COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC JOINT APPLICATION OF)	
LOUISVILLE GAS AND ELECTRIC COMPANY)	CASE NO.
AND KENTUCKY UTILITIES COMPANY FOR A)	2018-00005
CERTIFICATE OF PUBLIC CONVENIENCE AND)	
NECESSITY FOR FULL DEPLOYMENT OF)	
ADVANCED METERING SYSTEMS)	

ORDER

On January 10, 2018, Kentucky Utilities Company (KU) and Louisville Gas and Electric Company (LG&E) (jointly "the Companies") jointly filed an Application seeking Certificates of Public Convenience and Necessity (CPCN) for the full deployment of Advanced Metering Systems (AMS) in their respective service territories. The Companies also requested the Commission grant deviations from meter inspection and testing requirements in 807 KAR 5:006, Section 14(3); 807 KAR 5:006, Section 19; 807 KAR 5:006, Sections 26(4)(e) and 26(5)(a)(2); and 807 KAR 5:041, Sections 15(3) and 16. Furthermore, the Companies requested approval of AMS opt-out charges for customers not wishing to have an AMS meter.

There are five Intervenors in this matter: the Attorney General, by and through the Office of Rate Intervention (Attorney General); Kentucky Industrial Utility Customers, Inc. (KIUC); Metropolitan Housing Coalition (MHC), Community Action Council for Lexington-Fayette, Bourbon, Harrison, and Nicholas Counties, Inc. (CAC); and the Association of Community Ministries (ACM). A public comment meeting was held in Louisville, Kentucky, on July 9, 2018. The Companies filed direct and rebuttal testimony and

responded to two rounds of discovery prior to a hearing held on July 24, 2018, and one round of post-hearing discovery. The Intervenors filed direct testimony and responded to one round of discovery. The parties filed post-hearing briefs on August 10, 2018. This matter now stands submitted for a decision.

BACKGROUND

KU proposes to replace approximately 531,000 electric meters at the cost of \$146.7 million. LG&E proposes to replace approximately 413,000 electric meters and to install approximately 334,000 AMS gas indices, at the cost of \$103.7 million for LG&E electric and \$61.5 million for LG&E gas. The Companies selected Landis+Gyr to provide the meters as well as the network to support AMS.

The Companies provided a cost-benefit analysis to support their Application in which they indicated, in their most recent update, that the Net Present Value Revenue Requirement (NPVRR) benefit of the AMS proposal was \$24.6 million.³ In rebuttal testimony, the Companies provided a cost-benefit analysis based on a 20-year, 18-year, and 15-year service life. The analysis results showed NPVRR benefits of \$11.6 million, NPVRR costs of \$18.1 million, and NPVRR costs of \$67.2 million, respectively.⁴

The Companies claimed that the NPVRR benefit calculation of \$24.6 million was based on a meter service life of 20 years.⁵ However, both the \$24.6 million NPVRR and

¹ Application at page 6.

² Id.

³ Companies' Informational Update Filing, July 3, 2018; Direct Testimony of John Malloy (Malloy Direct Testimony), Exhibit JPM-1.

⁴July 3, 2018 Update; Rebuttal Testimony of John Malloy (Malloy Rebuttal Testimony) at page 22.

⁵ Malloy Direct Testimony, Exhibit JPM-1.

the \$11.6 million NVPRR were ostensibly based on a 20-year service life. When asked to reconcile the difference, the Companies indicated that the \$24.6 million NPVRR benefit calculation was actually based on a longer period with the benefits exceeding the 20-year service life, and the \$11.6 million NPVRR reflected benefits attributed to an actual 20-year service life.⁶ The Companies also acknowledged the NPVRR benefit of \$24.6 million was calculated using a depreciable life for the AMS meters of 15 years.⁷ In support of their assertion that the meters have a 20-year service life, the Companies relied upon a two-word email from their vendor that read "20 years" in response to a question about the expected service life.⁸

POSITIONS OF THE PARTIES

LGE/KU

The Companies state that they have determined that now is the appropriate time to invest in full AMS deployment across their service territories due to cost savings. In support of their Application, the Companies state that deployment of AMS will create operational savings, reduce non-technical losses, and provide customers with enhanced usage data.⁹ The Companies claim that their AMS proposal meets the need criteria for a CPCN because their current meters are obsolete, and AMS will improve customer service, enhance reliability, and reduce operating costs.¹⁰ The Companies aver that the

⁶ July 24, 2018 Hearing Video Transcript (HVT) at 9:14:54.

