Lien form at the County Clerk's Office to facilitate disclosure of Retrofit obligations to successor customers at this location.

8. AGREEMENT DURATION, TERMINATION AND MISCELLANEOUS PROVISIONS

8.1 This Agreement shall remain in full force and effect until the final Retrofit payment has been made, Customer closes the account at this location, or the Agreement is terminated by mutual consent of the parties.

No Retrofit payments will be due to Company until these premises are occupied but no later than three months after the completion of the work.

If the Customer breaches any of the terms of this Agreement, Customer shall reimburse Company for all costs incurred for Retrofit measures. Such costs include but are not limited to all costs for measures, installation, repair or replacement, administration, litigation, product subsidy, and interest. At its option, Company may recover these costs through payments to Company from customers at this location.

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather

TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.014

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO. ______

______ SHEET NO. ______

RATES AND CHARGES

8.4 At Customer's request, at any time, Company will terminate this Agreement. Customer must pay all costs Company/its Agent incurred for these Retrofit measure(s).

8.5 No waiver, alteration or modification of any of the provisions of this Agreement shall be binding unless in writing and signed by a duly authorized representative of both parties to this Agreement. Notice from one party to the other under this Agreement shall be deemed to have been properly delivered if forwarded by First Class Mail to Customer or Company addresses noted on this page. Company maintains a right of inspection and access for repair, upon reasonable notice and during normal business hours, of the Retrofit measure(s) installed pursuant to this Agreement for the duration of this Agreement. Any such inspection shall not be deemed as endorsement by Company/its Agent of work performed

8.8 In the event of any dispute arising over the Retrofit program between Customers, Owners, and/or Contractors, Company will work with the disputing parties to obtain a mutually satisfactory resolution. In the event a satisfactory resolution cannot be reached, the dispute will be submitted to an arbiter of Company's choice. Responsibility for all costs of arbitration shall be allocated between the disputing parties as determined by the arbiter

8.9 Company's Retrofit program is subject to Kentucky Public Service Commission (PSC) jurisdiction and approved as Kentucky Energy Retrofit Rider.

8.10 The provisions of this Agreement shall benefit and bind the successors and assigns of Customer and Company. If any of this Agreement shall be held invalid or ineffective in whole or in part, such determination shall not be deemed to invalidate any of the remaining portions of this Agreement. This Agreement is governed by State law.

Name: Date: (Owner)

Name: Date: (Account holder - if different)

Name: Date: (Utility Repersentative)

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather

TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
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JEFF R. DEROUEN
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Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.015

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO. ______

______ SHEET NO. ______

RATES AND CHARGES

How$martKY Participating Contractor Master Agreement

Contractor Name: ________________ Agreement Date: ____________, 20____

Contractor Mailing Address: ____________________________

Contractor Employee Identification Number: ________________________

Contractor Phones - mobile: ____________ day: ____________ evening: ____________

1. PURPOSE OF THIS AGREEMENT

The Contractor is engaged in the business of selling and/or installing resource saving equipment, products and services. By agreeing to the provisions of the How$mart Program, the Contractor becomes a participating Contractor in the Program to install Energy Efficiency measures to improve the resource efficiency for Customers served by Company. This agreement describes roles, responsibilities, and understandings of the Contractor and the Company/its Agent(s).

2. CONTRACTOR RESPONSIBILITIES AND UNDERSTANDINGS

2.1 Contractor shall submit a binding bid for Energy Efficiency measures to the Company Energy Efficiency measures may include equipment, products and/or services that result in resource savings and lower bills. Company will be solely responsible for determining whether proposed measures meet the general or economic criteria for inclusion in the How$mart program.

2.2 Approved Energy Efficiency measures, specifications and costs for each project shall be as set forth in a Conservation Plan developed by Company/its Agent and subject to this Agreement. An executed Conservation Plan will be considered an instruction to Contractor to commence work.

2.3 Contractor understands that only non-portable efficiency measures installed on premises permanently anchored to a foundation are eligible unless explicitly included in conservation plan. Savings must be greater than the monthly Project Charge calculated by Company/its Agent.

2.4 Contractor shall be solely responsible for determining the materials and products to be installed, and the means and methods of installation. Contractor shall furnish, at Contractor's own expense, all labor, materials, equipment, and other items necessary to satisfy the binding bid and meet the terms of this Agreement.

2.5 Contractor shall complete approved Energy Efficiency work in a timely manner. Upon completion, Contractor shall instruct Customer and Tenant(s), if applicable, on the proper use, operation and maintenance of Retrofit measures.

2.6 Contractor will provide for timely removal of debris resulting from installation or repairs of Retrofit projects unless otherwise stipulated in writing with the Customer.

2.7 Contractor is responsible for the conduct of its employees or agents Contractor will be responsible for any costs associated with damage to property of Customer or Tenant(s) caused by its employees or agents.

2.8 Contractor will secure and pay for all permits, governmental fees, licenses and inspections necessary for the proper execution and completion of the work.

2.9 Contractor will give all notices and comply with all laws, ordinances, rules and orders of any public authority bearing on the performance of the work.

