

Kentucky Power Company  
KPSC Case No. 2020-00174  
Commission Staff's Ninth Set of Data Requests  
Dated March 8, 2021

**DATA REQUEST**

**KPSC 9\_1** Refer to the January 13, 2021 Order, pages 79–80. Explain whether the denial of Kentucky Power’s advanced metering infrastructure proposal impacted the cost or plan to implement Tariff N.M.S. II (Tariff NMS II). If yes, provide a detailed explanation of the changes in cost or implementation of Tariff NMS II.

**RESPONSE**

The denial of the Company’s AMI proposal did not affect the cost or the Company’s plan to implement Tariff NMS II. The Company does not require AMI meters to implement proposed tariff NMS II. The Company currently administers time-of-use rates without AMI meters. Please also refer to the Company’s response to JI 1-24.

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_2** Refer to the Application, Exhibit D, and page 112 of 185 and page 134 of 185, Tariffs N.M.S.I (Tariff NMS I) and Tariff NMS II, which state that Kentucky Power's technical interconnection requirements are available online and upon request. Explain why Kentucky Power's technical interconnection requirements are only available online or upon request and not included in the tariff or filed with the Commission in some other manner.

**RESPONSE**

The tariff provision conforms to Net Metering Guidelines approved by the Commission's January 8, 2009 Order in Administrative Case No. 2008-00169<sup>1</sup> approving the net metering guidelines applicable to all electric distribution utilities. Page five of the guidelines approved by the Commission provides that "[t]he Utility shall make its technical interconnection requirements available online and upon request" for Level 2 interconnections. This tariff provision referring interested applicants to the Company's website was approved by the Commission when Kentucky Power submitted its revised net metering tariff on April 7, 2009 in conformity with the Commission's January 8, 2009 Order. It subsequently was approved when the Company's tariffs were resubmitted following the Commission's Orders in Kentucky Powers 2009, 2014, and 2017 rate cases.

Witness: Brian K. West

Witness: Jacob H. Crocker

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<sup>1</sup> Order, *In the Matter of: Development Of Guidelines For Interconnection And Net Metering For Certain Generator With Capacity Up To Thirty Kilowatts*, Administrative Case No. 2008-00168 (Ky. P.S.C. January 8, 2009).

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**DATA REQUEST**

- KPSC 9\_3** Describe the meter and associated metering requirements for the current Tariff NMS. Include in the response, but do not limit it to, the following:
- a. Explain whether the “standard kilowatt-hour meter capable of measuring the flow of electricity in two directions” separate or different from the standard residential meter.
  - b. If the answer to part (a) is yes, provide the cost for the meter used for the current Tariff NMS and the cost for a standard residential meter, and the cost to install and program the current Tariff NMS meter compared to a standard residential meter.
  - c. Describe in detail the functionalities available in the current Tariff NMS meter (e.g., interval or block metering).
  - d. If the current Tariff NMS meter functionality allows for time of use rates, provide the incremental costs for Kentucky Power and for Kentucky Power customers to implement said rates.

**RESPONSE**

- a. The “standard kilowatt-hour meter capable of measuring the flow of electricity in two directions” is different from the standard residential meter.
- b. Please refer to the Company’s response to Joint Intervenors 1-22 and 2-12 for the costs, installation, and programming of the meters.
- c. The current Tariff NMS standard meter is capable of block metering (kWh in / kWh out). Alternative meters are available for interval metering.
- d. Please refer to subpart b. The Company originally proposed to use the standard applicable rate; however, another option would be to use the applicable TOU basic service charge rates.

Witness: Stephen D. Blankenship

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_4** Describe the meter and associated metering requirements for the proposed Tariff NMS II. Include in the response, but do not limit it to, the following:

- a. Describe in detail the functionalities available in the utilized meter (e.g., interval or block metering, two channels, number of time of use blocks possible).
- b. Explain whether the meter will be capable of collecting imports and exports, such as netting consumption and production, over three time-of-use periods.

**RESPONSE**

- a. The functionalities available in the utilized meters include interval and block metering, programmable up to eight channels, and two time of use blocks are possible.
- b. The meters are capable of collecting imports and exports, such as netting consumption and production, over three time-of-use periods; however, the backend system is programmed for only two time-of-use periods.

