

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC INVESTIGATION TO CONSIDER	)	
DEVIATION OF REGULATION 807 KAR 5:041,	)	CASE NO.
SECTION 7, VOLTAGE SURVEYS AND	)	2025-00131
RECORDS	)	

ORDER

On June 9, 2025, the Commission on its own motion initiated this administrative proceeding to investigate how to address regulatory deviations with advanced metering infrastructure (AMI) as they relate to voltage surveys outlined in 807 KAR 5:041, Section 7.<sup>1</sup> The Commission made all electric utilities parties to this proceeding.<sup>2</sup> The parties, individually,<sup>3</sup> responded to one request for information.

On August 8, 2025, Big Rivers Electric Corporation (BREC) and East Kentucky Power Corporation (EKPC) were dismissed from the proceedings by an order of the

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<sup>1</sup> Order (Ky. PSC June 9, 2025), ordering paragraph 1.

<sup>2</sup> Order (Ky. PSC June 9, 2025), ordering paragraph 2.

<sup>3</sup> Louisville Gas & Electric Company (LG&E) and Kentucky Utilities Company's (KU) (jointly, LG&E/KU) Response to Commission Staff's First Request for Information (Staff's First Request) (filed June 27, 2025); Kentucky Power Company Response to Staff's First Request (filed June 27, 2025); Duke Energy Kentucky, Inc. (Duke Kentucky) Response to Staff's First Request (filed June 27, 2025); Kentucky Electric Cooperatives Response to Staff's First Request, including Big Sandy Rural Electric Cooperative Corporation; Blue Grass Energy Cooperative Corp.; Clark Energy Cooperative, Inc.; Cumberland Valley Electric, Inc.; East Kentucky Power Cooperative Corporation; Farmers Rural Electric Cooperative Corporation; Fleming-Mason Energy Cooperative, Inc.; Grayson Rural Electric Cooperative Corporation; Inter-County Energy Cooperative Corporation; Jackson Energy Cooperative Corporation; Jackson Purchase Energy Corporation; Kenergy Corp.; Licking Valley Rural Electric Cooperative Corporation; Meade County Rural Electric Cooperative Corporation; Nolin Rural Electric Cooperative Corporation; Owen Electric Cooperative, Inc.; Salt River Electric Cooperative Corp.; Shelby Energy Cooperative, Inc.; South Kentucky Rural Electric Cooperative Corporation; and Taylor County Rural Electric Cooperative Corporation, (collectively, the KECs) (filed June 27, 2025) (The KECs' Responses to Staff's First Request),

Commission, because generation and transmission (G&T) cooperatives do not provide the service being examined in this administrative proceeding. The remaining parties requested the matter be submitted on the record.

### LEGAL STANDARD

The Commission has exclusive jurisdiction over the regulation of rates and service of utilities in Kentucky.<sup>4</sup> Pursuant to KRS 278.042, the Commission shall prescribe the service adequacy and safety standards for electric utilities, as stated in the Commission's administrative regulations, orders, and in the most recent edition of the National Electrical Safety Code (NESC).<sup>5</sup> In addition, in keeping with KRS Chapter 13A, the Commission may adopt reasonable regulations and investigate the methods and practices of utilities to require them to conform to the laws of this state, and to all reasonable rules, regulations and orders of the commission not contrary to law.<sup>6</sup>

### BACKGROUND

The purpose of this investigation was to consider deviations to administrative regulation 807 KAR 5:041, Section 7, for electric utilities who have installed AMI technology with capabilities to meet the requirements for voltage surveys and records.

In a letter dated November 7, 2024, and attached as Appendix A to this Order, Owen Electric Cooperative, Inc. (Owen Electric) stated its AMI meters record and report various data throughout each day, including interval, at midnight, on demand, daily

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<sup>4</sup> KRS 278.042(2).

<sup>5</sup> KRS 278.042(2).

<sup>6</sup> KRS 278.040(3).

minimum and daily maximum voltage readings.<sup>7</sup> Owen Electric claimed by utilizing AMI, it has a better view of voltages throughout the entire system as opposed to individual recording voltmeters being manually installed, removed and investigated.<sup>8</sup> Owen Electric also claimed the AMI software allows the flexibility to monitor for exceptions, which are sent to utility personnel for numerous events, including readings that are “out of limits.”<sup>9</sup>

Owen Electric requested using voltage data from its AMI system to meet the current regulation and proposed an additional process for comparison to voltage instruments and voltmeters by:

1. Having field personnel check voltage with a voltmeter at a minimum of 1 meter location per phase per circuit throughout the system each year. On circuits that have 3 phase meters available, each phase can be checked individually at the meter.
2. At each meter location, Owen Electric field personnel would retrieve an on-demand voltage reading from the meter using the AMI system.
3. Both readings would be recorded, and post-visit quality assurance would ensure the readings fall into compliance with the voltage accuracy standards already established.<sup>10</sup>

On June 27, 2025, responses were received for Staff’s First Request for Information from Kentucky Utilities Company (KU), Louisville Gas and Electric Company (LG&E), Kentucky Power Company (Kentucky Power), East Kentucky Power Cooperative Corporation; 19 of the 21 regulated Kentucky Electric Cooperatives, including Big Sandy Rural Electric Cooperative Corporation; Blue Grass Energy Cooperative Corp.; Clark

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<sup>7</sup> Owen Electric Letter, Appendix A.