2.10 Contractor is obligated to make certain that its work conforms to all applicable federal, state and local laws, statutes, building codes and regulations, including but not limited to all applicable EPA/VOSHA/OSHA/NESC and NEC rules and regulations

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

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TITLE: President & Chief Executive Officer

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KENTUCKY
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Bunt Kirtley
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1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.016

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO.

SHEET NO.

RATES AND CHARGES

2.11 Upon post-installation inspection by Company/its Agent, Contractor agrees to replace any equipment or repair any condition resulting in Energy Efficiency measure performance failing to meet the specifications set forth in the Conservation Plan of any project. Contractor agrees to pay Company for the cost of follow-up inspections which result in rework. Any inspection by Company or initiation of Project Charge on responsible party's utility bill in no way limits either Contractor's or product manufacturer's liability as set forth herein or under Kentucky law.

2.12 Contractor shall purchase and maintain a minimum of $1 million of such comprehensive general liability and other insurance which will provide protection from claims arising from the result of Contractor's performance on any Retrofit project. Contractor shall also maintain insurance coverage consistent with requirements of any regulatory or licensing body associated with the services provided. Any property damage or bodily injury claims related to the performance of this Agreement in excess of insurance limits or not covered by comprehensive liability, worker's compensation, or automobile liability insurance are the responsibility of the Contractor.

2.13 Contractor understands that an independent relationship has been created between Customer and Contractor. Contractor is not an employee or agent of the Company. Company will not be liable for personal injury or property damage caused by Customer, Tenant(s) (if different from Customer), Contractor or Contractor's agents or employees. Company is not a guarantor of products, materials, or work performed by Contractor.

2.14 Contractor understands that Company's roles under this Agreement are limited to: (1) Providing efficiency guidance to Customer and Contractor, (2) Approving measures that qualify for the program (3) Inspecting to ensure quality and investigating when Customer's raise concern about performance of measures. (4)Facilitating payment to Contractor for approved Energy Efficiency measures, (5) Collecting Project Charge revenue from the party responsible for utility bills, and (6) Facilitating dispute resolution.

2.15 In the event of any dispute arising over the Retrofit program between Customers, Tenant(s) and/or Contractors, Company will work with the disputing parties to obtain a mutually satisfactory resolution. In the event satisfactory resolution cannot be reached, the dispute will be submitted to an arbiter of Company's choice. Responsibility for all costs of arbitration shall be allocated between the disputing parties as determined by the arbiter.

2.16 Contractor shall be responsible for ensuring that all utilities are properly located, marked and identified through utilization of and compliance with the requirements of the Kentucky One-Call "Dig Safe" program. Contractor is responsible for working around existing utilities and agrees to defend, indemnify and hold harmless Company and Customer for any and all claims for damages to such utilities.

2.17 Contractor understands that failure to abide by the terms of this Agreement may result in disallowance of Contractor's subsequent participation in the HowSmart program in addition to any other remedies afforded to offended parties. Any such disallowance shall be at Company's sole discretion.

3. PAYMENT FOR RETROFIT PROJECTS

3.1 Contractor should notify Company when work on a Retrofit Project is complete. When work is considered complete and satisfactory, Company will pay to Contractor and Customer jointly the outstanding balance of the amount agreed upon in the Conservation Plan. For projects with equipment purchases costing more than one-thousand (1,000) dollars, Company will pay Contractor in advance up to fifty (50) percent of the total project cost agreed upon in the Conservation Plan provided Contractor is bonded at or above the amount of the advance.

3.2 In lieu of supplying a bond, Contractor has the option of performing work and receiving full payment upon satisfactory completion, with check payable to Contractor.

3.3 Work shall be considered complete and satisfactory when Customer and Company have signed off that the work is complete and acceptable. Acceptance is signified by endorsement of the check written by Company jointly to Customer and Contractor for the approved Energy Efficiency measures. Company/its agent may waive Customer/owner acceptance of work as a requirement for payment if it deems work is complete and acceptable.

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather
TITLE: President & Chief Executive Officer

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KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.017

CANCELLING P.S.C. KY. NO. ______

______ SHEET NO. ______

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

RATES AND CHARGES

Contractor Agreement

3.4 In the event the Company/its Agent documents that work has not been completed as specified in the Conservation Plan/work order, the Company/has the Contractor's permission to withhold from final payment a penalty amount of $500 for each failed inspection conducted by the Company/its Agent.

4. **WARRANTEES**

4.1 Contractor will warrant to Customer that all materials and equipment furnished under this Agreement will be new, and that all work will be of good quality, free from faults and defects.

4.2 Contractor will guarantee its workmanship, including all parts and labor, for a period of one year from date of final payment and acceptance of the work.

4.3 Contractor warrants that the resource efficient products designed and installed by the Contractor will meet Customer's requirements.

4.4 Contractor will extend to Customer all manufacturer's warranties for material and equipment installed. Contractor agrees to provide copies of all warrantee information to Customer should such information exist. Said warrantees will not in any way limit Contractor's obligations as set forth above.