⁷ Malloy Rebuttal Testimony at page 45; HVT at 9:19:32.

⁸ Companies' Response to Commission Staff's First Request for Information (Staff's First Request), Item 9; HVT at 2:32:33.

⁹ Application at pages 6–7.

¹⁰ *Id.*, Malloy Direct Testimony, Exhibit JPM-1, Appendix A-8, page 63 of 112; Companies' Post-Hearing Brief (filed Aug. 10, 2018) at pages 3, 5–8.

AMS deployment will not result in wasteful duplication because the AMS meters will create net benefits for their customers and that the current meters are incapable of providing the enhanced usage data that AMS meters will provide.¹¹

Attorney General

The Attorney General argues that the Companies failed to meet the burden of proof to justify approval of a CPCN. The Attorney General claims that the Companies failed to show a substantial inadequacy of service and failed to provide sufficient evidence that the AMS proposal will not result in wasteful duplication. Further, the Attorney General states that the cost-benefit analysis provided by the Companies supports the denial of the CPCNs because the analysis assumes that the AMS meters last longer than the case record supports, and the benefits are overestimated. The Attorney General recommends that the Companies' request for approval of CPCNs should be denied.

KIUC

KIUC neither elected to submit a post-hearing brief nor supplied any testimony or requests for information in this proceeding.¹⁴ The Commission notes that, for entities such as KIUC, requests to intervene in a proceeding are permissive. The Commission expects that persons requesting to intervene will fully participate throughout the entire course of a proceeding by taking affirmative steps to present the issues and facts that will assist the Commission in considering the matter.

¹¹ Companies' Post-Hearing Brief at pages 8–13.

¹² Attorney General's Post-Hearing Brief (filed Aug. 10, 2018) at pages 6–10.

¹³ Id. at pages 2, 10-20.

¹⁴ KIUC's Notice (filed Aug. 13, 2018).

MHC

MHC argues that the Companies failed to meet the burden of proof for obtaining a CPCN. MHC states that the Companies' Application failed to demonstrate that the AMS deployment is needed due to the inadequacy of the existing meters. MHC also argues that replacement of over 900,000 meters with average remaining service lives of 15 years for LG&E and 17 years for KU would result in wasteful duplication. MHC also states that the proposed AMS opt-out fees are punitive. MHC recommends denying the Companies' request for CPCNs.

CAC

CAC argues that the benefits of the AMS deployment will not exceed the costs, and that low-income customers would have fewer resources to allow them to benefit from AMS.¹⁸ CAC also expresses concern regarding remote service disconnections.¹⁹ CAC recommends that the Companies' request for CPCNs be denied, but states that if the request is approved the Companies should provide additional communication methods to low-income customers and work to ensure the automatic service disconnection process will protect low-income customers and the elderly.²⁰

¹⁵ MHC's Post-Hearing Brief (filed Aug. 10, 2018) at pages 5–7.

¹⁶ Id. at pages 7-8.

¹⁷ *Id.* at pages 17–20.

¹⁸ CAC's Post-Hearing Brief (filed Aug. 10, 2018) at pages 2-3.

¹⁹ *Id.* at page 4.

²⁰ Id.

ACM

In its brief, ACM states that if the Commission were to issue CPCNs for the AMS proposal, it should do so only under various conditions, all of which relate to automated disconnects.²¹ ACM did not address either the need or wasteful duplication provisions of the CPCN statute and did not make a recommendation as to whether CPCNs should be granted.

DISCUSSION

The Commission's standard of review of a request for a CPCN is well settled. No utility may construct or acquire any facility to be used in providing utility service to the public until it has obtained a CPCN from this Commission.²² To obtain a CPCN, a utility must demonstrate a need for such facilities and an absence of wasteful duplication.²³

"Need" requires:

[A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated.

[T]he inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.²⁴

²¹ ACM's Post-Hearing Brief (filed Aug. 10, 2018) at pages 9–11.

²² KRS 278.020(1).

²³ Kentucky Utilities Co. v. Pub. Serv. Comm'n., 252 S.W.2d 885 (Ky. 1952).

²⁴ Id. at 890.