Witness: Stephen D. Blankenship

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_5** Refer to the proposed Tariff N.M.S. II. Explain what type of data and the degree of granularity that the time-of-use meter will collect and store for the proposed Tariff NMS II.

**RESPONSE**

The time-of-use meters will collect the accumulated net billing kWh and net negative energy (excess customer generation) for each of the two proposed time-of-use periods for each billing period. For demand metered tariffs, the meters will also record the highest net kW demand reading during the applicable tariff billing periods.

Witness: Stephen D. Blankenship

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_6** Describe in detail Kentucky Power's plan to utilize.

**RESPONSE**

Commission Staff indicated on March 8, 2021 that KPSC 9\_6 was included by error and no response is required.

Witness: Counsel

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**DATA REQUEST**

**KPSC 9\_7** Provide, in detail, Kentucky Power's plan to utilize photovoltaic systems and other distributed energy resources related data collected from Tariff NMS II meters to:

- a. Improve and lower costs associated with customer distributed energy resource interconnection.
- b. Improve distribution system planning.

**RESPONSE**

a. Kentucky Power does not currently see the metering data collected at the point of interconnection for billing purposes under Tariff NMS II as a significant tool to reduce interconnection costs. Kentucky Power does not currently have plans to utilize Tariff NMS II billing data to directly reduce subsidized costs incurred to interconnect customer-generators.

b. Currently the distribution system planning process includes at least an annual review of loading on every distribution feeder. This review results in a forward looking forecast of loading that considers both new load growth and the impact of existing DER sources that have been connected on each feeder.

Witness: Everett G. Phillips

Witness: Brian K. West

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_8** Refer to Kentucky Power's response to Commission Staff's Eighth Request for Information (Staff's Eighth Request), Item 1(a). For the period from 2016 to present, provide the total number of Level 2 Net Metering Applications received by Kentucky Power and the number of Level 2 Net Metering Applications that required an initial impact study.

**RESPONSE**

During the period of 2016 to present, Kentucky Power received one Level 2 Net Metering application. It did not require an impact study.

Witness: Jacob H. Crocker

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**DATA REQUEST**

- KPSC 9\_9** Refer to Kentucky Power's response to Staff's Eighth Request, Attachment 1.
- a. Confirm that the amounts included in the Attachment are for the initial impact study and that the customers were only responsible for the costs up to \$1,000. If it cannot be confirmed, explain why not.
  - b. Separately identify, quantify, and explain the individual impact study cost components that make up the totals in the "Invoice Amount" column of the attachment.
  - c. Explain whether Kentucky Power is aware of the cost to other AEP Service Corporation operating companies to conduct similar (i.e., over 45 kW) distribution impact studies, and if so, provide the cost and a reference.
  - d. Explain whether Kentucky Power is aware of the cost to other similar utilities to conduct similar (i.e., over 45 kW) distribution impact studies, and if so, provide the cost and a reference.

**RESPONSE**

Kentucky Power understands the request to relate to attachment 1 to the Company's response to KPSC 8-1.

- a. Kentucky Power confirms the statement applies to the single listed application (Project 1) governed by the Commission's regulations and orders.  
KPCO\_R\_KPSC\_8\_1\_Attachment1 Kentucky Power in response to KPSC 8-1 supplied as requested all impact studies performed for requests for interconnection within Kentucky Power's service area. Interconnection requests for FERC and RTO level interconnection requests (Projects 2-10) were governed as required by FERC and PJM rules.
- b. The Company cannot provide the requested quantification because the individual costs for the development, execution, and delivery of a Distribution Impact Study are not independently tracked. In response to the remainder of subpart (b), impact studies performed in connection with Distribution Interconnection requests are combined studies encompassing feasibility, impact, and facilities studies. Costs incurred as part of these

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efforts include, but are not limited to, time and materials from individuals to build models of the local system, run simulations under load criteria and develop a report of impacts, as well as individuals involved with providing estimates to mitigate identified impacts, validate local system equipment and configurations, communicate issues and updates to stakeholders, and perform design work for Kentucky Power's system such that the system can support the requested interconnection.