5. **INDEMNIFICATION**

5.1 Contractor shall assume all liability and shall defend, indemnify and hold harmless Customer, Tenant, Owner and Company, individually, against all liability or loss and against all claims or actions based upon or arising out of damage or injury (including death) to persons or property caused by or sustained in connection with the performance of the Agreement or by conditions created thereby, or based upon any violation of any statute, ordinance, building code or regulation and the defense of any such claims or actions.

5.2 In addition to the indemnification set forth above, Contractor agrees to indemnify, defend and hold harmless the Customer, Tenant, Owner, and Company and any and all of Company's officers, employees, contractors and agents from and against any costs or damages resulting from enforcement or nuisance actions brought by any governmental entity or third party arising from the handling, removal and/or disposal of Hazardous Materials from the project, such costs to include but not be limited to costs of remediation, fines, penalties, and legal costs incurred in the defense of such actions either in a court of law or an administrative proceeding including reasonable fees and disbursements of attorneys and consultants, property damage, personal injury and third party claims.

6. **TERMINATION**

6.1 This Agreement may be terminated either by Company or Contractor with seven (7) days written notice from one party to the other.

6.2 In the event of termination, Contractor will be paid for any work completed to the satisfaction of Customer, less the cost of Company's estimate of the additional cost that might be incurred in completing work in progress and started under this Agreement. Company may delay such payment until such time as another contractor has signed an agreement to complete the remaining work.

7. **CHANGES IN WORK**

7.1 Contractor shall not make changes to the work which either increase or decrease the Agreement price, without the written approval of Company and Customer. Said changes include but are not limited to substitutions or alterations of specified materials or equipment, relocations and replacements. Additional costs for change orders may render proposed measures uneconomic and not acceptable as Energy Efficiency measures.

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather
TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.018

FARMERS RURAL ELECTRIC
COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO.

SHEET NO.

RATES AND CHARGES

Contractor Agreement

7.2 The cost or credit resulting from such change shall be determined by lump sum, mutually agreed to by Company, Customer, Owner and Contractor and supported by substantiating data. If the parties are unable to agree, Company will work with the disputing parties to obtain a mutually satisfactory resolution. In the event satisfactory resolution cannot be reached, the dispute will be submitted to an arbiter of Company's choice. Responsibility for all costs of arbitration shall be allocated between the disputing parties as determined by the arbiter.

8. MISCELLANEOUS PROVISIONS

8.1 No waiver, alteration, or modification of any of the provisions of this Agreement shall be binding unless in writing and signed by a duly authorized representative of both parties to this Agreement.

8.2 This Agreement may not be assigned nor any of the rights and duties hereunder without the prior written consent of Contractor and Company.

8.3 Notice from one party to the other under this Agreement shall be deemed to have been properly delivered if forwarded by United States Postal Service, First Class Mail, to the addresses shown in this Agreement.

8.4 If any of this Agreement shall be held invalid or ineffective in whole or in part, such determination shall not be deemed to invalidate any of the remaining portions of this Agreement. This agreement is governed by Kentucky law.

COMPANY Date CONTRACTOR Date

Please submit the following other items along with this agreement:

____Proof of insurance, from your agent, naming the particular RECC that you are working with as additional insured.

____W-9 form

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather
TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.019

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO. ______

______ SHEET NO. ______

RATES AND CHARGES

UCC FINANCING STATEMENT
FOLLOW INSTRUCTIONS (front and back) CAREFULLY
A. NAME & PHONE OF CONTACT AT FILER (optional)
B. SEND ACKNOWLEDGMENT TO: (Name and Address)

THE ABOVE SPACE IS FOR FILING OFFICE USE ONLY

1. DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (1a or 1b) - do not abbreviate or combine names

1a. ORGANIZATION'S NAME				
OR 1b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME		SUFFIX
1c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY
1d. SEE INSTRUCTIONS / ADD'L INFO RE ORGANIZATION DEBTOR / 1e. TYPE OF ORGANIZATION	1f. JURISDICTION OF ORGANIZATION	1g. ORGANIZATIONAL ID #, if any		NONE

2. ADDITIONAL DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (2a or 2b) - do not abbreviate or combine names

2a. ORGANIZATION'S NAME				
OR 2b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME		SUFFIX
2c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY
2d. SEE INSTRUCTIONS / ADD'L INFO RE ORGANIZATION DEBTOR / 2e. TYPE OF ORGANIZATION	2f. JURISDICTION OF ORGANIZATION	2g. ORGANIZATIONAL ID #, if any		NONE

3. SECURED PARTY'S NAME (or NAME of TOTAL ASSIGNEE of ASSIGNOR S/P) - insert only one secured party name (3a or 3b)

3a. ORGANIZATION'S NAME				
OR 3b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME		SUFFIX
3c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY

4. This FINANCING STATEMENT covers the following collateral:

ATTENTION: Attached to this form and included by reference to this document are the following;
A. a copy of the current How$mart™ Purchase Agreement: and
B. a copy of the Kentucky Energy Retrofit Rider