"Wasteful duplication" is defined as "an excess of capacity over need" and "an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties."²⁵ To demonstrate that a proposed facility does not result in wasteful duplication, we have held that the applicant must demonstrate that a thorough review of all reasonable alternatives has been performed.²⁶ The fundamental principle of reasonable least-cost alternative is embedded in such an analysis. Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication.²⁷ All relevant factors must be balanced.²⁸

Based upon the case record and being otherwise sufficiently advised, the Commission finds that the Companies' failed to present sufficient evidence to support a determination that there is a need for AMS at this time, and failed to demonstrate that a Companies-wide AMS deployment will not create wasteful duplication of facilities. Therefore, the Companies' request for CPCNs to construct the proposed AMS should be denied without prejudice.

The Commission further finds that the Companies' request to deviate from certain meter inspection and testing requirements, and their request for Commission approval of opt-out fees should be denied as moot.

²⁵ Id

²⁶ Case No. 2005-00142, Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky (Ky. PSC Sept. 8, 2005).

²⁷ See Kentucky Utilities Co. v. Pub. Serv. Comm'n, 390 S.W.2d 168, 175 (Ky. 1965). See also Case No. 2005-00089, Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for the Construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky (Ky. PSC Aug. 19, 2005).

²⁸ Case No. 2005-00089, *East Kentucky Power Cooperative, Inc.* (Ky. PSC Aug. 19, 2005), Final Order at 6.

Need

The Companies failed to present sufficient evidence in the record to demonstrate that there is a substantial inadequacy of existing service. The existing electric meters have remaining service lives of 17.4 years and 15.4 years for LG&E and KU, respectively.²⁹ Given the Companies' 15-year depreciation schedule for the proposed AMS meters, the AMS meters would be on a roughly parallel depreciation schedule with the existing meters. Moreover, the Companies' representative acknowledged that they are currently able to provide reliable service to customers using existing meters.³⁰

The Companies argue that, in recent proceedings, the Commission found that need for advanced metering is demonstrated in two ways. One way to demonstrate need is by showing that an existing metering system is obsolete, either because the existing system is no longer being manufactured or supported, or is outmoded due to "superiority of a new technology." ³¹ The second way to demonstrate need is to show that a new metering system will provide additional services and benefits not available with the existing metering system.

Contrary to the assertions in the Companies' post-hearing brief, the Commission has never found that an AMS deployment was justified simply because of the superiority of new technology. For example, the Companies misstate that the Commission found that meters at issue in Case No. 2017-00419 were obsolete because of a "movement" to

²⁹ Companies' Response to Staff's First Request, Item 4.

³⁰ HVT at 9:13:20; 1:32:12.

³¹ Companies' Brief at 6-7.

superior technology.³² In fact, in Case No. 2017-00419, as well as in other cases cited by the Companies, the Commission found that the existing meters used by the electric cooperatives were either discontinued or in the near future would no longer be manufactured or supported, and thus the utilities established a need to upgrade the metering system in order to provide adequate, reliable service, and that the proposed AMI systems were the least-cost alternative to address the utilities' metering needs.³³

The Companies overlooked several important distinctions between the cases cited by the Companies regarding obsolescence and this proceeding. First, in each of the cases cited by the Companies, the utilities provided substantial evidence that the existing meters were either no longer available or supported or in the near future would no longer be available or supported. In this proceeding, the Companies failed to provide any documentation in the evidentiary record to support the assertion raised in their post-hearing brief that their existing meters are no longer being manufactured. Second, in the cases cited by the Companies, the utilities provided substantial evidence that they could not provide reliable, adequate service with the existing meters. In this proceeding, as noted above, the Companies admitted that they are able to provide reliable, adequate service with the existing meters. Last, in the cases cited by the Companies, the utilities provided substantial evidence that the proposed AMI system was the least-cost

³² Case No. 2017-00419, Application of Grayson Rural Electric Cooperative Corporation of Grayson, Kentucky, for Commission Approval Pursuant to 807 KAR 5:001 and KRS 278.020 for a Certificate of Public Convenience and Necessity to Install an Advanced Metering Infrastructure (AMI) System (Ky. PSC July 16, 2018), Order at 8.