c. Kentucky Power is not aware of the cost of impact studies conducted by other American Electric Power Company operating companies. The cost of an impact study reflects the unique circumstances of the type, size, and location of the customer-generator facility, and the electrical rating of local equipment, saturation of Distributed Generation on the local distribution circuit, and configuration and rating of the customer's existing service. There thus is no "list" price for an impact study. Nevertheless, the impact studies performed on behalf of Kentucky Power employ the same processes and utilizes the same best practices and procedures as are employed by other American Electric Power Company operating companies and thus the cost for studies of identical customer generators would not vary materially between operating companies.

d. Kentucky Power is not aware of the cost incurred by other utilities to conduct similar types of studies.

Witness: Jacob H. Crocker

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**DATA REQUEST**

**KPSC 9\_10** Refer to Kentucky Power's response to Staff's Eighth Request, Item 7. Explain whether Kentucky Power collects load study data from the residential class annually, and if so, provide the load study sample data for the last five years and a description of Kentucky Power's method for collecting load study data. Where applicable, provide the response in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

Please see KPCO\_R\_KPSC\_9\_10\_Attachmen1 for the hourly interval data for residential class samples.

Witness: Alex E. Vaughan

Witness: Joo Won Jun

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**DATA REQUEST**

**KPSC 9\_11** Refer to Kentucky Power's response to Staff's Eighth Request, Items 7 and 11. Define "internal load," specifying which Kentucky Power customers are encompassed in that measurement, and at what system level that measurement is taken.

**RESPONSE**

Internal load is the entire load for Kentucky Power. It includes all retail load, FERC requirements wholesale load and losses, and unaccounted for energy. This is lowest level that can be accurately portrayed on an hourly basis without interval meters on all customers.

Witness: Alex E. Vaughan

Witness: Randy E. Holliday

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**DATA REQUEST**

**KPSC 9\_12** Refer to the Direct Testimony of Alex E. Vaughan (Vaughan Direct Testimony) and the Direct Testimony of Jason M. Stegall (Stegall Direct Testimony), generally. Explain whether Kentucky Power connects residential customers with one uniform kW service line or has more than one service line size. If Kentucky Power has more than one size of service line, provide the number of residential customers connected to each size of service line.

**RESPONSE**

The Company uses more than one size service drop for residential customers based on the circuit voltage. The Company's plant accounting and billing systems of record does not differentiate or track the number of customers connected to each size of service line and Kentucky Power therefore is unable to provide the requested list of customers connected by service line size.

Witness: Everett G. Phillips

Witness: Jason M. Stegall

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_13** Refer to Vaughan Direct Testimony and Stegall Direct Testimony, generally. Provide the number of residential customers taking service by size of final line transformer in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

The Company does not track the number of customers served by each size of transformer and therefore is unable to provide the requested information.

Witness: Everett G. Phillips

Witness: Jason M. Stegall

Witness: Alex E. Vaughan

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**DATA REQUEST**

- KPSC 9\_14** Refer to Vaughan Direct Testimony and Stegall Direct Testimony, generally.
- a. Provide the number of multi-family residence residential customers that Kentucky Power has in its service territory.
  - b. Explain whether Kentucky Power has segment load research data for multi- versus single-family residence residential customers. If yes, provide the most recent calendar year of data available in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.
  - c. Explain whether Kentucky Power has equipment cost data, such as for service drops, differentiated by multi- versus single-family residence residential customers. If yes, provide the data, in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

- a. The Company does not track the number of multifamily residences among its residential customer population and therefore is unable to provide the requested information.
- b. No separate load research segment exists for multifamily residence residential customers.
- c. The Company does not identify or separately track plant investment for multifamily residences.

Witness: Alex E. Vaughan

Witness: Jason A. Cash

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**DATA REQUEST**

**KPSC 9\_15** Refer to Vaughan Direct Testimony and Stegall Direct Testimony, generally.

- a. Explain whether Kentucky Power differentiates rate or cost elements between customers that are served by overhead versus underground lines.
- b. Explain whether Kentucky Power allocates costs differently among customers that are served by overhead versus underground lines.