5. ALTERNATIVE DESIGNATION (if applicable): LESSEE/LESSOR | CONSIGNEE/CONSIGNOR | BAILEE/BAILOR | SELLER/BUYER | AG. LIEN | NON-UCC FILING
6. This FINANCING STATEMENT is to be filed (for record) (or recorded) in the REAL ESTATE RECORDS. Attach Addendum (if applicable) | 7. Check to REQUEST SEARCH REPORT(S) on Debtor(s) (ADDITIONAL FEE) (optional) | All Debtors | Debtor 1 | Debtor 2
8. OPTIONAL FILER REFERENCE DATA

FILING OFFICE COPY — UCC FINANCING STATEMENT (FORM UCC1) (REV. 05/22/02)

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather

TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.020

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO. ______

______ SHEET NO. ______

RATES AND CHARGES

Instructions for UCC Financing Statement (Form UCC1)

Please type or laser-print this form Be sure it is completely legible Read all Instructions, especially Instruction 1, correct Debtor name is crucial Follow Instructions completely

Fill in form very carefully; mistakes may have important legal consequences If you have questions, consult your attorney Filing office cannot give legal advice.

Do not insert anything in the open space in the upper portion of this form, It is reserved for filing office use

When properly completed, send Filing Office Copy, with required fee, to filing office If you want an acknowledgment, complete item B and, if filing in a filing office that returns an acknowledgment copy furnished by filer, you may also send Acknowledgment Copy; otherwise detach. If you want to make a search request, complete item 7 (after reading Instruction 7 below) and send Search Report Copy, otherwise detach Always detach Debtor and Secured Party Copies.

If you need to use attachments, you are encouraged to use either Addendum (Form UCC1Ad) or Additional Party (Form UCC1AP)

A To assist filing offices that might wish to communicate with filer, filer may provide information in item A. This item is optional

B Complete item B if you want an acknowledgment sent to you If filing in a filing office that returns an acknowledgment copy furnished by filer, present simultaneously with this form a carbon or other copy of this form for use as an acknowledgment copy

1 Debtor name: Enter only one Debtor name in item 1, an organization's name (1a) or an individual's name (1b). Enter Debtor's exact full legal name. Don't abbreviate

1a Organization Debtor "Organization" means an entity having a legal identity separate from its owner. A partnership is an organization; a sole proprietorship is not an organization, even if it does business under a trade name If Debtor is a partnership, enter exact full legal name of partnership; you need not enter names of partners as additional Debtors. If Debtor is a registered organization (e.g., corporation, limited partnership, limited liability company), it is advisable to examine Debtor's current filed charter documents to determine Debtor's correct name, organization type, and jurisdiction of organization.

1b Individual Debtor "Individual" means a natural person; this includes a sole proprietorship, whether or not operating under a trade name Don't use prefixes (Mr., Mrs., Ms.). Use suffix box only for titles of lineage (Jr., Sr., III) and not for other suffixes or titles (e.g., M.D.). Use married woman's personal name (Mary Smith, not Mrs. John Smith). Enter individual Debtor's family name (surname) in Last Name box, first given name in First Name box, and all additional given names in Middle Name box.

For both organization and individual Debtors Don't use Debtor's trade name, DBA, AKA, FKA, Division name, etc in place of or combined with Debtor's legal name; you may add such other names as additional Debtors if you wish (but this is neither required nor recommended)

1c. An address is always required for the Debtor named in 1a or 1b.

1d Reserved for Financing Statements to be filed in North Dakota or South Dakota only. If this Financing Statement is to be filed in North Dakota or South Dakota, the Debtor's taxpayer identification number (tax ID#) — social security number or employer identification number must be placed in this box

1e,f,g "Additional information re organization Debtor" is always required Type of organization and jurisdiction of organization as well as Debtor's exact legal name can be determined from Debtor's current filed charter document Organizational ID #, if any, is assigned by the agency where the charter document was filed; this is different from tax ID #; this should be entered preceded by the 2-character U S Postal identification of state of organization if one of the United States (e.g., CA12345, for a California corporation whose organizational ID # is 12345); if agency does not assign organizational ID #, check box in item 1g indicating "none"

Note: If Debtor is a trust or a trustee acting with respect to property held in trust, enter Debtor's name in item 1 and attach Addendum (Form UCC1Ad) and check appropriate box in item 17 If Debtor is a decedent's estate, enter name of deceased individual in item 1b and attach Addendum (Form UCC1Ad) and check appropriate box in item 17 If Debtor is a transmitting utility or this Financing Statement is filed in connection with a Manufactured-Home Transaction or a Public-Finance Transaction as defined in applicable Commercial Code, attach Addendum (Form UCC1Ad) and check appropriate box in item 18

2 If an additional Debtor is included, complete item 2, determined and formatted per Instruction 1. To include further additional Debtors, attach either Addendum (Form UCC1Ad) or Additional Party (Form UCC1AP) and follow Instruction 1 for determining and formatting additional names

3 Enter information for Secured Party or Total Assignee, determined and formatted per Instruction 1 To include further additional Secured Parties, attach either Addendum (Form UCC1Ad) or Additional Party (Form UCC1AP) and follow Instruction 1 for determining and formatting additional names. If there has been a total assignment of the Secured Party's interest prior to filing this form, you may either (1) enter Assignor S/P's name and address in Item 3 and file an Amendment (Form UCC3) [see item 5 of that form], or (2) enter Total Assignee's name and address in item 3 and, if you wish, also attaching Addendum (Form UCC1Ad) giving Assignor S/P's name and address in item 12

4 Use item 4 to indicate the collateral covered by this Financing Statement If space in item 4 is insufficient, put the entire collateral description or continuation of the collateral description on either Addendum (Form UCC1Ad) or other attached additional page(s).