<sup>8</sup> Owen Electric Letter, Appendix A.

<sup>9</sup> Owen Electric Letter, Appendix A.

<sup>10</sup> Owen Electric Letter, Appendix A.

Energy Cooperative, Inc.; Cumberland Valley Electric, Inc.; Farmers Rural Electric Cooperative Corporation; Fleming-Mason Energy Cooperative, Inc.; Grayson Rural Electric Cooperative Corporation; Inter-County Energy Cooperative Corporation; Jackson Energy Cooperative Corporation; Jackson Purchase Energy Corporation; Kenergy Corp.; Licking Valley Rural Electric Cooperative Corporation; Meade County Rural Electric Cooperative Corporation; Nolin Rural Electric Cooperative Corporation; Owen Electric Cooperative, Inc.; Salt River Electric Cooperative Corporation; Shelby Energy Cooperative, Inc.; South Kentucky Rural Electric Cooperative Corporation; and Taylor County Rural Electric Cooperative Corporation, (collectively, the KECs), and Duke Energy Kentucky, Inc. (Duke Kentucky). BREC did not respond.

In its response to Staff's First Request, LG&E/KU stated 98 percent of their system currently had AMI technology systems in place<sup>11</sup> that measure voltage at 15 minute intervals, with designated "bellwether" meters recording voltage every five minutes.<sup>12</sup> LG&E/KU also stated that the AMI system in place would satisfy the requirements of 807 KAR 5:041, Section 7, and the proposed modification could create a cost savings benefit of up to \$100,000.<sup>13</sup>

The KECs stated that all of the cooperatives have either AMI or automated meter reading (AMR)<sup>14</sup> systems in place,<sup>15</sup> that measure voltage with intervals that vary from

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<sup>11</sup> LG&E/KU's Responses to Staff's First Request, Item 1.

<sup>12</sup> LG&E/KU's Responses to Staff's First Request, Item 8.

<sup>13</sup> LG&E/KU's Responses to Staff's First Request, Item 11.

<sup>14</sup> Not all AMR meters have the necessary capabilities for this deviation.

<sup>15</sup> The KECs' Responses to Staff's First Request, Item 1.

15 minutes to 24 hours.<sup>16</sup> The KECs also stated that these systems would satisfy the requirements of 807 KAR 5:041, Section 7<sup>17</sup>, and the proposed modification would create a cost savings benefit by reducing the cost of manual monitoring, without providing an actual estimate.<sup>18</sup>

Kentucky Power stated at the time it did not have an AMI system in place, but concurred that the information provided by AMI technology would be sufficient to satisfy the voltage survey requirements of 807 KAR 5:041, Section 7.<sup>19</sup> Subsequently, on July 22, 2025, a Certificate of Public Convenience and Necessity (CPCN) for AMI system deployment was granted to Kentucky Power in Case No. 2024-00344.<sup>20</sup>

Lastly, Duke Kentucky stated it has AMI technology capabilities in place, which record a voltage snapshot at a minimum interval of five minutes.<sup>21</sup> However, Duke Kentucky contends that the five minute sample interval does not have the data sampling granularity to monitor for voltage sags and swells.<sup>22</sup> Therefore, Duke Kentucky argued that a deviation is not necessary, and would not meet the intent of 807 KAR 5:041, Section 7.<sup>23</sup>

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<sup>16</sup> The KECs Responses to Staff's First Request, Item 8.

<sup>17</sup> The KECs Responses to Staff's First Request, Item 4.

<sup>18</sup> The KECs Responses to Staff's First Request, Item 11.

<sup>19</sup> Kentucky Power's Response to Staff's First Request, Item 11.

<sup>20</sup> Case No. 2024-00344, *Electronic Application of Kentucky Power Company For (1) A Certificate of Public Convenience and Necessity Authorizing the Deployment of Advanced Metering Infrastructure; (2) Request For Accounting Treatment; and (3) All Other Necessary Waivers, Approvals, and Relief* (Ky. PSC July 22, 2025), Order.

<sup>21</sup> Duke Kentucky's Response to Staff's First Request, Item 2.

<sup>22</sup> Duke Kentucky's Response to Staff's First Request, Item 11.