**RESPONSE**

a. No. Rate components are not differentiated for customers that are served by overhead versus underground conductor. However if a customer requests to be served via underground conductor rather than standard overhead they are charged pursuant to the Company's tariffs for the cost differential as a contribution in aid of construction and that amount is credited to plant in service.

b. No. The Company does not allocate costs differently between customers that are served by overhead versus underground lines.

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_16** Explain whether Kentucky Power's time-of-use tariffs include differentiated periods based on cost causation, and if not, explain why not.

**RESPONSE**

Yes. The Company's currently approved time of use tariff offerings (on peak and off peak) are based on cost causation. They are not the only possible configuration of TOU periods based on cost causation.

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_17** Refer to Vaughan Direct Testimony, page 26, lines 12–13.

- a. Explain why Kentucky Power did not choose to use a time-varying compensation rate although it has chosen to use time-of-use netting periods for this rate.
- b. Provide the number of customers taking service under each of Kentucky Power's time-of-day rates, both the total number of customers and the total broken out by customer class.
- c. Explain whether Kentucky Power has conducted any load research or bill impact studies on the customers actually utilizing Kentucky Power's time-of-day rates. If studies have been conducted, provide a copy of the studies. If studies have not been conducted, state whether Kentucky Power plans to conduct such research.

**RESPONSE**

- a. Please refer to Company Witness Vaughan's direct testimony at page 26 line 14 through page 27 line 6. The proposed compensation rates take into account the time differentiated value of excess solar energy from both an energy and capacity standpoint and translate the differentiated value of excess solar into a fixed rate for customers.
- b. Please refer to Section II, Exhibit I of the Company's June 29, 2020 application for the requested information by tariff class.
- c. The Company does not have separate load research studies on customers using time-of-day rates.

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_18** Refer to Vaughan Direct Testimony, page 27, lines 1–3. State whether Mr. Vaughan is familiar with PJM Interconnection LLC's (PJM) effective load carrying capability (ELCC) construct, and if so, explain whether and how Kentucky Power's position is consistent with ELCC construct.

**RESPONSE**

Yes. Mr. Vaughan is familiar with PJM's ELCC construct. The construct has not yet been approved by FERC.

PJM's proposed ELCC construct even if approved would be inapplicable to the Company's NMS II proposal. The proposed ELCC construct applies to market facing resources. Customer excess generation, by contrast, is a load reducer from a PJM LSE standpoint. Kentucky Power treated excess customer generation as a load reducer when calculating the avoided cost rates for excess generation.

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_19** Refer to Vaughan Direct Testimony, generally.

- a. Explain, in detail, how Kentucky Power incurs transmission charges and provide the load characteristics that Kentucky Power's transmission charges based on, such as a monthly coincident peak or another characteristic.
- b. Explain whether and how PJM administers transmission costs to Kentucky Power and what number of peaks such costs are based on.
- c. Explain and justify how Kentucky Power classifies and allocates transmission costs to customer classes, including the number of peaks costs are based on.

**RESPONSE**

a. By "transmission charges" the Company assumes this question is referring to PJM LSE OATT charges. The AEP LSE (the AEP East Companies that serve load in PJM) are allocated their share of the total AEP transmission zone PJM LSE OATT charges on a 1CP basis (highest hourly zonal load during the year). The 1CP generally historically occurs early on a January or February morning, or during a summer afternoon.

The total AEP LSE PJM OATT charge amount is then allocated to each operating company, including KPCo, on a 12CP basis per the FERC approved AEP Transmission Agreement. The 12CP is the monthly AEP transmission zone peak hour.

b. Please refer to the Company's response to part a.

c. Transmission costs in the Company's class cost of service study are classified as demand and allocated on a 12CP transmission basis to the classes. Transmission costs are largely due to fixed infrastructure costs and do not vary with the amount of energy used, but rather are needed to serve customers regardless of their energy usage and are sized to meet peak demands. The Company's classification and allocation to the customer classes is logical and is supported by cost causation.