5 If filer desires (at filer's option) to use titles of lessee and lessor, or consignee and consignor, or seller and buyer (in the case of accounts or chattel paper), or bailee and bailor instead of Debtor and Secured Party, check the appropriate box in item 5. If this is an agricultural lien (as defined in applicable Commercial Code) filing or is otherwise not a UCC security interest filing (e g., a tax lien, judgment lien, etc), check the appropriate box in item 5, complete items 1-7 as applicable and attach any other items required under other law.

6 If this Financing Statement is filed as a fixture filing or if the collateral consists of timber to be cut or as-extracted collateral, complete items 1-5, check the box in item 6, and complete the required information (items 13, 14 and/or 15) on Addendum (Form UCC1Ad)

7 This item is optional. Check appropriate box in item 7 to request Search Report(s) on all or some of the Debtors named in this Financing Statement The Report will list all Financing Statements on file against the designated Debtor on the date of the Report, including this Financing Statement. There is an additional fee for each Report If you have checked a box in item 7, file Search Report Copy together with Filing Officer Copy (and Acknowledgment Copy) Note. Not all states do searches and not all states will honor a search request made via this form; some states require a separate request form

8 This item is optional and is for filer's use only. For filer's convenience of reference, filer may enter in item 8 any identifying information (e.g., Secured Party's loan number, law firm file number, Debtor's name or other identification, state in which form is being filed, etc.) that filer may find useful

DATE OF ISSUE: 01-05-2015

DATE EFFECTIVE: 01-05-2015

ISSUED BY William T. Prather

TITLE: President & Chief Executive Officer

Issued by authority of an Order of the Public Service Commission of KY in Case No. 2014-00281 Dated: 01-05-2015

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City

P.S.C. KY. NO. 10

Original SHEET NO. 111.021

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

CANCELLING P.S.C. KY. NO. ______

______ SHEET NO. ______

RATES AND CHARGES

Energy Efficiency Retrofit Project Charge
Notification and Transfer of Obligation

Energy retrofit measures were installed at this location to save on utility costs. A Retrofit Project Charge will appear on your monthly utility bill. The cost savings from the retrofit measures are estimated to be greater than the charges.

Read below to understand what this means.

Property Address: ______________________ Unit #: ______

Location ID: ______________

Cost saving energy Retrofit measures have been installed at these premises through an on-bill financing program. These measures were installed to lower the utility bills. Your utility bills will include a monthly charge to pay for these energy Retrofit measures. The cost savings from reduced electricity consumption are estimated to be greater than the monthly charges.

Whoever pays the utility bills at this location will be required to make monthly payments to [Insert Utility Name Here] to pay for the cost-saving energy Retrofit measures installed here. Monthly charges will continue until the remaining balance has been paid. A UCC Financing Statement has been filed at the County Clerk's office to ensure a prospective purchaser is aware of this obligation. Either the buyer or seller may eliminate this obligation by paying off the remaining balance.

Utility usage data at this location may be shared with subsequent owners of the property to demonstrate the effectiveness of the Retrofit measures.

If you want more information, you can call [Insert Utility Name Here] ([Insert Utility Phone Number Here]) to learn about the:

- Specific Retrofit measures installed
- Monthly payment amount (Retrofit Project Charge)
- Number of payments remaining and outstanding balance
- Estimated cost savings

When you request utility service, a signed copy of this form must be submitted to [Insert Utility Name Here]. [Insert Utility Name Here] will provide a copy of the Purchase Agreement which outlines customer responsibilities, including:

- Making monthly payments
- If you rent, promptly reporting to your landlord if a Retrofit measure stops working
- If you own the property, maintaining the Retrofit measures in good working condition as long as payments are due

My signature below indicates that I have read or have had this form read to me. I understand my obligation to make monthly payments for the Retrofit measures installed at this location.

(Purchaser/Renter) Signature ______________________ Date ________

(Purchaser/Renter) Name (print) ______________________

Version 6/11/2013 © 2013 MACED

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1/5/2015
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00349**

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)	**CASE NO. 2020-00350**

REBUTTAL TESTIMONY OF
GREGORY J. MEIMAN
VICE PRESIDENT, HUMAN RESOURCES
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: April 12, 2021

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I. BACKGROUND

Q. Please state your name, position and business address.

A. My name is Gregory J. Meiman. I am Vice President, Human Resources for Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E"), (collectively, the "Companies") and an employee of LG&E and KU Services Company ("Service Company"). My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. What is the purpose of your testimony in this case?

A. The purpose of my testimony is to respond to the intervenor criticism regarding: (1) the Companies' workforce staffing levels; and (2) the amount of the employer-provided 401(k) matching amounts for employees participating in the Companies' defined benefit pension plan.