³³ Id. at 7–8; Case No. 2018-00056, Application of Cumberland Valley Electric, Inc. for Commission Approval for a Certificate of Public Convenience and Necessity to Install an Advanced Metering Infrastructure (AMI) System Pursuant to 807 KAR 5:001 and KRS 278.020 (Ky. PSC July 9, 2018), Order at 11; Case No. 2016-00077, Application of Licking Valley Rural Electric Cooperative Corporation for an Order Issuing a Certificate of Public Convenience and Necessity (Ky. PSC Jan. 10, 2017) Order at 5–6.

alternative. In this proceeding, as discussed in detail below, the Commission is not persuaded by the evidentiary record that the AMS proposed by the Companies is the reasonable, least-cost alternative.

In order to establish need in terms of enhanced programs and services, the Companies point to the Commission's findings in Case No. 2016-00152 in which Duke Energy Kentucky (Duke Kentucky) established need by offering "innovative programs and services to have greater access to data and better control over [customers'] energy consumption."34 The Companies again overlooked significant differences between Case No. 2016-00152 and this proceeding. First, the Companies have not proposed similar "innovative" programs that fully implement the functionality of advanced meters. Second, Duke Kentucky had a significant number of meters located inside its customers' premises that required Duke Kentucky to expend additional time and resources to enter the customers' homes to read meters. In this proceeding, the Companies have not indicated that their meters are similarly located inside customers' premises. Finally, Duke Kentucky's cost-benefit analysis demonstrated a net benefit that evidenced the proposed system was the reasonable, least-cost alternative. Furthermore, Duke Kentucky guaranteed the net savings would be passed on to its customers.³⁵ In this case, the Companies declined to guarantee their proposed level of net benefit and, based on the case record, the Commission is not persuaded that the AMS proposed by the Companies is the reasonable, least-cost alternative.

³⁴ Companies' Post-Hearing Brief at 5–6, citing Case No. 2016-00152, *Application of Duke Energy Kentucky, Inc. for (1) a Certificate of Public Convenience and Necessity Authorizing the Construction of an Advanced Metering Infrastructure; (2) Request for Accounting Treatment; and (3) All Other Necessary Waivers, Approvals, and Relief (Ky. PSC May 25, 2017) Order at 5–6.*

³⁵ Case No. 2016-00152, May 25, 2017 Order at 5-6.

The Companies also argued that the proposed AMS would "provide additional benefits to and options for their customers."36 However, the Commission has concerns regarding the claimed benefits and options for customers. The Companies claimed that AMS would provide customers more control over their consumption by providing them timely usage data, but acknowledged that the data customers would receive would be 24 to 48 hours old.³⁷ The Companies did not propose any additional rate structures that are made possible with AMS, such as prepay metering or real-time pricing,38 and thus limited the usefulness of any usage data to customers. Moreover, the Companies operate a limited opt-in AMS pilot program that has yet to reach full capacity, and many of the pilot program customers do not regularly check usage data, which is 24 to 48 hours old. The lack of robust utilization of the usage data in the pilot program reflects on customers' desire for the type of data that would be offered by AMS. Thus, based on the evidentiary record, the Commission is not convinced that customers will benefit substantially from the usage data as proposed by the Companies or that the failure to provide that data to all customers would result in inadequate service.

The Companies also claimed that AMS would benefit customers by allowing the Companies to restore power more quickly during outages because AMS would allow them to know when a customer does not have service. The Companies currently rely on customer complaints and visual inspections to identify outages. However, there was no evidence presented in the record that would justify finding that the Companies' current

³⁶ Application at pages 6–7.

³⁷ Id. at 8.

³⁸ HVT at 2:49:22.

method for identifying outages results in a substantial inadequacy in service to customers.

Rather, the evidence in the record indicated that the Companies were generally providing adequate service with their existing meters and that they would continue to do so.³⁹

For the reasons set forth above, the Commission finds that the Companies have not presented sufficient evidence on the record that established a substantial inadequacy of service at this time and, therefore, the Companies have not established a need for the proposed AMS.

Wasteful Duplication

The Companies similarly failed to present sufficient evidence to demonstrate that the AMS proposal would not result in wasteful duplication. As mentioned above, the remaining service lives of LG&E's and KU's electric meters are 17.4 years and 15.4 years, respectively. This accounts for \$16.7 million and \$36.2 million in undepreciated book value for LG&E and KU, respectively. Moreover, the Companies have offered no evidence into the record that indicates their current metering systems are failing to provide adequate service. Rather, the evidence indicates that the Companies are able to provide adequate service with their existing meters.