Witness: Jason M. Stegall

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_20** Refer to Vaughan Direct Testimony, generally. Provide all Kentucky Power residential net metering customer load profiles for the most recent five years. Provide the response in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

A standard meter is required for service under Tariff N.M.S. KRS 278.466(2). The Company's current standard metering technology is automated meter reading technology, which does not possess interval metering capabilities. The Company thus presently cannot interval meter its net metering customers and does not have the requested 5 years of load profiles. Please refer to the Company's response to KYSEIA 4-6 for the test year net metering customer load profiles which are based upon the respective class load research profiles net of class average system solar generation. The net metering profiles were scaled to align with the actual test year usage for the net metering customers.

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_21** Refer to Vaughan Direct Testimony, generally. Provide the most recent ten-year load forecast at the total system level and disaggregated by customer class. Provide the response in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

KPCO\_R\_KPSC\_9\_21\_Attachment1 provides the Company's latest internal energy requirements for 2021 through 2030.

Witness: Randy E. Holliday

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**DATA REQUEST**

**KPSC 9\_22** Refer to Kentucky Power's response to Kentucky Power's Response to Kentucky Solar Industries Association, Inc.'s (KYSEIA) First Request for Information, Item 2(c).

- a. Describe the specific components of the online portal that will reduce the cost of processing applications.
- b. State when the online portal will be operational.
- c. Describe the expected application cost savings from the online portal.

**RESPONSE**

a. The online application portal implemented by Kentucky Power allows for online entry and submission of interconnection applications to Kentucky Power by customers reducing data entry and administration costs. Additionally, the online application portal is able to conditionally show and exclude required data fields based upon user input, thus reducing time spent by Kentucky Power and customers correcting incomplete applications. The online application portal also integrates with Kentucky Power resources to automate components of the data validation, technical screening, document generation, and communication processes. As the application portal is available online it also allows customers to track the status of their own applications, view impending steps, see when input is required from them, and view communication, documents, and eSignature requests created and sent regarding their Interconnection Application and Agreement. Finally, by reducing or eliminating the number of paper applications received, overall management, tracking, and reporting for all interconnection requests is significantly improved.

b. The online application portal was launched on June 8, 2020 for all American Electric Power Operating companies. It may be accessed at <https://aep.powerclerk.com>.

c. The online application portal is expected to reduce the labor required to process interconnection applications.

Witness: Jacob H. Crocker

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**DATA REQUEST**

- KPSC 9\_23** Refer to Kentucky Power's response to KYSEIA's Second Request for Information, Item 1.
- a. Define the RPM capacity construct.
  - b. Provide the data, analysis, and calculations for the \$76.53 /MW-day and \$140/MW-day cleared in the base residual auctions for the 2020/2021 and 2021/2022 delivery years, respectively, in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.
  - c. Describe Kentucky Power's methodology for calculating the assumed value of \$100/MW-day from the \$76.53/MW-day and \$140/MW-day that cleared PJM base residual auctions for 2020/2021 and 2021/2022 delivery years, respectively. Provide all data and analysis used for the calculation in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

- a. "RPM capacity construct" in the Company's response to KYSEIA 2-1 refers to PJM's Reliability Pricing Model, which is an administratively determined market like construct for capacity in which non-fixed resource requirement (FRR) entities secure capacity to meet their load obligations in PJM.
- b. The Company does not calculate or determine the RPM base residual auction clearing prices and therefore has no data, analysis or calculations to provide. PJM does so per its FERC approved tariff. Information regarding these figures is publicly available at <https://www.pjm.com/markets-and-operations/rpm>, under the link for each applicable delivery year.
- c.  $(\$140 + \$76.53) / 2 = \$108.27$ . Kentucky Power rounded the value to an even \$100. The Company utilized this same \$100/MW-day capacity price in its cost benefit justification for its proposed DRS peak shaving tariff which the Commission approved in its January 13, 2021 Order.

Witness: Alex E. Vaughan

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**DATA REQUEST**

**KPSC 9\_24** Refer to Kentucky Power's response to KYSEIA's Third Request for Information, Item 3, Attachment 1.

a. Provide PJM hourly real-time LMP in a load node in Kentucky Power's service territory for each of the past five years in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible. Provide a citation to the data source.

b. Provide the PJM monthly system peak by hour and MW for the past ten years in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible. Provide a citation to the data source.