II. STAFFING LEVELS AND PAYROLL EXPENSE

Q. How do the Companies assess their future workforce needs?

A. The Companies project future workforce needs across all operational and administrative areas through a rigorous workforce planning process. That process considers a multitude of factors pertaining to the existing and future workforce, including the age and experience level of the workforce, retirement trends, knowledge retention and succession planning, the available talent pool, future leadership opportunities, and many others. Existing and proposed staffing levels are based on discussions between staff within each department or functional area and senior executives. As demonstrated in Mr. Arbough's direct testimony, it is very much a "bottom up" planning process. The workforce planning process results in an effective and efficient use of workers, ready availability of replacements when vacancies are created, resources to aid in establishing the business plan, a clear rationale for making expenditures for training, retraining, employee development, career counseling, and recruiting efforts, and a diverse workforce.

Throughout the workforce planning process, the Companies examine staffing questions that are at the heart of their business processes, including whether work can be performed by employees or contractors, whether current staffing levels are adequate or inadequate for the work that must be performed, whether certain positions can or should be eliminated or added, whether a different staffing solution could result in more efficient operations, and whether a succession plan is in place for employees with critical knowledge and skills, among many others. Through this process, the Companies are able to arrive at projected workforce levels that best meet the needs of the Companies' operations at a reasonable expense, and therefore best meets the needs of ratepayers.

Q. Do you agree with the criticism of the AG/KIUC and DOD-FECA witnesses concerning the Companies' proposed staffing levels and payroll expense?

A. No. That criticism is rooted mainly in vacant employee positions. Vacancies are a constant in the Companies' workforce. As with any workforce of considerable size, there will always be a number of employment positions that are vacant at any one point in time. This is true for many reasons including retirement, promotion, and termination. If an employee retires, is promoted, quits, or is terminated and his/her successor is not in place immediately, that position will be vacant until a successor is hired. This is sometimes referred to as employment "churn" and is based on normal employee turnover and attrition. While it is true that vacancies exist, it is not true that the

Companies are seeking to add dozens of employment positions. As the Companies have stated, they plan on filling the vacant positions by the end of the forecasted test period.[1] In their rebuttal testimony, Mr. Bellar and Mr. Blake discuss the need for a fully staffed workforce in their respective areas.

Q. How do the Companies ensure they have adequate staffing to complete the work they must do?

A. There is a definite amount of "work" the Companies must perform to provide safe and reliable service. They rely mainly on employees to accomplish that work through a "bottom up" development of the Companies' workforce via a robust workforce development process. If employees working normal hours cannot complete the amount of work that has to be done, the Companies must then rely on a combination of overtime and contractors. The Commission understands this and has therefore repeatedly rejected this vacancy argument when the AG has proposed it in rate cases.[2] Indeed, in Case No. 2018-00358, Mr. Kollen made the exact same argument for the AG that he makes in the Companies' cases. The Commission rejected it.

Q. Did the COVID-19 pandemic disrupt the Companies' normal hiring processes?

A. Yes. As described above, vacancies in the workforce due to retirements, attrition, and changes in employee responsibility for strategic reasons and employee growth and development are a fact of life in organizations of our size. On any given day, vacancies

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[1] Companies' response to AG-KIUC 1-43.

[2] *Application of Kentucky-American Water Company to Increase its Rates,* Case No. 1995-00554, Order at 32 (Ky. PSC September 11, 1996); *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Case No. 2004-00103, Order at 45 (Ky. PSC February 28, 2005); *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Case No. 2010-00036, Order at 25 (Ky. PSC Dec. 14, 2010); *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Case No. 2018-00358, Order at 37 - 40 (Ky. PSC June 27, 2019).

in the workforce will exist and the rate of vacancies does not normally fluctuate much over the long term.

2020 was an exception because of the constraints that the COVID-19 pandemic imposed on the Companies' normal practices for employee hiring, onboarding, and training. As the Companies presented in discovery, the pandemic slowed the normal process of filling vacancies due to constraints in new hire in-person training and significant numbers of employees being quarantined due to contact tracing.[3] Filling vacancies was delayed particularly in the generation area due to concerns about training since it requires close proximity not achievable with social distancing guidelines. Also, sizable groups of employees and contractors were not able to work at all due to COVID-19 related quarantines.

Q. Can you explain why the overtime hours for the base period are lower than the period of 2015-2019?

A. Yes. In his rebuttal testimony, Mr. Blake discusses the need to compare overtime hours projected in the forecasted test period to overtime hours for the period 2015-2019 to provide a more accurate assessment of historical overtime than DOD-FEA witness Mr. Gorman provides. Mr. Gorman relies on the base period (March 1, 2020 – February 28, 2021) for his historical overtime assessment. But the base period overtime hours are anomalous for overtime measurement for at least four reasons, all of which resulted in reduced overtime. First, because of the COVID-19 pandemic, employees took much less vacation and sick hours in 2020. Each decreased by approximately 30,000 hours for a total of 60,000 hours. This meant other employees did not have to "cover" for

[3] KU Response to AG-KIUC 1-43.

those vacations and illnesses by working overtime to do so. Second, the Companies did not conduct their normal levels of group employee training because of COVID-19. Here again, that meant those not in training did not have to work overtime to cover for those in training. Third, the moratorium on disconnects and reconnects arising from the COVID-19 pandemic also resulted in reduced overtime. Finally, unrelated to COVID-19, 2020 simply did not have the customary severe storm events that require significant overtime.