The Commission questions the soundness of the Companies' cost-benefit analysis, which was the Companies' primary evidence in support of AMS. First, the NPVRR benefits calculation of \$24.6 million is based on a service life in excess of 20 years, which is greater than the Companies' asserted 20-year service life.⁴⁰ Second, the Commission is not persuaded by the Companies' assertion that the meters have a 20-

³⁹ HVT at 9:13:20; 1:32:12.

⁴⁰ Id. at 9:17:08, 2:32:32.

year service life. The Companies' only evidence to support a 20-year service life of the Landis+Gyr meters is a two-word email from a sales representative that indicates a service life of "20 years." The Companies' cited to cases in several other jurisdictions where a 20-year service life was approved, but did not provide evidence that the other jurisdictions were approving a 20-year service life for the same Landis+Gyr meters at issue in this proceeding. The Companies offered no further evidence, explanation, or support for a 20-year service life. The Commission notes that the Companies propose to depreciate the AMS meters over 15 years, not 20 years, and that the Companies used a 15-year depreciable life in calculating the cost-benefit analysis.⁴¹

Third, the Companies included questionable savings in their cost-benefit analysis. For example, the Companies included approximately \$158 million in nominal benefits from conservation arising from customers' use of ePortal to monitor their usage. However, the savings were based on current rates, in which 71 percent of the energy charge represents fixed costs. ⁴² Customers will see a benefit only until the next rate cases, which will be filed this fall. ⁴³ With the base rate cases, those fixed costs will likely be shifted back to the customers through an increase in the customer charge or to other customers through an increase in the energy charge, which would substantially reduce the savings and was not accounted for in the cost-benefit analysis. ⁴⁴ Last, it appears that the Companies applied an expanded service life in order to create a cost-benefit scenario

⁴¹ Staff's First Request, Item 9; HVT at 9:18:43; Malloy Rebuttal Testimony at page 45.

⁴² HVT at 11:17:41.

⁴³ Id. at 11:20:18.

⁴⁴ Id.

favorable to their proposal. Even assuming all of the Companies' other calculations and assumptions are accurate, the AMS proposal results in a net cost to customers if the meter service life is less than 20 years. The AMS proposal results in a net cost to customers of \$18.1 million for an 18-year meter service life and \$67.2 million for a 15-year meter service life. If the two-word email is accurate and the proposed meters have a 20-year service life, the net benefit is \$11.6 million on a total capital and operations and maintenance cost of \$339.9 million.

The probability of the AMS proposal having an actual net benefit of \$11.6 million NPVRR, which is associated with the purported 20-year service life based on a two-word email, is too marginal and the risk to ratepayers too great to support a finding that the AMS proposal is a least-cost alternative. For the reasons discussed above, the Companies have failed to present sufficient evidence at this time to demonstrate that the AMS proposal is a least-cost alternative that will not result in wasteful duplication.

CONCLUSION

The Commission sees benefits in advanced metering. However, the Companies failed to provide sufficient evidence to persuade us that the AMS proposal satisfies the requirements of KRS 278.020(1) by demonstrating that the current meters are obsolete or that the benefits of the AMS proposal outweigh the costs here. Although the application is denied without prejudice, the Commission finds that the cap on the pilot opt-in AMS program should be increased from 5,000 LG&E and 5,000 KU residential and small commercial customers, to 10,000 LG&E and 10,000 KU residential and small commercial customers. The increased investment in AMS will not result in wasteful duplication

⁴⁵ July 3, 2018 Informational Update.

because the pilot program meters can be used going forward if the Companies refile an application for AMS that satisfies the evidentiary requirements for a CPCN. The Commission strongly encourages the Companies to consider making usage data available to customers that is closer aligned to real-time data and to consider prepay metering and real-time pricing options to enhance the customer experience.

IT IS THEREFORE ORDERED that:

- The Companies' joint request for CPCNs to install AMS is denied without prejudice.
- The Companies' joint request to deviate from 807 KAR 5:006, Section 14(3),
 KAR 5:006, Sections 26(4)(e) and 26(5)(a)(2), 807 KAR 5:041, Sections 15(3) and
 and 807 KAR 5:006, Section 19, is denied as moot.
 - 3. The Companies' proposed AMS opt-out tariffs are denied as moot.

By the Commission

ENTERED

AUG 3 0 2018

KENTUCKY PUBLIC SERVICE COMMISSION

ATTEST:

Executive Director

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