**RESPONSE**

a. Please refer to the Company's response to KPSC Staff 4-86. The Company's load settles at the Kentucky Power Residual Load Aggregate pricing node. Please also refer to the Company's response to KPSC Staff 5-18 in which the Company provided 5 years of day ahead PJM hourly LMPs. The requested real time LMPS are publicly available on PJM's website: [https://dataminer2.pjm.com/feed/rt\\_hrl\\_lmpps](https://dataminer2.pjm.com/feed/rt_hrl_lmpps)

b. KPCO\_R\_KPSC\_9\_24\_Attachment1 provides the requested information for PJM. The source of this information is the Data Miner on the PJM website.

Witness: Alex E. Vaughan

Witness: Randy E. Holliday

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**DATA REQUEST**

**KPSC 9\_25** Refer to Mountain Association, Kentuckians for the Commonwealth, and Kentucky Solar Energy Society's (Joint Intervenors) First Request for Information, Item 20.

- a. Confirm that Kentucky Power's billing system does not require any coding to create or bill a new tariff.
- b. Explain how meter reading and meter data communication will be accomplished under the Tariff NMS II, including but not limited to a discussion of the technology that will be necessary to accomplish meter reading and meter data communication.
- c. Explain whether Kentucky Power currently has technology that can remotely collect and store time-of-use metering data from the proposed Tariff NMS II.

**RESPONSE**

- a. There are no incremental costs in excess of what the Company would normally incur to implement a base rate case order in its billing system related to proposed tariff NMS II. The Company currently administers various TOU and net metering rate structures. Existing billing system coding will be modified to implement NMS II.
- b. According to the type of meter, the meter could be manually read or the reading could be obtained via cellular communication.
- c. Yes. Kentucky Power currently has technology that can remotely collect and store time-of-use metering data from the proposed Tariff NMS II.

Witness: Stephen D. Blankenship

Witness: Alex E. Vaughan



### Blankenship Verification.docx

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#### E-Signature Summary

**E-Signature 1: Stephen D Blankenship (SDB)**

March 12, 2021 08:40:29 -8:00 [F6645F4A1E6B] [167.239.221.84]  
sdblank1@aep.com (Principal) (Personally Known)

**E-Signature Notary: Brenda Williamson (BW)**

March 12, 2021 08:40:29 -8:00 [C797A535EEB3] [167.239.221.83]  
bgwilliamson@aep.com  
I, Brenda Williamson, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Stephen D. Blankenship, being duly sworn, deposes and says he is a Region Support Manager for Kentucky Power Company that he has personal knowledge of the matters set forth in the forgoing responses and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

Stephen D Blankenship  
Signed on 2021/03/12 08:40:29 -8:00  
Stephen D. Blankenship

STATE OF OHIO

)

) Case No. 2020-00174

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Stephen D. Blankenship this \_\_\_\_ day of March 2021.  
03/12/2021

Brenda Williamson  
Signed on 2021/03/12 08:40:29 -8:00  
Notary Public



71304F34-FC7D-4A17-953E-1F7FC77E5E8B --- 2021/03/12 07:19:28 -8:00 --- Remote Notary





## Cash Verification.docx

DocVerify ID: DB7C6C7B-8B49-4EF0-80B2-EEE4F6CD74BA  
Created: March 11, 2021 04:50:53 -8:00  
Pages: 1  
Remote Notary: Yes / State: OH

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### E-Signature Summary

**E-Signature 1: Jason Cash (JC)**

March 11, 2021 09:03:33 -8:00 [68A37ACF374F] [167.239.2.88]  
jacash@aep.com (Principal) (Personally Known)

**E-Signature Notary: Brenda Williamson (BW)**

March 11, 2021 09:03:33 -8:00 [C779B2BB0B47] [167.239.221.80]  
bgwilliamson@aep.com  
I, Brenda Williamson, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Jason A. Cash, being duly sworn, deposes and says he is an Accounting Senior Manager for American Electric Power Service Corporation that he has personal knowledge of the matters set forth in the forgoing responses and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

**Jason Cash**  
Signed on 2021/03/11 09:03:33 -8:00  
Jason A. Cash

STATE OF OHIO

)

) Case No. 2020-00174

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Jason A. Cash this 03/11/2021 day of March 2021.