Q. Do the proposed vacancy disallowances include the interns in the Companies' Co-Op and Internship Program and its Craft Intern Program?

A. Yes, and their inclusion is not appropriate. Of the 169 vacant positions Mr. Kollen raises as of December 31, 2020, 52 are in our long-standing Co-Op and Internship Program. Further, it should be noted that there were only 26 open co-op and intern positions as of March 31, 2021. As with many internship programs utilizing students, there are numerous "starts and stops" of employment based on the timing of school semesters and school summer and holiday breaks. Thus, if one measures vacancies when interns are not actively employed because they are between semesters, the result would be skewed.

Q. Please describe the Companies' Co-Op and Internship Program and its Craft Intern Program.

A. The Companies' Co-Op and Internship Program provides an invaluable pipeline of young talented prospective employees to support operations. Many of the Companies' entry-level operational positions are highly specialized. Candidates who participate in the Co-Op and Internship program are often the best prepared to handle the technical challenges of the job. The Co-Op and Internship Program strongly supports the recruitment and retention of top performing students and enhances the Companies' reputation as an employer of choice. The only place for entry-level employees to obtain that experience is by working for the Companies as part of the internship program. This program has proven to be critical in developing the Companies' future operational workforce and, without it, talent acquisition and development would be both more time consuming and costlier. It is open to students pursuing a bachelor's degree in many fields such as: engineering, accounting, finance, IT and communications.

Engineering co-ops gain valuable experience by working full time during alternating semesters, rotating between the Spring, Fall and Summer semesters. Other interns work part time during the semester while attending school full time. Internships can last for one semester only or can continue until the intern graduates. Individuals participating in the program perform work that would otherwise be performed by an employee or contracted resource. Through the program, the students gain real-life career experiences while the Companies' management can assess their skills and talent. We work closely with regional schools[4] to identify and recruit the best talent we can find.

We launched our Craft Intern Program in 2015 in response to the growing demand for employees with technical knowledge and degrees. It focuses on recruiting the top talent directly from community and technical colleges in our service area. Like the Co-Op and Intern Program, the craft interns perform work that would otherwise be

[4] Schools include the University of Kentucky, Tennessee State University, University of Louisville, Western Kentucky University, Indiana University Southeast, Rose-Hulman Institute of Technology, Bellarmine University, Purdue University, University of Evansville, and the University of Cincinnati.

performed by an employee or contractor. Both programs have proven to be highly valuable tools used to develop the future of the Companies' workforce. Any disallowance of the expense of the programs based on "vacancies" would be extremely short-sighted and counter-productive to our efforts to operate efficiently.

Q. Do any intervenor witnesses criticize the compensation levels proposed to be paid to employees?

A. Not directly, as it appears Messrs. Kollen's and Gorman's criticism is driven by the number of employees not the compensation paid to employees. However, Mr. Kollen does mention that "increases in payroll related expenses are excessive and unjustified"[5] without mentioning compensation levels. In any event, as I explained in my direct testimony (pages 7-10), the Companies' compensation levels are closely aligned with market median levels as proven by the Willis Towers Watson *Target Total Cash Compensation Study* provided at Tab 60 of the Filing Requirements and no intervenor criticizes or challenges that study.

III. 401(K) MATCHING RETIREMENT BENEFIT EXPENSE

Q. Have you reviewed Mr. Kollen's recommendations regarding the Companies' retirement benefit expense?

A. Yes. Mr. Kollen recommends that the Commission disallow \$0.844 million of KU's retirement benefit expense, \$0.658 million of LG&E's electric operation retirement benefit expense, and \$0.219 million of LG&E gas operation retirement benefit expense. These expenses represent the Companies' matching contributions to the 401(k)

[5] Kollen Testimony, p. 78.

accounts of employees who also participate in the Companies' defined benefit pension plan.

Q. Do you agree with his recommendations?

A. No. Mr. Kollen's recommendation is based solely on the Commission's findings in the prior two rate cases[6] regarding the Companies' retirement benefit expense and ignores recent changes to the level of that expense. As I explained in my direct testimony,[7] the Companies reduced that level of 401(k) matching expense to align the value of this element of the benefits program among all employees. Mr. Kollen's testimony reflects no consideration of this reduction in the level of 401(k) expense.

Q. Briefly describe the retirement benefits that the Companies currently provide to their employees.

A. Employees hired prior to January 1, 2006 continue to participate in traditional defined benefit pension plan ("DB Plan"). Under the DB Plan, the Companies make pension payments to eligible retirees based on a mathematical formula and actuarial calculations.