<sup>23</sup> Duke Kentucky's Response to Staff's First Request, Item 12.

## DISCUSSION

Having considered the application and all evidence in the record, the Commission finds that a deviation allowing the use of voltage data from an AMI system to meet the current regulation, 807 KAR 5:041, Section 7, requirements would be appropriate. The purpose of voltage surveys is to identify power quality issues, ensure wiring and grounding adequacy, monitor voltage, detect loose connections, and check for temporary outages.

Typically, the Commission receives a request for deviation from a utility prior to the Commission granting a deviation. Deviations for AMI have been addressed previously in CPCN cases, when applicable, and in individual cases, when a request is made. Additionally, many of the electric utilities have opt out provisions from AMI, should a customer choose to do so.

As stated by the majority of the utilities providing electric service in this case, use of installed AMI systems' full capabilities, including the voltage survey data, are more efficient because system concerns can be addressed before they occur or intensify. The Commission notes that many utilities could benefit from cost savings as a result of the deviation, allowing for monitoring remotely in lieu of having to dispatch personnel and vehicles to perform necessary tasks.

Even though Duke Kentucky stated it has AMI capabilities in place, Duke Kentucky stated that it was the utility's belief that AMI voltage readings do not meet the intent of 807 KAR 5:041, Section 7. In order to ensure regulatory compliance and administrative efficiency, the Commission finds that a utility with AMI capabilities sufficient to allow for application of this deviation and wishing to avail of this deviation should file a motion

requesting such. Utilities seeking Commission approval for the deviation shall file a motion in this case within 21 days of service of this Order. The Commission will endeavor to respond to all motions filed in this matter within 21 days.

Nothing in this Order should be construed as eliminating the need for an electric utility to continue to comply with National Electrical Safety Code (NESC).

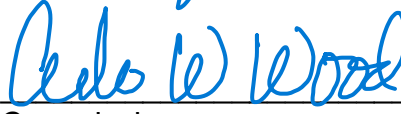
IT IS THEREFORE ORDERED that:

1. The deviation to allow the use of voltage data from an AMI system to meet the current regulation requirements should be granted, where appropriate and in response to a motion from the utility.
2. A utility must file a motion to avail themselves of the deviation in this matter.

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PUBLIC SERVICE COMMISSION

  
\_\_\_\_\_  
Chairman

  
\_\_\_\_\_  
Commissioner

  
\_\_\_\_\_  
Commissioner

ATTEST:

  
\_\_\_\_\_  
Executive Director

ENTERED  
APR 01 2026 <sup>AB</sup>  
KENTUCKY PUBLIC  
SERVICE COMMISSION

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE  
COMMISSION IN CASE NO. 2025-00131 DATED APR 01 2026

ONE PAGE TO FOLLOW



11/7/2024

**Proposal by Owen Electric to Meet KAR Title 807 Chapter 005 Regulation 041 Section 7 Utilizing RF AMI Meters**

Owen Electric (OEC) will finish exchanging its Powerline Carrier (PLC) based Advanced Metering Infrastructure (AMI) electric meters to Radio Frequency (RF) based AMI electric meters in the next few months. With the advanced technology and capabilities of the new RF meters, OEC is proposing a process change which will continue to meet the required KAR, while increasing efficiency to the overall process.

OEC's RF meters record and report various data records throughout each day. The records for active meters are stored within OEC's AMI database for a minimum of 3 years. Data recorded includes on interval, at midnight, on demand, Daily Minimum and Daily Maximum Voltage readings. With these readings being sent in automatically, OEC has a much better view of voltages throughout the entire system as opposed to individual recording voltmeters being manually installed, removed and investigated. OEC's AMI software allows the flexibility to monitor for exceptions, which are sent to personnel for numerous events, including readings that are "out of limits". We currently have several of these types of monitors established for monitoring voltage readings.

OEC is proposing to utilize voltage data from the AMI system to continue meeting the requirements listed in the KAR. To ensure the data received from the meters continues to be accurate OEC is proposing an additional process for comparison to voltage instruments/voltmeters (which are compared to OEC's in-house master voltage standard test equipment). The proposed overview of the process steps is as follows:

1. OEC Field Personnel will check voltage with their voltmeter at a minimum of 1 (one) meter location per phase per circuit throughout the system each year. On circuits that only have 3 (three) phase meters available each phase can be checked individually at the meter.
2. While at each meter location OEC Field Personnel will retrieve an on-demand voltage reading from the meter using the AMI system.
3. Both readings will be recorded and post-visit quality assurance will ensure the readings fall into compliance with the voltage accuracy standards already established.

OEC respectfully seeks approval of this process to more fully utilize its investment in the current AMI system, while maintaining the accuracy of the voltage analysis and maintaining compliance with this KAR.

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