**Brenda Williamson**  
Signed on 2021/03/11 09:03:33 -8:00  
Notary Public



DB7C6C7B-8B49-4EF0-80B2-EEE4F6CD74BA --- 2021/03/11 04:50:53 -8:00 --- Remote Notary





## Crocker Verification.docx

DocVerify ID: 4D0C4275-3178-4726-AF30-8C251D9A18B7  
Created: March 12, 2021 07:22:25 -8:00  
Pages: 1  
Remote Notary: Yes / State: OH

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### E-Signature Summary

**E-Signature 1: Jacob Herbert Crocker (JHC)**

March 12, 2021 09:08:08 -8:00 [1E6FB92C5ED1] [161.235.221.83]  
jhcrocker@aep.com (Principal) (Personally Known)

**E-Signature Notary: Brenda Williamson (BW)**

March 12, 2021 09:08:08 -8:00 [D135777B0887] [167.239.221.83]  
bgwilliamson@aep.com  
I, Brenda Williamson, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Jacob H. Crocker, deposes and says he is a Customer Program Service Analyst for American Electric Power Service Corporation that he has personal knowledge of the matters set forth in the forgoing responses and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

Jacob Herbert Crocker  
Signed on 2021/03/12 09:08:08 -8:00

Jacob H. Crocker

STATE OF OHIO

)

) Case No. 2020-00174

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by  
Jacob H. Crocker, this \_\_\_\_ day of March 2021.  
03/12/2021

Brenda Williamson  
Signed on 2021/03/12 09:08:08 -8:00

Notary Public



4D0C4275-3178-4726-AF30-8C251D9A18B7 --- 2021/03/12 07:22:25 -8:00 --- Remote Notary





### Jun Verification.docx

DocVerify ID: B27633BB-B11D-4B81-A9A7-EFD66258EFFA  
Created: March 12, 2021 07:26:48 -8:00  
Pages: 1  
Remote Notary: Yes / State: OH

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### E-Signature Summary

**E-Signature 1: Joo Won Jun (JJ)**

March 12, 2021 09:35:11 -8:00 [7377B580045F] [167.239.221.83]  
jjun@aep.com (Principal) (Personally Known)

**E-Signature Notary: Brenda Williamson (BW)**

March 12, 2021 09:35:11 -8:00 [CB53477490F9] [167.239.221.83]  
bgwilliamson@aep.com  
I, Brenda Williamson, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Joo Won Jun, being duly sworn, deposes and says he is a Load Research Analyst Associate for American Electric Power Service Corporation that he has personal knowledge of the matters set forth in the forgoing responses and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

Joo Won Jun  
Signed on 2021/03/12 09:35:11 -8:00  
Joo Won Jun

STATE OF OHIO

)

) Case No. 2020-00174

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Joo Won Jun this \_\_\_\_ day of March 2021.  
03/12/2021

Brenda Williamson  
Signed on 2021/03/12 09:35:11 -8:00

Notary Public



B27633BB-B11D-4B81-A9A7-EFD66258EFFA --- 2021/03/12 07:26:48 -8:00 --- Remote Notary





### Phillips Verification.docx

DocVerify ID: 4B958660-18FE-46E8-AAD9-C0AB2FECBA07  
Created: March 11, 2021 07:42:12 -8:00  
Pages: 1  
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### E-Signature Summary

**E-Signature 1: Everett G. Phillips (EGP)**

March 12, 2021 07:03:13 -8:00 [C28192186191] [167.239.2.87]  
egphillips@aep.com (Principal) (Personally Known)

**E-Signature Notary: Brenda Williamson (BW)**

March 12, 2021 07:03:13 -8:00 [F0C0D3D41B22] [167.239.221.83]  
bgwilliamson@aep.com  
I, Brenda Williamson, did witness the participants named above electronically sign this document.