Employees hired or rehired on or after January 1, 2006 cannot participate in the DB Plan but have a Retirement Income Account which is a defined contribution plan ("DC Plan"). Under the DC Plan, the Companies make annual contributions to an employee's Retirement Income Account. The amount of those payments is calculated using a percentage of compensation which percentage can range from three to seven percent depending on the employee's years of service.

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[6] Full recovery of the matching 401(k) expense for those in the pension plan was permitted for years prior to the last two rate cases.

[7] Meiman direct testimony at pp. 14-17.

All employees, regardless of their date of hire may establish a 401(k) account under the DC Plan. Under the Companies' DC Plan, the Companies will match 35% of an employee's voluntary deferred compensation amount up to a maximum of 6 percent (and subject to IRS limits) within the employee's 401(k) account for employees hired before January 1, 2006, as of January 1, 2020. For employees hired on or after January 1, 2006, the Companies will match 70% of an employee's voluntary deferred compensation amount up to a maximum of 6 percent (and subject to IRS limits) within the employee's 401(k) account.

Q. What is the recent change in the DC Plan that you referred to earlier?

Prior to January 1, 2020, all employees, regardless of whether they participated in the DB Plan or only in the DC Plan received from the Companies a 70% match of their voluntary deferred compensation amount up to a maximum of 6 percent (and subject to IRS limits) within the employee's 401(k) account.

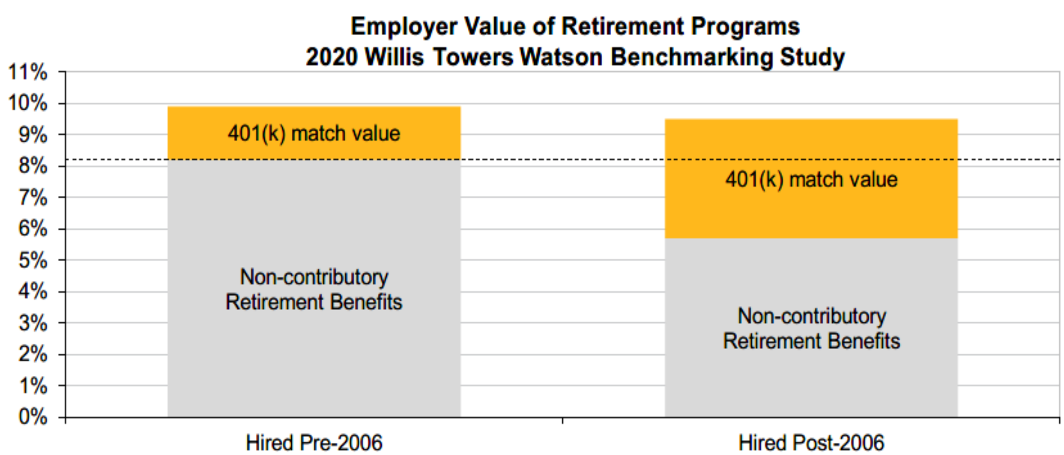
On January 21, 2020, the Companies implemented a reduced matching level for pre-January 1, 2006 employees. That reduction cut the matching level for these employees in half (from 70% to 35%).

Q. Why did the Companies take this action?

A. In the Companies' last rate case, we submitted a study by Willis Towers Watson that quantified a difference in retirement benefits between the pre-January 1, 2006 employees and those hired after that date. While we are always cautious in making changes to these types of benefits due to the long-term nature of planning for retirement, we determined that we could address that difference by taking this action (reduction from 70% to 35%) without a tremendous impact on those employees. By making the change, we expected to align the value of this element of the benefits program for all employees.

Q. Have the changes to the Companies' Savings Plan achieved this goal?

A Yes. In 2020, Willis Towers Watson again studied the value of the DB and DC Plans.[8] The results of that study are reflected in the chart below, which is taken from the study. Benefit program values were determined on a dollar value basis as a percentage of average total annual pay. Values are shown on the basis of employer value, which represents value after removing a portion of (DC) employee contributions for pre-2006 employees. The chart shows the employer value of the two plans is roughly the same. The Willis Towers Watson study illustrates that the Companies' match reduction "essentially eliminated the gap between the pre-2006 and post-2006 programs."[9]



The chart also demonstrates that, if the Companies completely eliminated their matching contributions to the 401(k) plans of pre-January 1, 2006 employees, as Mr. Kollen has proposed, employer retirement benefits for employees hired since 2006 would exceed those of employees hired before 2006.

[8] Willis Towers Watson, *2020 Rate Case Support: Retirement and Savings Plan Analysis* (Nov. 2020). This study is found at Tab 60 of each Company's Application.
[9] *Id.* at 4.

The Commission in the Companies' last two rate cases was not critical of the level of retirement benefits to DC plan employees and allowed recovery of that expense. Likewise, no intervenor is critical of that level of expense. As the value of the retirement benefits provided to DB plan employees is now aligned with the value of benefits provided to DC Plan employees, it is clear that the Companies' proposed level of employee retirement expense is reasonable and that any disallowance would be inappropriate.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Gregory J. Meiman**, being duly sworn, deposes and says that he is Vice President, Human Resources for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Gregory J. Meiman

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 9th day of April 2021.

Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 11, 2022