## Stegall Verification.docx

DocVerify ID: 1B2CC4B5-3122-4B81-B63E-77B188EA253A  
 Created: March 15, 2021 06:54:29 -8:00  
 Pages: 1  
 Remote Notary: Yes / State: OH

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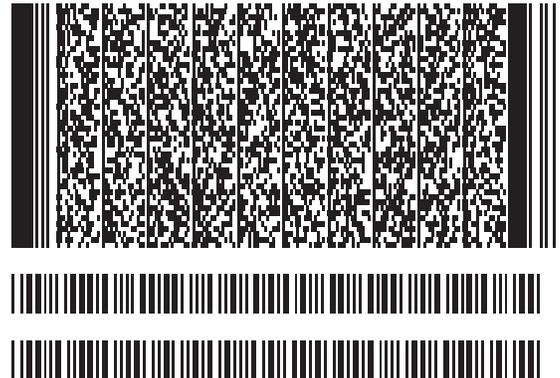
### E-Signature Summary

**E-Signature 1: Jason M. Stegall (JMS)**

March 15, 2021 10:03:36 -8:00 [7E0C2490419E] [167.239.221.85]  
 jmstegall@aep.com (Principal) (Personally Known)

**E-Signature Notary: Brenda Williamson (BW)**

March 15, 2021 10:03:36 -8:00 [2EC19D08E74A] [167.239.2.87]  
 bgwilliamson@aep.com  
 I, Brenda Williamson, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Jason M. Stegall, being duly sworn, deposes and says he is a Manager-Regulatory Pricing & Analysis for American Electric Power Service Corporation that he has personal knowledge of the matters set forth in the forgoing responses and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

  
Signed on 2021/03/15 10:03:36 -8:00  
Jason M. Stegall

STATE OF OHIO

)

) Case No. 2020-00174

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by  
Jason M. Stegall this 03/15/2021 \_ day of March 2021.

  
Signed on 2021/03/15 10:03:36 -8:00  
Notary Public

  
**Brenda G. Williamson**  
**Commission # 2016-RE-579446**  
Electronic Notary Public  
State of Ohio  
My Comm Exp. Apr 25, 2021

Notary Stamp 2021/03/15 10:03:36 PST 2EC19068E74A

1B2CC4B5-3122-4B81-B63E-77B188EA253A --- 2021/03/15 06:54:29 -8:00 --- Remote Notary





## Vaughan Verification.docx

DocVerify ID: BA00F069-B24F-497C-B40F-7F320999A3F4  
 Created: March 15, 2021 06:38:21 -8:00  
 Pages: 1  
 Remote Notary: Yes / State: OH

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### E-Signature Summary

**E-Signature 1: Alex E Vaughan (AEV)**

March 15, 2021 07:19:25 -8:00 [2437B044D0F1] [167.239.2.87]  
 aeVaughan@aep.com (Principal) (Personally Known)

**E-Signature Notary: Brenda Williamson (BW)**

March 15, 2021 07:19:25 -8:00 [A489ABE64D44] [167.239.2.87]  
 bgwilliamson@aep.com  
 I, Brenda Williamson, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Alex E. Vaughan, being duly sworn, deposes and says he is a Director-Regulatory Pricing & Renewables for American Electric Power Service Corporation that he has personal knowledge of the matters set forth in the forgoing responses and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

  
Signed on 2021/03/15 07:19:25 -8:00  
Alex E. Vaughan

STATE OF OHIO

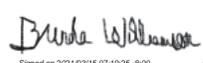
)

) Case No. 2020-00174

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Alex E. Vaughan this \_\_\_\_ day of March 2021.  
03/15/2021

  
Signed on 2021/03/15 07:19:25 -8:00  
Notary Public



BA00F069-B24F-497C-B40F-7F320999A3F4 --- 2021/03/15 06:38:21 -8:00 --- Remote Notary



**VERIFICATION**

The undersigned, Brian K. West, being duly sworn, deposes and says he is Vice President, Regulatory & Finance for Kentucky Power Company that he has personal knowledge of the matters set forth in the forgoing responses and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.



Brian K. West

State of Indiana        )  
                                  ) ss       Case No. 2020-00174  
County of Allen        )

Subscribed and sworn to before me, a Notary Public, in and for said County and State, Brian K. West this 10<sup>th</sup> day of March, 2021.

Regiana M.  
Sistevaris

 Digitally signed by Regiana M. Sistevaris  
Date: 2021.03.10 07:24:04 -05'00'

Regiana M. Sistevaris, Notary Public

My Commission Expires: January 7, 2023